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JOURNAL OF ISHIM

INSTRUCTIONS TO AUTHORS

1. Journal of the International Society for the History of Islamic Medicine (Journal of ISHIM), published twice-a-year, accepts material for publication as folows:
   - Original Articles: Papers reporting a research in the History of Islamic Medicine and Islamic Medical Ethics.
   - Letters to the Editor: Views on papers published in Journal of ISHIM, and other current topics and short reports of reader's own original findings. Letters should not exceed 400 words, 3 authors and 10 references.
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3. The journal's language is English.
4. The manuscript should be typewritten in an IBM compatible computer under Microsoft Word program, In addition to the form of the manuscript recorded into a disk/diskette, four copies of double spaced print-outs and figures and tables should be sent. The printed form should not be more than 12 pages.
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VoI.14,15 **No.27,28,29,30** **April / October 2015-2016**

CONTENTS

EDITORIAL

It is our pleasure to publish April/October 2015-2016 Issues of the **Journal of International Society for the History of Islamic Medicine (Journal of ISHIM)**. We know that Journal of ISHIM is a scientific journal devoted to the **History of Islamic Medicine and Ethics** research and scholarship. Also, this issue like the earlier ones represents important studies in the **History of Islamic Medicine and Medical Ethics** which activate thinking and raise certain questions. So, it also tries to provide solutions to thorny and sensitive problems and the ensuing understanding helps in enlarging one's perception and intellectual horizon. The views of papers are always those of the authors, and it is important in a field like bioethics which encourages interaction and dialogue over scientific topics.

This issue contains some important scientific articles, in which, we can see and valuable original studies on **History of Islamic Medicine and Medical Ethics.** These articles are from famous scientists of many countries of the world. So, this journal helps to the development of researches on **the History of Islamic Medicine and Medical Ethics.** Papers of this issue are seen as two types: Research and Review. After 36 papers, ISHIM news and news of some scientific meetings are present.

Wishing April/October 2015-2016 Issues of the **Journal of ISHIM**, to be beneficial to all readers and colleagues.

Editors in Chief
Dr. Aysegul Demirhan Erdemir
Dr. Abdul Nasser Kaadan

Oral Aphtous Disease in the Manuscript of (Zebdat Al Tubb) by Al Khawarezem-Shahi - Edition and Study

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Summary

Introduction: Aphtous is a disease of the oral cavity and that infect the human body, this disease has been known since ancient when different races and races of mankind.

Aim of the research: to identify the most important achievements of Physicians Arabs and Muslims in the domain of diagnosis and treatment of diseases of the oral cavity including Aphtous, and through the book manuscript (Zebdat Al Tubb) for Al Khawarezem-Shahi of Physicians sixth century H / twelfth century, and which has not been addressed to achieve so far by researchers or scholars in the Arab-Islamic Heritage Medical.

Research Methodology: the historical retrieval approach, and by reference to the ancient Arabic medical books, manuscripts and the search for them and that have not been achieved and studied to highlight them, and see how scientific progress and cognitive made in that period.

Results: The study of the manuscript of the book (Zebdat Al Tubb) in the domain of Dentistry through Aphtous, have brought us to identify the most important results of the following: 1 distinguishes the author from his peers from Physicians sixth century Islamic follow it to the scheduling system in his book, which throws it into the shortcut and brevity. 2 the author has not liberated of the theory of humours that were prevalent until that time. 3 the author has not been able to provide descriptions of the clinical Aphtous, did not reach for the differential diagnosis of clinical types of ulcers. 4 He also followed the traditional way of treatment that was common at that time. 5 The author's main principle and purpose in the treatment was the use of remedial compounds which most of them consisted of botanical elements and the percentage compatibility in some of these vocabulary to 65% with current data medicine.

Conclusion: characterize the author (Al Khawarezem-Shahi)from his peers from Physicians sixth century H / twelfth century, follow it to the scheduling system in writing and in a manuscript book " Zebdat Al Tubb " This method is distinct designed to shortcut and brevity in the transfer of medical information, but what we have seen nothing of Blur and not clarity in some subjects, such as Aphtous; So we recommend a full edition book manuscript to reach an objective evaluation of this method to determine the usefulness of them.

Keywords: Aphtous, Al Khawarezem-Shahi, Arab and Islamic Medicine.

Introduction:

Arab and Muslim physicians cared through the history of Arab-Islamic civilization, as interested Physicians who preceded them in the various human civilizations and throughout the ages and times to save the health of the individual, through the care the human body and its surroundings within a range of priorities, from food, drink, housing, clean air and a good environment, and it was in him these priorities interest to save the health of the mouth and teeth, and falls Aphtous oral as one of the diseases of the oral cavity defined by the Physicians of Arabs and Muslims, so they assigned some chapters within their compositions general medical, They wrote about the differential diagnosis of this disease, and They were able to tell apart the symptoms and clinical signs seen, They described her medicines and appropriate treatments within the resources available at that time. This is oral Aphtous As we mentioned a disease that affects the oral cavity rights, also infects a range of animals. This disease has been known since the old, when different races and races of mankind, which affects young and old, male and female alike, but to varying degrees. It was and still haunts the lives of many due to the theme of repetition of the appearance and disappearance during alternating periods of time, sometimes interspersed with periods of lethargy or remissions, and feeling resentful of the infected person's

internal sticking this disease to him throughout his life and can not be cured of it. So it was this disease is still up to the present the subject of research and debate and controversy about the causes and methods of treatment, and this is the psychological factors and genetic and immune from the most important predisposing causes to happen.

First- aim of the research:

This research aims to shed light on the Aphtous Disease, through the study of historical and scientific him during one of the periods of time, a sixth century H / twelfth century, by achieving some regards this aspect in the manuscript of the book " Zebdat Al Tubb " for the author Al Khawarezem-Shahi.

Second- the importance of research:

The importance after it became clear to us that the manuscript of the book « Zebdat Al Tubb " for Al Khawarezem-Shahi not been addressed to an edition or a study among scholars and researchers at the Institute of Arab Scientific Heritage at the University of Aleppo, came to our complement to their efforts in the edition and study of manuscripts medical heritage and shed light on the authorship of Physicians Arabs and Muslims to highlight the most important achievements and contributions of medical knowledge in the history of Arab-Islamic civilization.

Third- the research methodology:

Been relied on in this research approach retrievd historical, and by referring to the manuscript of the book " Zebdat Al Tubb " for Al Khawarezem-Shahi, and unrealized until now. It was back to the article fifth under the title "In the conditions of the mouth, lip, tongue, teeth and diseases", and choose the first part "in diseases of the mouth and lip and gums" to stand on the Aphtous in order to carry out research and study based on references and historical sources and medical.

At the end of the edition was conducted monetary historical and scientific study to oral Aphtous depending on the findings of the learned to talk. At the conclusion of the research was the references and sources that we adopted them.

Fourthly-translation Al Khawarezem- Shahi

Ismail Jorjani, Zainuddin Abu Al Fadail (... / ... 535 H / 1140 AD) [1] Ismail ibn al-Hasan al-Husseini Jorjani 1, and called BalAl Khawarezem-Shahi. Relative to the algorithm Atzbn ShH Mohammad. Physician philosopher. Bayhaqi said in the history of the Elders of Islam: "And I saw him in Srkhos months in the year 535 H, at the age of the bigest" and died in the same year.

His works [1]:

Al-Tib al-Mulkuki (not available): (Medicine majestic): Missing.

KitabTadbir al-Yaumva Laylah (not available): (Management of day and night): Missing.

Al-Awaramwa Al Bouthour: (Tumors and warts).

Al- Humayat Bi Anwa'ayha: (Diets of all kinds).

Al - Arad: (Symptoms).

Risalah fi Amradh Al- Ayeen: (Message in diseases of the eye).

Al-Zakhyra Al- Khwarazmshahya: (Al Khawarezem-Shahi ammunition).

Al tazkereh al-Ashrafyeh fi Asnaah al-Tebbieh: (Ticket Ashrafieh in the medical industry).

Al-Iqraz al-Tebbieh and Al-Mabahis al-Alaieh): (Medical answers and detective AlalaúH).

Kitab al-Manbah or Al-Risalah al-Manbah: (Alarm message).

Fifth- book manuscript (Zebdat Al Tubb) [1].

Copy written manuscript for the book " Zebdat Al Tubb " in:

1. Al-Zahyria- No (77/T- old no/4727) 1202 H, there is an available picture at the institute of heritage in Aleppo with the number of (16/404).
2. Alexandria- Albaladyah No (G/3635-F/299) copied at the institute of heritage in Aleppo with the number of (964).
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5. Washington- Congress Library with the number of (70/ The ME) 1088 H. copied at Jordan University No (472).
6. The British Library No (9008/eastern).
7. Paris- The National Library No (5851).

Characterization of the manuscript of the book " Zebdat Al Tubb " a copy of the municipal library in Alexandria. [2]

For Abu IbrHim, Ismail ibn al-Hasan al-Husseini Jorjani, who died the year (531 H) 2. Written in a manner detailed schedules lengthy minutes, where the inventory of diseases and their causes and brands, types, and methods of treatment, and the rank of the six articles, and a section of each article to the doors.

Begning: "After Thinking God and praise him .... know that the building of Medicine and throughout his knowledge of the cases of the hull of human health and disease, nor is their knowledge and reasoning on each and every one of them, but knowing the pulse and breath, and know the conditions urine and feces and Sweat."

Ending: "If eroded sore treated with medication warm, coated with mud aspects of the Armenian and vinegar coating, treating sores were treated." This version consists of (299) paper, and all the paper up to (27) line and the limits of the paper (14×21) cm. Started by Normal, exporting a catalog detailed doors writers and themes, It wrote to the physician Sheikh Mustafa bin Sheikh Abdul Aziz, the famous by Al Ekhlasi, in the year (1122 H).

The context of the manuscript of the book

…/ 3 of the **disease**: **Aphtous**.

It forms pustules in the mouth and gingiva. If those pimples get rotten and mature, they called malignant ulcers and sores 'God forbid'.

Reason: the temperature of the stomach and the steam rising from the stomach to the mouth and teeth cause oral Aphtous. We can find it either blood or humors[4] yellow bile, Sputum or black.

Sign:

a) When it is blood, it forms red lashes mouth and excessive salivation.
b) When it is yellow bile, it hurts much pain and tends to be yellowish.
c) When it is sputum, the mouth and the tongue get white and we notice a lot of saliva[5] produced without pain.
d) When it is black, it is blackish and a little bit painful.

Treatment:

The bloody: it can be cured by phlebotomy[6] and Hijama[7] (wet cupping), Jaharak[8] blood-letting. After that the patient given some Terminalia, then asked to rinse with rubble and olive leaves or boiled rosewater mixed with red sandalwood (pterocarpus santalinus), Areca, Mytrus Communis, and dried Coriander.

Some crushed Alacakie dissolved in gooseberry is distilled on the sore with a little bit of vinegar if lots of blood spews and much excessive salivation shown.

Yellow bile: the patient asked to have water fruits or water Ficaria, some rubble, starch, chalk, Purslane seeds, peeled lentil, white Scandalwood, Malva Sylvestris, and dried coriander are mixed all together; we also add very little of camphor after smashing and sifting it. Then we scatter some of that mixture on the pimples, consequently, we rinse with vinegar and rosewater. It is cited that boiling some of wolfberry with vinegar could help to relieve the nasty pain. Some scholars tried Ficaria, flowers and starch with some crushed camphor mixed all together.

Warm sputumis treated by taking some of yellow Terminalia, Alacakie, Punica, Protopunica, Tamarix fruit, olive leaves, chalk and a bit of Alum. As for cold saliva is treated with some honey mixed with a bit of salt as it has already been mentioned about gingiva cure, preferably to rinse with Sekanjabin or take some Anacyclus, Piper Cubeba, Cyperus and Pepper together, then we smash them all and scatter the powder on the pustules.

Black yellow: it can be cured by taking some of red Arsenic, Anacyclus, and Iris Florentina, we crush them all then mix them with some Tar, and then we put that on heat when it gets harder, the mixture is ready to apply. Patients should rinse with Mystrus Communis and Tamarix, after that with rosewater.

Sixth- study of monetary history and science through a text book manuscript.

The definition of Aphtous:

Aphtous as a medical term used by Physicians Arabs, where he was:

- **In Haka'ek Asrar Al-Tib by Sajizy** [5] that "Aphtous be sore in the surface of the mouth and tongue, with the spread widening."

- **In Al- Kamari** [6] Aphtous "blisters and sores lane, occur in the surface of the lashes mouth, either white, and either red, black or yellow."
- **In Al- Mounjed** [7]: "The blisters are to be in the mouth and tongue lashes."
- **In Lyssan Al-Arab** [8]: the ills of the mouth and throat known, and was told: "It is disease that affects boys in their mouths."
- **In Taj- Al Aroos** [9]: "disease of the mouth and throat."
- **In Matin Al-Ugha** [10]: "disease in the mouths of the boys in the camel be true located dead."
- **In Al-Wasyt** [11]: "a disease of the young, and rarely adults, and its appearance white spots in the mouth and throat, the infection is caused by a fungus special."

Aphtous: Thrush or Aphtha disease often affects the mucous membrane in children, appears in drops or splashes of white in the mouth and throat, as a result of infection by fungus and knows the name of the newly virus [12].

A quick overview of aphthous stomatitis (Stomatite Aphtous):

The disease is characterized round lesions or oval and flat, red spot consists of a clear border painful covered with false membranes surrounding red, located everywhere: in a round where the lips and cheek and the soles of the oval in the vestibule of the mouth, and a single or multiple [13].

Distinguish two types of Aphtous: the small model, and the large model.

Reasons: idiopathic, but the reasons predisposing: genetic predisposition, psychological distress (bad mood), fever, neurological disorders, respiratory asthma, food, chemicals, irritants topical, intestinal disorders, deficiency in certain vitamins 9 and foremost vitamin (c), 10 mechanical trauma, especially brush teeth, 11 cases of endocrine, allergic factors, etc. 12

«There is a form recurrent disease is often associated with trauma, menstruation, pregnancy, sepsis ways upper respiratory, allergy, exposure to sunlight or lamps ultraviolet, gastrointestinal disorders, emotional disorders. Mechanism by which activated those predisposing factors Recurrence of lesions are not known «[14].

Incidence affects all ages and rarely in children 13, and females are more susceptible than males [13].

Clinically: small model: Viewing a single or multiple, and in each of them containing factions (2-5) lesions, diameter ranging from (5-10) mm lasts from (7-14) days usually, and are deposited in the surface layers of the mucosa [12]. Model great: You may diameter of this type of Aphtous (3) cm infected by the deep layers of the mucous membrane, and disappears before the passage (6) weeks and happens scars after healing, and is associated with fever and inflammation of the lymph nodes side with edema [12].

Treatment: pain control and avoiding allergens and irritants, and give anti-inflammatories Cortisone topically or systeme way, has been touted antibiotics as tetracycline with some vitamins appropriate (as vitamin B. complex), and can use the solution lidocaine 2% in the mouth to relieve pain, especially before eating, and can be touched pests or ironed silver nitrate or phenol 95% average alcohol [12].

Seventh- results:

Upon return to the text investigator can be concluded as follows:

1- featured in this manuscript is a method of scheduling followed by the author in Ranked, they are designed to shortcut and clarity to facilitate the conservation, which shows the advanced methodology regardless of the scientific content in terms of right or wrong, which is the result purpose of the delivery of medical information to the recipient beneficiary, whether was a student science or medical practitioner. It stems from the definition of the disease, caused him to reason, The mark, which diagnosed the condition, and finally the proposed treatment several images and forms depending on the availability of botanical vocabulary involved in the installation of a single prescription drug.

2- noted that the shortcut and brevity, which resorted to the author (Al Khawarezem-Shahi)in some subjects, such as Aphtous got him into some of the ambiguity and lack of clarity, and in a fair amount of confusion and turmoil in some cases, according to our point of view. We do not know the reason for that is it because of a lack of medical knowledge has a theory? Or is it a result of the use of a scheduling system, which resorted to in his book manuscript? If we want to reach no conclusive answer to this question must realize the full manuscript of the book to get to the answer more accurate and objective.

3- Al Khawarezem-Shahi did not give a clinical description of mouth ulcers (Aphtous).

4- Al Khawarezem-Shahi divided ulcers and mouth disease into four types, and comforted each type of confusion generated according to him, that is, it did not come out for control of the theory of batters humoralism that was very common at that time.

5- He did not provide clinical differential diagnosis between these types of ulcers, but the difference between them in terms of the reason, according to any moisture generated by humoral, the red caused by moisture severe bloody, and the yellow generated moisture for acute biliary.

6- He has entered directly into treatment and who also did not come out for practice and uncommon in it at the time, which is the process of vomiting and entered into by the two phlebotomy and cupping (venesection Jhark) any extraction of bile and then use cooking, then washings to apply powders consisting of a set of the botanical vocabulary and some other materials place the lesion.

It should be noted the following:

Maybe it was intended by the definition of Aphtous that "if ransoming and take in the rotting called malignant ulcers," a subtle reference to the author of the cancer incidence, and which confirms this belief saying (God Fonbid). And most Physicians have linked to Arabs and Muslims between malignant sores and black in most of their compositions medical and considered the worst types of aphthous ulcers [15-16].

Did not prove recent studies feasibility of the process of phlebotomy that drawer on the use of Arab Physicians and their predecessors, however, that some of the current studies 14 suggest that the process of cupping wet [18] can be raised from autoimmune [17] of the person and thus higher resistance against pathogens of bacterial and viral infections even in some cancer [17].

7- The general principle for treatment of Al Khawarezem-Shahi relied on the use of:

Refrigerated medicines: starch, honey, and Alexanajabin (honey vinegar).

Medications for the flames, heat and pain: Areca, Anacyclus and vinegar.

Astringents: tannins, sumac (rubble), sandalwood, camphor, alum, Algelnar.

In advanced cases, use powerful drugs: arsenic, tar, Wolfberry.

There is a consensus that up to 65% of these drugs and modern medicine data [16]. It is recognized in the current year, the principle of treatment for this disease (Aphtous) rely on mitigating symptoms, since the lesion disappear automatically after (7- 14) days.

Conclusion:

Through the above, and compared with what it says Al Khawarezem-Shahi and the rest of the Physicians Arabs and Muslims see distinguish the author from his peers from Physicians sixth century H / twelfth century in the manuscript of his book, " Zebdat Al Tubb " through the use method of scheduling, which is an accurate tables, inventory where diseases, their causes and brands, types, and methods of treatment. It is a method indicate the methodology advanced regardless of the scientific content in terms of right or wrong, is also designed to facilitate conservation through brevity and clarity to the delivery of medical information to the recipient, whether a medical practitioner or a scholars, which stems from the definition of the disease, to the reason why the resulting, the mark, which diagnosed the condition, and finally the proposed treatment several images and forms depending on the availability of the botanical vocabulary involved in the installation of a single prescription drug. As we have seen something of blurring in some subjects, such as oral Aphtous order to reach an objective assessment of a neutral and fair to this method (scheduling), we recommend a full Edition manuscript of the book " Zebdat Al Tubb " for the author Al Khawarezem-Shahi one of the pioneers of the sixth century H / twelfth century to stand on his contributions medical, cognitive, and in particular in the field of Dentistry and that in the history of Arab-Islamic civilization.

Notes:

1- Relative to the Gorgan located to the north-east of Iran.

2- back the difference in the year of death and the adoption of the year (535 H) in the translation, because Bayhaqi confirmed seeing him in this year.

3- (179 z / in a).

4- **Humouralism**: Combine mixtures which mixes the hull of the four Greeks promoted and used in medicine when Arabs and up to modern times in the West:

The yellow of the fire element, and this confused residence in the gallbladder, a hot crusty.

Black and his home in the spleen, which is cool crusty-generated from the earth element.

The blood of the air element, and his home in the liver, which is hot and humid.

Phlegm from the water element, and his home in the lung, a cool wet, and if in the case of moderation and harmony was the result of health and safety. [3], p (547).

5- **Salvia**: mouth water. [4].

6- **phlebotomy**: linguistically is slit race vein, and medically is dispersed contact using a special machine: (scalpel, knife, lancet or scarificator) for vomiting confused bloody mild mood by theory humoral, and that I knew the time of the Greeks and the Arabs until the beginning of modern times, The English = (blood-letting, phlebotomy, venesection) [3], p (600).

7- **cupping**: vacuum absorption of blood, which is machine-made ceramic or glass or metal, or is a glass cup to absorb the blood or prevent bleeding be placed on the skin to happen stopping blood. And used either with air or without surgery, in which the output of blood in the cup in order to cure fevers, in relation to the increased mixing of blood according to tradition in ancient civilizations until modern times (and batters know English = (humors, or humours.) [3], p (539).

8- **Jhark**: Name Persian compound of ChHar and RCA, the four veins, because they ChHar: four, rak means vein. It is four veins on each flange including a pair of benefit mouth sores for phlebotomy, and Aphtous, aches and gums. [4].

9- **deficiency in certain vitamins**: iron deficiency, vitamin (B - 12), folic acid: There was some evidence that food deficiencies could be the cause of the emergence of recurrent aphthous stomatitis. The failure to respond to treatment compensatory when patients could indicate that the reality of destitution with the occurrence of (reasoned) last or that treatment was inadequate. In any case the base of nutritional deficiency as the cause of this disease does not seem to master it [14].

10- **Mechanical trauma**: trauma was found to be localized from the predisposing factors in 75% of cases do. Incidents of trauma resulting from bites personal, oral surgical procedures, brushing teeth, dental procedures, injection needles. [14].

11- **cases of Endocrinology**: It has been known for several years that there is a correlation between the occurrence of a time during the menstrual period and the developments of-mouth ulcers. Most groups of experiments show that the incidence of Aphtous be more during the premenstrual period. Dolby has found similarly that the lesion is best accomplished in the period after ovulation and it is linked to a concentration of progesterone in the blood. I've also found that women have stopped for lesions and mouth disease during pregnancy, but the rash appears after birth and sometimes too quickly. In rare cases, the disease is associated with the start of the start of menopause [14].

12- **allergic factors**: several patients with recurrent aphthous ulcers have a satisfactory biography of asthma, hay fever, The pharmaceutical and food allergies. Making Aphtous commonplace because of the many incidents of sensitivity when common people, anyway, Aphtous relapse following the use of certain foods or drugs when the same patients invited to believe fumbling role as a factor predisposing to Aphtous [14].

13- observed a significant number of injuries in children, especially in shelters and orphanages due, according to the opinion of the researcher (Asadi) as a result of the pressures of psychological ill-treatment of some elements of supervising this role, and the loss of affection of family, and malnutrition.

14- **the current studies**, says Dr. Amin Suleiman (specialist blood diseases and cultivation of bone marrow from France, professor of hematology at the University of Damascus): Recent discoveries of modern says: There are signs of mobile communications, very complicated, take blood its way to reach its goals If broken down or changed led to some diseases, if we were able to catch the blood got rid of evil .. and then we'll see the secret of cupping, relevance and impact of the great modern Messenger of God (Peace upon him) [17].

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Migraine in Islamic Medicine, Abu Al Hasan Al Tabari (d 360H/970AD), as an Example.

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Summary

Introduction: Migraine is considred as one of the oldest diseases that has inflicted human beings. It was described in ancient civilizations more than two thousand years ago. Arab Muslim physicans was treated this disease by drugs and surgery.

Objectives: Shedding some light on the different historical stages that tackled Migraine in terms of diagnosis, treatment and studying it and the way the it was treated by Muslim and Arab physicians, particularly Abu Al Hasan Al Tabari who wrote the Encyclopedia of Hippocratic treatments.

Methods: We rely on the historical research method, by referring to the Hippocratic treatments by Abu Al Hasan Al Tabari which have two chapters dedicated for Migraine, then we trace matching points between ancient and modern medicine with regard to Migraine.

Results: We conclude that Migraine was mentioned by many physicians in their books in the last chapter of headache disease chapters. some physicians spoke briefly about it, others went deeply and carefully into this disease. However, we have found some special interest in this disease by the physician Abu Al Hasan Al Tabari who divided Migraine into two kinds, giving each kind a chapter, and he mentioned them consecutively in the middle of his chapters on headaches.

Conclusion: Human beings had been suffering from migraine since ancient times. Mesopotamia civilization was first to describe migraine and headache diseases. This disease had been treated by medicines and surgery in the shade of Arab Muslim physicians.

Key words: History of medicine, History of Migraine, Abu Al Hasan Al Tabari, Arab Islamic Medicine, Hippocrates, Galinus.

Introduction:

Migraine is considered as one of the common diseases in our time that inflicts a wide segment of people. A long time ago, Migraine was mentioned by physicians as a kind of headache, and whenever they wrote a medical book, they had a special chapter on Migraine and its causes, symptoms and ways of treatment.

Migraine was known since early ages. It was mentioned in different ancient civilizations. Morever, it is said that Galenus had used the term 'hemicrania' [half-head] from which the word 'Migraine' was derived [1]. When Arab Islamic civilization started, they studied all sciences and supported scientists. Hence, Arab Muslim physicians were distinguished for writing their books and encyclopedias which included the definition of Migraine, its symptoms and ways of treatment. Through this research, we are going to go through the most historical stages by which the diagnosis of treatment of Migraine was made.

Objectives:

Researchers in our time, particularly westerners, do not consider the contribution of Arab and Muslim physicians till the end of Arab Islamic civilization in the field of Migraine and the ways of treatment and how they were able to make diagnosis which was very close to the diagnosis of physicians of our time. For that reason, it was necessary that a historical scientific study on the development of this disease and remedy be conducted. This research aims at exploring the most important achievements of Arab and Muslim physicians in the field of Migraine.

Methods:

In this research, we are going to rely on the historical research method by referring to Muslim Arab medical books which dealt with this disease; to focus on Hippocratic treatments of Abu Al Hasan Al Tabari which

has eighteen chapters on headache, then refer to some modern books on headache in modern age.

First: Migraine in Mesopotamian Civilization

We find in Mesopotamian Civilization that they got some medical information which was given great significance for headache pains and sudden pains in the temple region [2].

Second: Migraine in Ancient Egyptian Civilization

Ancient Egyptions were skilled in diagnostic rules as they knew diagnosis of the head and its contents, in addition to entrails of brain and spinal cord. With regard to head pain or headache, they described creams, rubbing and bandage. However, they did not describe any internal medicine; they had special prescriptions for Migraine or the pain inside the head. One of these prescriptions was mentioned in Ibres papyrus which was discovered in 1875 and that was by rubbing the head of the patient by the skull of a catfish. By this way the pain of head moves from the man to the fish head [2].

Third: Migraine in Greek and Roman Civilizations

In his book *Wisdom Paradise* the physician Ali Ibn Rubban Al Tabari mentioned that Hippocrates (377B.C) talked about headache and Migraine [3]. Also Al Razi mentioned this in his book *Al Hawi*: that "the Roman physician Galinus (201 A.D), in his book *Al Mayamer*, had talked also about head pain and Migraine and its treatment and managements.[4]

Forth: Migraine in Third Hijri Century/ Nineth Gregorian Century:

In Muslim Arab Medical Heritage which reached us from the third Hijri century/Nineth Gregorian century, we find good interest in this disease in the writtings of physicians of this age from this Johanna Bin Masoyee who wrote a special book on head pain, its problems, pains and all its medicines and explanations and advice produced for every kind of it and all its treatments [5] also the physicians Sabet Ibn Qurrah Al Harrani (901A.D/288 H) who talked about Migraine and its causes and treatments [6].

Fifth: Detailed Study of Migraine Disease at Abu Al Hasan Al Tabari:

1. Migraine definition:

Al Tabari defined Migraine saying that "this head pain is called Migraine because it happens mostly in the one of the two parts of the head". [7]

What Al Tabari said in this definition complies with a good number of his age scientists and complies, to a certain extent, with modern medicine in the definition and that is what we are going to seek in this research to define head pain in modern science.

2. Kinds of Migraine:

Al Tabari mentioned two main kinds of Migraine: Cold Migraine and Hot Migraine and for each chapter he separately mentioned its remarks and treatments from the other kind [7].

3. Migraine remedy:

Al Tabari set a time break between one medical dose and another in order not to make the patient feel because of the medicine power used in treatment. And here, we mention how to treat each kind of Migraine as follows:

a. Hot Migraine Remedy:

To empty the body, then to use cooked, vegetations, to bleed Basleek , Kifaal , to control the pulse of artery by pressing, tremedy is by cauterising, or amputating, or drawing, drawing and cauterising the two artries of temples or one of them, or the artery behind the ear, tremedy is by diet.

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1. Cooked: liquids of medicines if they are cooked, and the aim is to relax the bowels [8].
2. Vegetations: foods which don't contain meat [8].
3. Al Basleek: a vein which is located on the elbow beside the belly [8].
4. Al Kifaal: a vien which is located on the elbow from external side [8].
5. Draw: taking it off kindly [9]
6. Al Khal: a vien which is connected with Kifaal from one side and with Basleek from the other side.[8].
7. Wallowing: what is used to wallow an organ by light rubbing[8].
8. Snuff: what is used to drop in the nose to bring sneezing[8].

b. Cold Migraine Remedy:

Its remedy was considered more difficult than the Hot Migraine because water in cold Migraine comes down into eyes and prevents seeing.

Its tremedy is by: diet, vomiting, having vegetations; looking at the bladder of patient; bleeding Kifaal and Al Akhal ; ordering the patient to vomit after closing his eyes and banding his head; sneezing to force the patient with light diet and balanced food and drink; wallowing the temple and the place of beats with creams; extreme gargling; snuffing ; amputating the artery and cauterising it, and cauterising is being for a strong patient and a healthy body and his nature is moderate and in moderate weather or nearly moderate.

4. Kinds of medicines used to treat Migraine:

The compound and single drugs, vegetations, snuff, wallow, sneeze, gragles, diet.

Sixth: Migraine in Modern Medicine:

In this research, we have relied on some specialized books on Migraine in its modern concept and in some of its causes, remarks and reasons. They are as follows:

The most familiar kind of chronic head pain is Migraine (side headache). Migraine is one of the hardest kinds of head pain and the most painful. It is called 'ailing headache' because of pain which is accompanied by nausea and vomitting. The cause of side headache could be more laying down, swallowing or beating of head arteries. Some food such as chocolate and some kinds of cheese may cause side headache for some people and side headache may be repeated from time to time and is mostly hurting [11].

In Oxford Booklet for clinical Medicicne, a non-medical treatment was mentioned as bandages of hot or cold water on head or rebreathing throughout a paper sack to increase pressure of carbon dioxide in the body; this may help to decrease the tension of rush.

We have found here some remarkable agreement between the old and the new with regard to the subject of research, Migraine disease, and an obvious matching in Migraine definition, its remarks and negative effects on the patient's vision and tendency to relax and calm down.

Moreover, during this disease the swelling and pulse of the internal and external arteries from inside and outside the cranium such as temple artery have increased.

In addition to that, modern medicine has confirmed that one of the causes of the disease is lack of food reaching through arteries to brain and this is because of spasm in the walls of arteries.

Among modern treatments, not medical ones, are bandages of hot and cold water on the head. We have traced these in one of the treatments mentioned in ancient times. However, we have found that matured cheese in modern studies also helps to cause the disease.

Results and discussion:

1. Throughout this research on Migraine disease handled by a considerable number of physicians in the Arab Muslim medical heritage, we have found that Migraine disease was marginally mentioned or was dedicated a chapter in the last chapters of headache. However, Al Tabari wrote a chapter for each kind of Migraine— hot and cold. He mentioned what related to each kind in terms of remarks, diagnosis and remedy. He also mentioned these two chapters in the middle of his eighteen-chapter research on headache, contrary to other physicians who mentioned it in the last chapter of headache chapters and this, in our opinion, shows the importance of the disease to Al Tabari.
2. Like precedent physicians, Al Tabari depended on mixers theory which was originated by the Greeks. He mentioned the arteries and viens and their roles in Migraine disease; he also mentioned that the causes of Migraine were from inside or outside of the brain.
3. Al Tabari mentioned that the role of the heart is for carrying nourishment through blood to the body and brain; he described blood as the first substance filling viens and arteries calling it 'cytoplasma'. He also mentioned that the stomache causes Migraine and this indicates, in our opinion, his thorough knowledge of

1. Soaking: Pigments of scents and what is soaked in water of fruits and medications as requested.[12]
2. Tablets: It's preparation like pressed tablets with bigger size contains little amount of effective material and much more of sugar and perfumed materials.[13]
3. Sweetened drinks: It's fruits juice and others cooked with sugar and honey.[14]
4. Powder(pulver): It's dried medications compound together then hit, sieve and scattered from hand fist.[14]
5. Khol: Eyes medications, if it was dried.[14]
6. Al Basilic: a vein which is located on the elbow beside the belly.[14]

anatomy of the body and its organs. In addition to that, his material was plentiful and comperhensive with regard to the causes of migriane. This reflects the thoroughness of his theoretical and practical knowledge which he utilized later in the remedy and course of method.

4. Al Tabari used uric acid test in Migraine diagnosis by looking into the patient's bladder and this is considered a science per se, nobody could master it, but a true scientist of medicine.
5. Throughout his treatment of Migraine, we conclude that Al Tabari was a skillful surgeon who shared well in surgery. He delved deeply into it which shows that he was indeed a professional physcian and practicing surgeon of medicine.

Conclusion:

Migraine is an ancient disease that human beings had been suffering from since ancient ages. Many civilizations had treated this disease. We find out that the first civilization which talked about headache disease was Mesopotamia civilization. Arab muslim physicians took from Greek civilization their science in general, and medicine in particular in hight truthfulness and honesty. They developed and added their medical experiments. And by this, we find that medicine had been developed remarkably in both sides medicines and surgery in the shade of Arab muslim physicians.

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Psychotherapy of Melancholia as Described by Some Arab and Muslim Physicians

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Summary

Introduction: Melancholia is long known familiar disorder and took the attention of physicians since old ages . The Arab and Muslim physicians used several methods of therapies to manage it including Psychotherapy.

Research Aim: study of the use of Psychotherapy by Arab and Muslim physicians in the management of Melancholia.

Research methodology: The retrospective historical methodology was adopted by referring to Arabic and Islamic medical books especially the article of Ishāq Ibn Imrān about Melancholia, the book "Al-Hawi fī Ţ-Ţibb" by Abū Bakr Al-Razi, and the book "Al-Qānūn fi Ţ-Ţibb" by Avicenna.

Results: Arab and Muslim physicians relied largely on Psychotherapy in the management of Melancholia and they used several types of Psychotherapy such as (based on modern concept): 1-Supportive Psychotherapy and Social Psychotherapy. 2-Cognitive –behavioral Psychotherapy. 3- Psychoanalytic Psychotherapy.

Conclusion: Arab and Muslim physicians paid attention to psychiatric patients and dealt with patient as human who needs special and intensive care . They used in their treatments several types of Psychotherapy.

Key Words: Melancholia, Arabic Medicine, Islamic Medicine, Depression.

Introduction:

Melancholia (which is a disease called by the old physicians on several psychiatric disorders including Schizophrenia, Depression and Somatoform disorder in their modern concept) is considered one of the diseases which took a significant space of physicians concern since old times.

Arab and Muslim physici1etween patient and doctor without using any medications or physical means[1].

The importance of research:

Shedding light on the extent of reliance by Arab and Muslim physicians on the psychotherapy in the management of Melancholia and showing their skills and proficiency in this field, where no previous studies were published about the role of Arabs and Muslims in this domain.

Research Aim:

Study the methods of psychotherapy used by Arab and Muslim physicians in the treatment of Melancholia and comparing them with the known psychotherapic methods today.

Research Methodology:

The methodology is based on retrospective historical method by reviewing some Arabic and Islamic medical books such as the article of Ishāq Ibn Imrān about Melancholia, the book "Al-Hawi fī Ţ-Ţibb" by Abū Bakr Al-Razi, and the book "Al-Qānūn fi Ţ-Ţibb" by Avicenna, and give careful study to psychotherapy ways followed by Arab and Muslim doctors and comparing them with modern medicine data .

First: Ishāq Ibn Imrān (died in 297 H/907 AC)

Ibn Imran focused on the necessity to take care of the patient until his wrong thoughts are removed by using delightful nice words, logical tricks, commiseration and music, and by changing the place where the disease occurred, He said: "You should confront the psychiatric symptoms

concerning these faulty thoughts, spoiled imaginations and bad thinking trends with kind intellectual words, theoretical tricks and persuading vision which will remove what is already rooted in the self and imprisoned in mind of bad ideas which not based to reality, by the dynamic of music and by drink which should be administered if possible[2]. He also said: "And should take care of moving from the places where the disorder occurred in"[2] .

Ibn Imran also mentioned using a logical trick to treat a patient with Nihilism, where he said: "There are some people who suspect that he is headless such as we saw near Kairawan, so we placed a cap of lead on his head in place of helmet, then he believed that he has a head "[2].

Second: Abū Bakr Al-Razi (died in 313 H/925 AC)

Al-Razi had mentioned several methods of psychotherapy of Melancholia such as:

a. The inspiration to patient always for recovery even the doctor is not sure of it where he said: "The doctor should always inspire the patient that he will be in good health and making him hope for that, even he's not sure, because the body's mood is related with spiritual morals"[3].
b. Trying to divert the patient with daily works which make him forget his sickness and this today known as "Diversion Therapy", where Al-Razi said: "Nothing is better and no therapy is more significant for treating Melancholia than by obligatory works which have great benefits which satisfying the self and occupy it, and also by travel and journeying, because I saw boring and unemployment is the most severe danger of causing this disease and also thinking of the past. This sickness should be treated by works, and when it's not available then by hunting, chess playing, drinking, singing and competition in something, and similar activities"[4]. He also said "patients can benefit from faraway travels because this will change their mood, improve their digestion, getting rid of their thoughts and divert them "[4].
c. He also advised not to tell the patient about his sickness, where he said: "don't make the patient suspect that he has Melancholia, but that you treat him of dyspepsia only and help him to get over his thoughts, divert him, cheer him up, and keep him occupied from thinking "[4].
d. He advised Pleasing and delighting patient, making him happy with good news, sweet words, where he said: "Treat all of them with conversation, pleasure and happiness"[4].
e. Social support of the patient by returning him to the society through meeting with people in drinking, singing occasions and avoiding loneliness, so Al-Razi said: "I didn't see anything in this sickness more harmful than loneliness, therefore I see that people who sit alone are getting worse" [4] and he said: "so the patient should travel and move among places, meet with people for a drink and song" [4].
f. Trying to change the patient's opinions and contentment through dialogue with the patient and influencing him psychologically and this is today known as "Cognitive-Behavioral Psychotherapy", where he said: "A man complained to me and asked me to treat him of black thoughts, so I asked him about what he feels and he said: I think of Allah, from where he came, how he created things and when I told him that these thoughts are brought to all wise men, so he immediately recover. And I treated many patients by clearing up their thoughts"[4].

Third: The Master Sheikh Avicenna (died in 428 H/1037 AC)

a. Avicenna mentioned the necessity of providing entertainment and amusement to the patient such as singing and music parties and even spraying fragrance in the patient's house, making him busy to forget his illness and meet with friends, so he said: "in any case the doctor should make the patient happy, amusing him, and sitting in places with moderate climate, moisten the air of his house and perfume it with sweet fragrance. in general he should always smell sweet odors" He said too: "The melancholic patient should always be busy whatever it is, and meet with whom he respects and like and also should be entertained by musics and singers and nothing is more harmful to him than loneliness and seclusion" [5].
b. Avicenna point at to treat some patients by trying to change their thoughts and contentment, so he said: "it's mostly happen that the patients depressed because of occurrences or fear something, so they become preoccupied and handicapped. When these symptoms and thoughts are eliminated and cleared out. this becomes a radical therapy for them"[5].
c. Avicenna relied on the psychoanalysis as a new method of medical treatment and he was successfully practiced which is clearly represented by treating the

depression caused by Love sickness where he mentioned that the diagnosis of the case is made through monitoring the patient's pulse with calling many names to him, then mentioning the names of places and houses and by observing the change of pulse when the lover's name and address is mentioned. And then he indicated that the treatment is made by marriage if possible [5].

Results and discussion:

After studying the previous examples we find that Arab and Muslim physicians used several types of psychotherapy (known today in modern medical practice) which are :

1- **Supportive and Social Psychotherapy:** this type depends on providing physical and emotional support to the patient to reduce his worries and sadness and trying to returning the patient to the society (socialize him). We find that all previously mentioned doctors advised to provide the amusement and entertainment means to the patient such as singing and music parties and trying to introduce happiness and pleasure to the patients soul through good news, sweet words, advice travel and changing place of residence, meeting with friends and avoiding loneliness. Ibn Imran indicated clearly to the use of music in this regard.

2- **Cognitive and Behavioral Psychotherapy:** this type of therapy is based on cognitive– behavioral theory which considers that the patient's affect and behavior are largely determined by the way in which he interprets events and the surrounding environment. and therefore the therapy aims to try changing or modifying the patient thoughts and persuasions towards the external effects [6]. We find this clearly in the trick used by Ibn Imran to try change the persuasion of the patient who belives that he's headless. And also we find this in the advice provided by Al-Razi to treat an obsession at a patient who thinks in God's creation permanently, so he told him that this idea occupies the minds of so many people in a trial to change his persuasions against his sickness. And Avicenna indicated to this type of therapy when he mentioned that liberation of the patient's wrong thoughts is a main treatment for them

3- **Psychoanalytic Psychotherapy:** İt's a type of treatment which relies on the Psychoanalytic Theory which describes the relation among the emotional, mental and excitation processes and their effects on behavior, Also this theory focuses on personality characteristics, childhood events and exploration of the unconscious mind, this therapy aims to take care of these aspects and trying to make a radical change in the patient's personality [6]. We find Avicenna use Psychoanalytic method during the treatment of depression caused of love sickness , where he seeks using his own method to excite patient's emotions and conclude from them the presence of causal relation among body changes (pulse acceleration) and the incidence of the factor causing it. So, he relied on psychoanalysis to diagnose the condition. Also he used the same method as a treatment when he advised to solve the patient's problem through marriage if possible.

Conclusion:

Arab and Muslim physicians took care of mentally ill patients and they treat them with high standard medical and humanitarian management, in addition they used several methods of psychotherapy to treat them which were based on their understanding and realization of patient's condition and gaining his confidence and trying to affect him psychologically, so, They showed a great skill and wisdom in this field of therapy.

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Jaundice in the Medical Heritage of Arab Muslim, Abu Al Hasan Al Tabari (d 360H/970AD), as an Example.

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Summary

Introduction: Jaundice is one of the oldest hepatic illnesses that affect human beings, where it was reportedly mentioned in ancient medical heritage of ancient civilizations, that it was related with a noble organ of human body, namely Liver. By looking on the available presented topics, we couldn't find any research dealt with Jaundice so that the aim of this research is giving a flash light on the different historical stages which concerned with diagnosis and treatment of this illnesses and how the Arabs, Muslims physicians cured it especially, Abu al Hassan al Tabari who composed Hippocratic Treatments.

Methods: We rely on the historical method (recall),by recapturing the book of Abu al Hassan al Tabari Hippocratic Treatments which contains 6 chapters dealing with jaundice then creating the common points between the ancient and modern medicine of Jaundice.

Results: 1-Jaundice is very old disease which humanity suffered much through ages. 2-Abu Al Hasan al Tabari focused on the scholarly description of jaundice where he set a definition, signs and finally treatment. 3-Abu Al Hasan al Tabari paid attention to Jaundice ,he categorized it to different kinds and each kind is specified in a separated chapter. 4-He directly referred to the food and some other single and compound medicines (vegetarian, animal and inorganic) which he practiced and gave notes.

Conclusion: Al Tabari pointed out to many single and compound medications for Jaundice treatment wherefore we propose to do a separate seminar for re-approving of these medications showing its effect.

Key words: History of medicine, History of Jaundice, Abu Al Hasan Al Tabari, Arab Islamic Medicine, Hippocrates.

Introduction:

Jaundice is still widely spread all over the world and continuously increases. It is predetermined that in the last period of time, the infection rate is doubled in our Arabian Territory due to many reasons such as liver's problem, genetic and bilious ducts blockage.

Jaundice is defined as yellow staining of the skin and sclerae (the whites of the eyes) by abnormally high blood levels of bilirubin[1].

As known that in medicine, diagnosis of the disease depends on different signs as yellowish or white of the eye. The Arabian and Muslims physicians recognized these signs in their medical books and it can be seen in some long and medium essays as per Ali Ibn Rabban Al-Tabari's (247 H-861C) book "*Firdous al-Hikmat*"[2], Thābit ibn Qurra's (288H-901C) "*al-Dhakhira fī ilm al-tibb*"[3], Al-Razi's (313H-925C), "*Al-Hawi*"[4] and Abu al Hassan al Tabari's (360H-970C), "*Hippocratic treatment*"[5]

Significance of the research:

The modern researchers(mainly the foreigners) hasn't referred to the contribution of ancient Arabs and Muslims physicians till the last days of the Arabic and Islamic era,

1. Biluribin:It is Bile pigment produced from de oxidation of hematite (one of hemoglobin ingredients) in the liver and spleen.[1]

2. chapter 10, 8th essay: in gallbladder and jaundice. Chapter 11 of 8th essay: signs of gallbladder disease. Chapter 2of 8th essay : Jaundice treatment.[2]
3. Chapter 16: The liver and spleen diseases , kinds of jaundice and kinds of dropsy, increasing of flow of sweat and restrain.[3]
4. Chapter 7: Breast , heart and liver diseases from the book " Grand Alhawi". Jaundice chapter. [4]
5. Melli bookstore edition Tehran No. 4474 Sazkeen publications 10th essay, from chapter 21 into 26.[5]

in the field of Jaundice disease therapy and how they being distinguished its diagnosis approaching as close as to the modern physicians done. By close investigating of the available medical essays, there aren't any one dealing with jaundice disease.

Aim of the research:

It was necessary to do a historic scientific study about the progression of this disease and treatment by showing the contribution of the Arab and Muslim physicians in this field.

Methods:

We'll rely on the historic approach (flash back) by going back to some essays of the Arabic Traditional Medicine and Arabic Islamic Medicine which pointed to this disease. We'll concentrate mainly on Abu al Hassan al Tabrai's "Hippocratic Treatment". He indicated to Jaundice at 6 sections of the 10th essay then return to some modern books which related to this topic.

First: Jaundice in Mesopotamian Civilization:

The Akkadian was calling it "Yellow disease", the yellowish color of the eyes indicated the diagnosis of Jaundice. There is acute and bad kind of jaundice was called by the name of devil (Ahazu) which is not healing and deadly [6].

Second: Jaundice in Ancient Egyptian Civilization

Ebers Papyrus showing the relationship between liver and stomach. There are many formula for Jaundice treatment ,also Jaundice is coloring of skin due to deposit of Bile pigment on the deep layers of skin. The proposed herbal formula are grape, colocynth and pine [7].

Third: Jaundice in Greek and Roman Civilizations

There are clear indications that Greek knew jaundice.

In his book "*Hippocratic Collection*", Hippocrates gave indications of it. He said: "It is bad sign if fever starts before the seventh day of jaundice infection"[1], also said: " It's hard to produce blast (winds) out of jaundiced person tack. If the liver of jaundiced person is hard that is a bad sign"[8].

Rufus's book on Jaundice is still known through *Aetius* book "*Infected Locus*" in which he collected Rufus sayings, some of it descried Jaundice as : "the symptoms which follow the liver's jaundice are white myrrh and yellowish concentrated urine. Yellow color face especially the eyes' white"[9][10].

Then came Galenus ,he added and explained much more about Jaundice. He said in his "*Myamers*"[2]: "jaundice can be washed quickly by rubbing down with analyzer ointments and pores expanded medication"[6].

He added on his book , "*The painful organs*"[3]*:* "First of all let's be sure if it's Jaundice or liver's malfunction, and it maybe blood decomposed due to vermin bite or from special food unless there is a blockage in the liver or warm trauma".

Forth: Jaundice in Third Hijri Century/ Nineth Gregorian Century:

We can recognize in the Arabic Islamic Medical Tradition in the 3rd MC/9th AC that they concerned with this disease and we can see that in the writings of the physicians at that time. For instance, Ibn Rabban al Tabari (247H-861AC).On *"Firdous al-Hikmat",* he said the 10th chapter- 8th essay (*of Bile and jaundice*)-12th chapter-8th essay (*jaundice therapy*): "Jaundice can be happened due to 4 troubles, gallbladder blockage, bile excretion hindered due to vermin bite and blacked"[2].

He treated the disease by using salves and kohl of flowers and pomegranate nectar. Bleeding of arm blood vessel, if jaundice caused by blockage. Honey sweetened drinks[2].

Also, Thābit ibn Qurra al Harrani on his book "*al-Dhakhira ft ilm al-tibb*"- 16th chapter (*on liver, spleen, kinds of jaundice, kinds of dropsy, emiction of sweat and blocked*)[3].

He described jaundice kinds: "It's caused by yellow bile, liver inflammation. Other one urine ,evacuation are black grey"[3].

1. 4th essay of Hippocratic collection.[8]
2. Maymers: Mymar(singular),it's a way which contains 10 essays.[11]
3. The painful organs: 6 essays in which he described signs of the internal organs of body in case of diseases.[11]

We won't forget Abu baker Zakaria Al Razi (313H-925AC). On his book "*Al Hawi*", he referred to jaundice in the 7th chapter of the 3rd volume. He said: "look for jaundice in urine, evacuation and sweat…."[4].

He distinguished the different kinds of jaundice by observation and inspection, he said: "The jaundice signs caused by sweats there shouldn't be heavy liver, temperature and thirsty. Liver blockage signs ,heavy liver and stings. Liver inflammation (warm) ,thirsty and dried tongue". He emphasized on jaundice medications by bath, salve, pores expanded and sweetened drinks[4].

Fifth: Detailed Study of Jaundice Disease at Abu Al Hasan Al Tabari:

1. Jaundice definition:

Al Tabari identified Jaundice as: "It is changing in the face skin color and whole epidermis even eye's layers and tongue, maybe all get black color instead of yellow one"[5].

Al Tabari identification of Jundice has the same common ideas with the scientists of that era. It is agreed with modern medicine ideas as we'll see in the aftermath modern identification.

2. Kinds of Jaundice:

Al Tabari divided jaundice according to the direct cause of infection: One of them result by filling the liver and gallbladder, other blockage of duct between liver and gallbladder. Finally, generate from vermin bite and venomous animals. He distinguished among them according to symptoms accompanied by each kind"[5].

Examples[5]:

There is a kind of Jaundice, the Bile goes deep in the body. Other by high temperature, it goes up to the surface part of the body and other one pushed down to the inner part of the body.

There is another kind caused by filling of the liver and gallbladder, it's similar to previous one and the difference between them is less bile than other kinds. Getting high temperature from the bile and dried. There are signs of this kind, yellowish of the whole body in addition to eye's sclera.

- The jaundice can also result from blockage between the liver and gallbladder is the worst one ,it takes a long time for healing.
- The difference among jaundice results according to symptoms:
- The first one, neither (stool & urine) and nor liver inflammation.
- The second one, there is inflammation, temper and excretion(evacuation), bile diarrhea.
- The third one, necessarily fever, much nose bleeding, high temperature, thirsty and excessive constipation (the doctor may think that the patient has bellyache).

3. Jaundice remedy:

Abu Al Hassan al Tabari treated jaundice by relying on vomiting, diarrhea and liver salve.

He gave to the patient some special recipe including reserved herbal medicament like chicory and cactus. Animal medicaments such fish, metallic one like sea mud. Some of these recipe seems like pharmacopeial compound of soakings(1), tablets(2), sweetened drinks(3), powder (pulver)(4) and kohl(5).

There are many prescriptions for each one contains herbal, animals and metallic medicaments and emphasized on the herbal one.

He took care of the patient nutrition system by advising special way of life and food. He tackled one kind of jaundice as: "In case of strong fever, it is better to drink barely syrup, roasted cucurbit syrup, sour cucumber syrup and tamarind syrup. In case of no fever, it is better to eat Sekbaj (vinegar, almond broth cooked) with young goat meat without fat or beef and rocky fish". He also treated jaundice by bleeding of artery (Basilic) (6).

Sixth: Jaundice in Modern Medicine:

Jaundice is from French word "jaune", it means yellow. It is yellow staining of the skin and sclera (the white

1. Soaking: Pigments of scents and what is soaked in water of fruits and medications as requested.[12]
2. Tablets: It's preparation like pressed tablets with bigger size contains little amount of effective material and much more of sugar and perfumed materials.[13]
3. Sweetened drinks: It's fruits juice and others cooked with sugar and honey.[14]
4. Powder(pulver): It's dried medications compound together then hit, sieve and scattered from hand fist.[14]
5. Khol: Eyes medications, if it was dried.[14]
6. Al Basilic: a vein which is located on the elbow beside the belly.[14]

of the eyes) and other tissues by abnormally high blood level of the bile pigment bilirubin which leads to similar high level of bilirubin in the other body fluids until the sclerotic get yellow[15].

There are 3 factors may cause jaundice[15]:

1- Pre-livery jaundice: Jaundice can result from abnormally excessive breakdown of red blood cells (a process called Hemolysis).
2- Intra-Livery jaundice: Disorder of the liver cell (Hepatocyte),or ducts inside liver.
3- Post livery jaundice: The bile ducts outside the liver may be blocked by gallstones.

Jaundice treatment[16]:

- Patient must watchful waiting at home with rest until the liver get recovery.
- Balanced diet, small meals, less fat more carbohydrates.
- Medication may and may not be necessary. But may be reduced the symptoms or developing of the disease.

Seventh: Results discussion:

1- Jaundice is an ancient disease which humanity much suffered from old ages. Many ancient civilization had tackled this disease and we found hints for it in the major civilizations. There are different interpretations for causes that probably due to different culture and thoughts of that civilizations.
2- Abu Al Hasan al Tabari concentrated on the scholarly method .He gave a definition of the disease, signs and treatment.
3- Abu Al Hasan al Tabari concerned with jaundice and he divided the disease into many kinds, each kind has a special chapter. He described each kind signs, symptoms and treatment.
4- Abu Al Hasan al Tabari didn't forget to check patient's urine and stool during inspection. This is a clear indication to a true scientific method and performed by a real physician.
5- He obviously referred to food and to some single and compound medication of herbal, animal and metallic which he practiced by placing outcome of the results. He mainly depended on bleeding and diarrhea for each kind's treatment.

Conclusion:

Jaundice is a very old illness of which humanity too much suffered down from ancient times. Many civilizations treated this disease and Mesopotamia civilization was the first one. The Arabian and Muslims physician translated the Greek sciences and specially medicine precisely. Al Tabari referred to many single and compound medications for jaundice treatment so that we proposed to make undependable research of these medications and its effect.

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Doctor Rıza Tevfik: Between The Classical Notion and Dialectic Materialism

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Summary

In his early years, known as the most outstanding figure of Dialectic Materialism, Riza Tevfik's the great metamorphosis in his style is largely of his international experience. Supported by the big names like Mehmed Kemal and Mustafa Asım, this change, however, as Hilmi Ziya Ülken stated, is nothing but a compromise. The great metamorphosis is the corollary of his orientation, and though he developed his knowledge by using Classical Islamic Discipline as a basis, Riza Tevfik, who went on defending the fundamentals primarily of Darwinism and then Positivistic approach, did not utterly transform, and moreover, sheltered himself under the philosophy of Pantheism and the cult of Bektashi. Ziya Gokalp's hyper-intentioned remark tells us that the reason behind his describing Tevfik as a problematic intellectual is his approach.

Key Words: Philosophy, Materialism, Positivism, Pantheism, Hilmi Ziya Ulken

Rıza Tevfik, like many of his contemporaries, was under the influence of French Revolution during his maturity,[1] he questioned the positivist philosophy, which he adopted in his early years, and began to dwell seriously on metaphysical facts. His vast knowledge of Islamic philosophy was one of the natural consequences of this tendency.

In his memoir, Mehmet Kamil, who made an indelible impression in the field of Islamic philosophy, states his teacher Mehmed Asım Efendi answering a question about Mehmet Kamil's scientific competencies says "If his liberal education was to be shared out among forty people, they would all become distinguished scholars of this country." Mustafa Asım objects to those who wants to make Mehmed Kamil look like a person competent on Islamic philosophy but a nonbeliever saying "He is one of the very few religious scholars I have ever seen.". [2] Mustafa Asım emphasizes that Rıza Tevfik was able to comprehend Şerh-i Mevafık written by a well known Islamic scholar Cürcani, and critique it as if it was an ordinary text. He also states that Tevfik was able to examine Mehbas-ı Vücud, the most complicated topic, taking Fahreddin Razi's proof into consideration and arguing for his ideas. Referring to his faith, he states that Tevfik volunteered for the maintenance of Makkah carried out once a year, and cleaning of Kaaba chanting tearily.[3]

Mustafa Ragıp Esatlı, one of Rıza Tevfik's students highlights his teacher's ideational shift for the last 30-35 years of his life and indicates that he wished for Islamic funeral after his death. He tries to make it clear with the following lines:

"*I can imagine some of my readers, under the thumb of some slanders and selfishness, saying 'He regards a 60 year old philosopher as a heaven-sent saint, and angel.'*

I'm not such an insolent or rebellious person who can qualify this innocent dead man as a pretended virtuous character in the presence of God.

1. Ahmet Gündüz, "1789 Fransız İhtilali Fikirlerinin Osmanlı İmparatorluğu'nda Yayılması ve Balkanlardaki İsyanlar", *Türk Dünyası Araştırmaları*, Vol.: 160, Jan.-Feb. 2006, p. 67-82.
2. Mehmed Kamil considers Rıza Tevfik, whom he analyzes from different perspectives referring to that view, as a globally known scientist and artist. For more information about the most exaggerated approach on this matter also see transferred from *Ölümden Sonra Rıza Tevfik. Tevfik (Edit.: Mustafa Ragıp Esatlı), Sinan Printing Hause, İstanbul 1952, p. 52, Mehmed Kamil, "Eşsiz Bir İslam Alimi".*
3. Mehmed Kamil, finishes his article he wrote after Rıza Tevfik died and in which he sets forth these opinions as follows: *Rahmetullahi Aleyh Rahmeten Vasia.*"

In fact, Rıza Tevfik, who adopted materialism, a very popular philosophy diffused by its supporters all over the world in the 19th century, was literally a nonbeliever until he changed his faith and became Muslim and a strict believer.

Do you want a witness for my claim? Without a second thought, I will quote the most distinguished, wise, competent scholars of this country. They are Muslim and Turkish, and they will witness for his piety and patriotism in the presence of God.".[4]

However, according to Hilmi Ziya Ülken, Rıza Tevfik was in a very peculiar position in terms of Islamic philosophy: In his lifetime, madrasah ecole based on footnotes and excursus didn't transform into modern research method based on copyright. Islamic philosophy was not regarded as a system of thought but an observance. On the other hand İsmail Hakkı İzmirli was the only person who was concerned with Islamic philosophers. Rıza Tevfik, who studied medieval Islamic thought using modern methods for the first time, endeavored to establish a connection between classical Islamic thought and modern Western philosophy in such an atmosphere.[5]

Due to this and his other similar qualifications, Ülken, who identified Rıza Tevfik with Charles Dickens or Oscar Wilde, had a passion for philosophy being impressed by Rıza Tevfik who was his father's friend like many of his contemporaries.[6]

The first point that needs to be emphasized is the fact that Rıza Tevfik's philosophical orientation, which brought the ideational distinction between the philosophers of classical Islamic thought and the others to light, changed drastically over the years. In spite of adopting all dialectical materialism-related approaches at first, Rıza Tevfik argued for the conception of God, which finds its meaning in Koran and among the companions of Prophet Mohammad, in an interview he gave to Feridun Kandemir. Quoting Mevlana Celaleddini Rumi and Yunus Emre, he implied to an eternal divine power which cannot be matched up with any other metaphors.[7] He got through to that point after years of a deep contemplation and an interaction period with mystical atmosphere of the Middle East.[8]

However, Rıza Tevfik's mystic character was largely based on the theory of unity of existence, and sometimes it became excessively disputable. In fact in a poem he wrote in 1916, he tried to disable the phenomenon of revelation, basic mission of Koran, and divinize humanity.[9] In an article he wrote in 1918, exemplifying Abdülhak Hamit, he attributed divinity to human dignity and with a poem he attached, he claimed that Islamic concepts such as Koran and Kabah are symbolized in humanity which he identified with Allah.[10] Because of not being able to get rid of the anaphoras of positivism, he vacillatwed between Bektashism, which ignores realist disciplines, and classical sunni Islamic philosophy.

Besides, he still kept on adopting Darwinism, which was nothing more than a theory;[11] claiming that bedounis, whose social life he witnessed very closely, proved the evolutionary theory with their extremely strong five senses and memory.[12] Yet, he was still not aware of the fact that this attitude conflicted with monotheism.

These beliefs were the main reason that made him ignore his poesy at which he was incredibly good and became concerned with diplomacy and philosophy. Because he made a habit of overreacting to the facts in his life. He had never been foresighted.[13] Ziya Gökalp drew attention to the same problematic as our study, under the pseudonym Celal Sakip. Gökalp examined Rıza Tevfik, answering six questions for each of which he wrote a chapter. Gökalp claimed that Rıza Tevfik was not a materialist, determinist, positivist, evolutionist, individualist

4. Mentioned Source, p. 165-166
5. Hilmi Ziya Ülken, "Filozof ve Şair Rıza Tevfik", *Yeni Sabah*, 25 September 1956, p. 5.
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9. In this poem he wrote on 4th August he emphasizes this notion. Rıza Tevfik Bölükbaşı, "Gel Zahid", Serab-ı Ömrüm, Kenan Printing House, İstanbul 1949, p. 282.
10. For further information about his ideas on this matter and his article which also includes this poem " Gel Derviş" he wrote on 1st March 1934 (1918) also see. Ati, 10 Kanun-i Sani (January) 1334, p .5. Rıza Tevfik emphasizes remarkable expressions in this verses.

    Also, Rıza Tevfik wrote another poem on 1st February 1921 in Arnavutköy American Girls High School, which underlines his remarkable expressions. For furher information, Rıza Tevfik Bölükbaşı, "Fitne-i Aşk", *Serab-ı Ömrüm*, s. 284-285; Feridun Kandemir, *Kendi Ağzından Rıza Tevfik*, İstanbul 1943, p. 179-180. Refi Cevat Ulunay, emhasized interesting commentary on this poem. Refi' Cevat Ulunay, *Rıza Tevfik-Şiirleri ve Mektupları*, Semih Lütfi Bookstore, İstanbul, p. 37.
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13. Orhan Seyfi Orhon, "Serab-ı Ömrüm", *Aydabir*, No: 4, 1 December 1935, p. 5.

or a supporter of Ide Forte,[14] but he came down with a kind of mental disease called "Dejeneresance". Explaining his claim, Gökalp stood out Tevfik's exaggerated, miscellaneous character. He described his admirable but insubstantial brilliance, which he compares with the Hanging Gardens of Babylon, as egodistance.[15]

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14. Ide Forte (Ideas - Forces) is a philosophical doctrine put forward by a French philosopher Alfred Fouille (1838-1912). It underlines the incentive characteristic of opinions. Ziya Gökalp grounded his ideals on this doctrine. For more information also see Süleyman Hayri Bolay, *Felsefi Doktrinler ve Terimler Sözlüğü*, V. Edition, İstanbul 1999, p. 266; Bedia Akarsu, *Felsefe Terimleri Sözlüğü*, VII. Edition, İnkılap Bookstore, İstanbul 1998, p. 90.
15. Celal Sakıb (Ziya Gökalp), "Rıza Tevfik'in Felsefesi", *Genç Kalemler*, No: 15, 1 Şubat 1327 (14 February 1912), p. 60-71.

Evaluation of Efficacy of a Unani Formulation in Farat Tadassum Fiddam Ibtadai (Primary Hyperlipidaemia)-A Preliminary Study

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Summary

The concept of hyperlipidaemia is new and is based on biochemical changes in the blood. But if we trace back the historical background of this biochemical disorder, we come to know that the basic concept of this is old one. As far as presence of fat (lipid) is concerned in blood, some Unani physicians have reported its presence in blood. In this regard Abu Sehal Maseehi in his famous book "Maita Maseehi" described the presence of Dusoomat (meaning oily substance) in blood. He also told that phlegm is produced from Dusoomat. Mansoor Ibne Mohammad in "Tashreehul Mansoori" stated that fat is produced from dusoomat of blood.

There is no convincing and satisfactory treatment available in any system of medicine so far. This study has been undertaken to evaluate the efficacy of antihyperlipidaemic action of our drugs Luk Maghsool (Coccus lacca Kerr.), Sandroos (Callitris rhomboidea R.Br. Ex Rich. & A.Rich.), Ispaghol (Plantago ovata Forssk.) and Afsantin (Artemisia absinthium Linn.) in primary hyperlipidaemia and comparing it with lipid lowering agent atorvastatin. The study was based on various scientific parameters as far as it was possible, for example the main biochemical indicator of this disease that is Serum lipid profile was estimated in all the cases on regular basis. Most of the data were statistically analysed to determine the level of significance of the effect.

Key Words: Luk Maghsool, Sandroos, Sabos-e-Ispaghol, Afsantin and Hyperlipidaemia

Introduction:

Hyperlipidaemia is a health problem of enormous magnitude that affects many patients worldwide. The term hyperlipidaemia describes the high level of fatty substances called lipids present in the blood. Hyperlipidemia, hyperlipoproteinemia or hyperlipidaemia (British English) involves abnormally elevated levels of any or all lipids and/or lipoproteins in the blood. It is the most common form of dyslipidemia (which also includes any decreased lipid levels).

The concept of hyperlipidaemia is new and is based on biochemical changes in the blood. But if we trace back the historical background of this biochemical disorder, we come to know that the basic concept of this is old one.

Most of the Unani scholars like, Hippocrates, Galen, Rhazes and Avicenna have described the disease as "*Siman-e-Mufrat*" (meaning obesity) in their treaties. They have mentioned the etiological, clinical features and complications of obesity and most of these are very much similar to the etiological factors, clinical features and complications of hyperlipidaemia. They have narrated possible complications of obesity like paralysis, stroke, narrowing of blood vessels, haemorrhage and sudden death. As far as presence of fat (lipid) is concerned in blood, some Unani physicians have reported its presence in blood. In this regard Abu Sehal Maseehi in his famous book "Maita Maseehi" described the presence of *Dusoomat* (meaning oily substance) in blood. He also

told that phlegm is produced from *Dusoomat*[1, 2]. Mansoor Ibne Mohammad in "Tashreehul Mansoori" stated that fat is produced from *dusoomat* of blood[3].

Ali Bin Majoosi the writer of "Kamilus Sanaa" told that when oily substance in blood reaches the different organ of the body it start to deposit in them takes the form of fat (*Shaham*)[4].

Therefore, we can safely say that *Dasoomat* or the oily substance present in the blood as reported by these great physicians, could well have been the "lipids" but as the facilities of biochemical analysis of blood were not available in their time, they were unable to describe it as per modern parameters. The famous Unani physician, Rofas and Jamaluddin Aqsirai have been reported that there is presence of excess amount of phlegm in bodies of obese persons[5, 6] or in other words they have associated the phlegm with obesity. As mentioned, above that phlegm is produced from *dusoomat* of blood, so it is clear that they were aware about the excess of *dusoomat* in blood and harmful effects produced by it, as describe by them in context of obesity.

In present scientific era both the diseases i.e. obesity and hyperlipidaemia are considered two different diseases but it is also true that there is an established link between these two diseases. Clinical concern in this regard arises because an elevated concentration of plasma lipids and lipoproteins accelerate the development of atherosclerosis. Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health.

There is no convincing and satisfactory treatment available in any system of medicine so far. Several different classes of drugs are used to treat hyperlipidaemia. These classes differ not only in their mechanism of action but also in the type of lipid reduction and the magnitude of the reduction. Presently in main stream of medicine Statins are the most common group of antihyperlipidaemic drugs which lowers the cholesterol by interrupting the cholesterol biosynthesis pathway. On the other hand, fibrate group decrease fatty acid and triglycerides levels by stimulating the peroxisomal β-oxidation pathway. But long term administration of these drugs produce various adverse effects, the most important adverse effects are liver and muscle toxicity. Other adverse effects are hepatic dysfunction, renal insufficiency, hypothyroidism and serious infections.

In Unani literature, there is description of many drugs (single as well as compound formulations) used for the purpose of reducing body weight and treating the obesity. Among these some important single drugs (*mufrad*) are *Sandroos, Luk-e-Maghsool, Zeera Siayh, Zarawnd, Juntiana Roomi, Sirka, Amla, Kalonji, Zanjabeel*. Compound formualations (Murakkabat)- *Itrifal Sagheer, Jawarish Kamooni and Majoon Falafali*[7, 8]. This study has been undertaken to evaluate the efficacy of antihyperlipidaemic action of our drugs *Luk Maghsool* (*Coccus lacca* Kerr.), *Sandroos* (*Callitris rhomboidea* R.Br. Ex Rich. & A.Rich.), *Ispaghol* (*Plantago ovata* Forssk.) and *Afsantin* (*Artemisia absinthium* Linn.) in primary hyperlipidaemia and comparing it with lipid lowering agent atorvastatin. The study was based on various scientific parameters as far as it was possible, for example the main biochemical indicator of this disease that is Serum lipid profile was estimated in all the cases on regular basis. Most of the data were statistically analysed to determine the level of significance of the effect.

Material and Method:

The present study is a single blind randomised standard control clinical trial on primary hyperlipidaemia. The study was conducted on 40 patients comprising 25 patients in test group and 15 patients in control group. All the patients were randomly selected from Moalejat and Modern Medicine OPD, Ajmal Khan Tibbiya College Hospital, AMU, Aligarh during the period extending from from February 2007 to September 2009. Those cases whose were having deranged lipid profile without any clinical illness related with secondary hyperlipidaemia were selected for the study. The randomisation was done on the basis of lottery system.

Those suffering from Thyroid Disorder, Chronic Renal Failure, Diabetes Mellitus, Ishaemic Heart Disease, Nephrotic Syndrome, consuming oral contraceptives, alcoholics and primary gout were excluded from the study. Similarly those suffering from cirrhosis of liver or who had taken any type of lipid lowering agents of any system of medicine for at least one year before the clinical trial were also excluded. The trial was carried out after approval of ethics committee and informed written consent from the patient. Each case was studied on following manner that is history taking, physical examination and biochemical tests. The results at the end of study were compared to the control group.

In test group, the drugs *afsanteen, luk maghsool and sandroos* were taken in the ratio of 8:2:2 by weight in grams and grinded to fine powder and the patients were advised to take 6 grams with plain water preferably on empty stomach in the morning and evening. Simultaneously *saboos-e-ispaghol* (telephone marked) was also administered orally 5 grams at bed time for

four months while in control group the drug atorvastatin 10 mg once a day after dinner for the same period was advised.

The routine investigations like haemogram, urine examination, stool examination and X-Ray Chest (PA View) were carried out. All the patients were subjected lipid profile to see the change in the different fractions of lipid at monthly interval.

The patients were initially followed up for every fifteen days for two successive occasions then at monthly interval for four months. The initial 15 days visit was to know any side effect of drugs. The clinical examination and necessary biochemical investigations were carried out at monthly interval. All the results were statistically evaluated using paired't' test.

As depicted from the above table the maximum incidence was found to be present in both sexes between the age group of 45-55 years and above 65 years of age. These findings are confirmatory with the standard text. (Table-1)

The maximum number of cases 80% belonged to phlegmatic temperament while no patient was found in sanguinous temperament in both groups. As our study shows that maximum patients were of phlegmatic temperament (balghami mizaj) who were also obese with BMI > 25 which is itself is a very strong risk factor for the development of dyslipidaemia. (Table-2)

Table 1: Specific diseases of each season as mentioned in Unani literature [1, 2, 5, 6, 8]

Age Group	Test Group				Control Group			
	Male		Female		Male		Female	
	No. of Patients	%	No. of Patients	%	No. of Patients	%	No. of Patients	%
25-35	1	4	1	4	0	0	1	6.66
35-45	1	4	3	12	1	6.66	2	13.33
45-55	3	12	3	16	2	13.33	2	13.33
55-65	3	12	3	12	2	13.33	2	13.33
>65	2	8	4	16	2	13.33	1	6.66
Total	10	40	15	60	7	46.66	8	53.31

Table 2: Distribution of Patients According to Temperament

SYMPTOMS	Test Group				Control Group			
	BT	AT	IMPROVEMENT		BT	AT	IMPROVEMENT	
	No. of Patients	%	No. of Patients	%	No. of Patients	%	No. of Patients	%
Sanguinous (Damvi)	0	0	0	0	0	0	0	0
Bilious (Safravi)	2	13.33	0	0	1	6.66	0	0
Phlegmatic (Bhalgham)	8	32.00	12	48.00	6	40	6	40
Melancholic (Saudavi)	0	0	3	12.00	0	0	2	13.33
Total	**10**	**40.00**	**15**	**60.00**	**7**	**46.66**	**8**	**53.34**

Table 3: Effect of Drugs on Lipid Profile in Test Group

Lipid	Follow up (in days)	
	0 Day	**120th Day**
	Mean + S.D. (mg/dl)	Mean + S.D. (mg/dl)
Cholesterol	279.25 + 9.43	276.62 + 10.46
	N=25; t=2.9 ; p<0.05	
Triglycerides	164.9 + 24.44	160.2 + 25.47
	N=25; t=2.6 ; p<0.05	
HDL	31.84 + 3.76	35.2 + 4.0
	N=25; t=3.36 ; p<0.01	
LDL	174.36 + 8.56	172.96 + 8.35
	N=25; t=4.9 ; p<0.01	
VLDL	35.76 + 11.59	35.6 + 11.26
	N=25; t=3.6 ; p<0.01	

Table 4: Effect of Drugs on Lipid Profile in Control Group

Lipid	Follow up (in days)	
	0 Day	**120th Day**
	Mean + S.D. (mg/dl)	Mean + S.D. (mg/dl)
Cholesterol	282.28 + 7.10	230.0 + 9.14
	N=15; t=3.92 ; p<0.01	
Triglycerides	172.8 + 19.25	133.0 + 19.46
	N=15; t=5.8 ; p<0.001	
HDL	31.66 + 2.53	41.0 + 2.29
	N=15; t=6.5 ; p<0.01	
LDL	176.36 + 8.24	165.6 + 8.53
	N=15; t=9.84 ; p<0.01	
VLDL	35.76 + 11.59	39.93 + 8.07
	N=15; t=2.8 ; p<0.05	

The test group which comprises 25 patients mean cholesterol level before onset of treatment was 279.25 ± 9.43 mg/dl showing a marginal fall to 276.62 ± 10.46 which has no clinical significance. While in patients belonging to control group, the mean total cholesterol before the trial was 282.28 ± 7.10 mg/dl which shows much significant change and was found to be 230.0 ± 9.14 mg/dl after the 4 month trial, which was statistically significant.

The marginal fall in test group which was although insignificant but may be due to the *Qabiz* (Astringent), *Mugharri* (Mucilaginous) and *Mullayan* (Laxative) effect of Ispaghol, which is causing hindrance in absorption of fat from gastro intestinal tract [9, 10, 11]. *Muhazzil* (Fat dissolvent) effect of Luk Maghsool, *Muhazzil* and *Mujjafif-e-Ratubat-e-Badan* (absorbent) effect of Sandroos might be the other factors for lowering the serum cholesterol[12, 13]. In control group it is known fact that atorvastatin is a hypolipidaemic drug and nowadays it is prescribed for hyperlipidaemia hence require no elaborate discussion.

The mean serum fasting triglycerides level before treatment was 164.9 ± 24.44 mg/dl, and it fell only by 4.7 mg/dl after 4 months of treatment which has no significant value. In control group who were taking atorvastatin the mean serum fasting triglycerides was 172.8 ± 19.25 mg/dl which reduced to 133.0 ± 19.46 mg/dl after the similar duration showing a significant effect.

These observations show that our drugs have no significant effects on serum fasting triglycerides reason of which remains to be explained by employing advance pharmacological studies. Regarding the control group the significant effect found is due to the known hypolipidaemic action of atorvastatin.

The mean HDL in test group before treatment was 31.84 ± 3.76 mg/dl, which shows a marginal rise by 4 mg% after 4 months of treatment it raised to 35.2 ± 4.0 mg/dl. And in control group the mean HDL level before treatment was 31.66 ± 2.53 mg/dl rising to 41.0± 2.29 mg/dl at the termination of therapy.

The possible mechanism involved may be the same which has already been discussed.

As depicted in table, the values of LDL and VLDL before and after of the trial both in test and in control group are given. In test group the values of LDL and VLDL are not significant, the explanation of which cannot be given at this juncture because the exact ingredients and the function of our drugs has not been yet fully exploited.

Obviously there was a significant fall in the values in the control group due to the known hypolipidemic action of atorvastatin.

Conclusion:

Further clinical trials either by readjusting the dosage of drugs or prolonging the course of trial may show more significant effect in lowering the raised serum lipids.

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Contributions of Abul Qasim Al Zahrawi in Sprouting Methods of Cauterization with Special Reference to Al Tasrif

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Summary

Unani Physician performs Ilaj Bit-tadbeer (Regimenal Therapy) by modulation in six essentials of life. Imagination of life is impossible without these six essentials of life. These are air, food, rest and movement of body, rest and movement of Nafas, sleep and awakening, Evacuation and retention. Ilaj Bil Yad is performed either by fire (hot metal) or by strong corrosive medicines. Abul Qasim Zuhrawi has described cauterization in detail in his book, Al-Tasrif leman Ajiz and al-Talif. He said that cauterization has universal application for every ill constitutions whether organic or functional, with of the physician favours the benefits of cauterization in hot and dry abnormality of temperament also, but some of the physician oppose its benefit in hot and dry organic ill temperament, by saying that fire used in cauterization has hot and dry temperament, so it is impossible to get cure of hot and ill temperament by using hot and dry techniques. According to Zuhrawi, cauterization gives relief in all types of ill temperament, either of organic or functional types. Abul Qasim Zuhrawi favours beneficial effect of cauterization in all seasons. He says that any loss due to cauterization done before time is lesser than the benefit gained by cauterization, especially in acute severe and throbbing painful conditions. Emergent prospect of cauterization and it application in modern scenario will be discussed in full length paper.

Key words: Cauterization, Ilajbit-tadbeer, Temperament

Introduction:

Cauterization was considered very important mode of medical treatment in the days of the holy prophet. May Allah's grace be on him, the holy prophet is reported to have said: if there is any beauty in any of your medicines, it is indeed, in the cupping, honey and branding by fire in accordance with the diseases. [1] The holy prophet not only applauded this mode of treatment, but also performed it. In the battle of Ahzab, the middle deep vein of the arm of Hajrat Abi Ibne Kaab was pierced by an arrow and the holy prophet performed cauterization on the injured vein [2]. In the same way, when the middle vein of the arm of Hajrat Saad bin Maaz was pierced by an arrow, the holy prophet branded on the arm [3]. It is mentioned in the history books that Muslim physician improved cauterization to utmost perfection. Acknowledging the expertise and enthusiasm demonstrated by Arab physician in cauterization, Jurji Zaydan a famous Arab historian, wrote that treatment by cauterization was a valuable treasure of old Arabian medicine. [4]

Kai (Cauterization):

Cauterization is an effective method of treating several conditions e.g. destructive lesions, removal of putrefactive matter and bleeding etc. Unani physicians have preferred Mikwa (cauterant) made of gold.

Procedure for Kai:

The place to be cauterized must be visible so that the cauterization is done satisfactorily after good observation. However, in the case of deep located organs e.g. mouth, nose and anus, suitable speculum is required. It should be coated with talcum and Armenian bole, soaked in vinegar, wrapped with a piece of cloth. The speculum should be subsequently cooled with rose water or several other juices

Objectives of Kai:

- To prevent the spread of putrefaction
- To alter the cold temperament or to rectify the temperament of a particular organ

- To disperse and remove the putrefactive matters, firmly adherent to the particular organ
- To arrest haemorrhage as it retains the flow of blood
- To prevent the accumulation of catarrhal matter

Cauterization by Zahravi:

Abul Qasim Zahrawi has described cauterization in detail in his book, Al-Tasrif leman Ajiz al-Talif. He said that cauterization has universal application for every ill constitutions whether organic or functional, with of the physician favours the benefits of cauterization in hot and dry abnormality of temperament also, but some of the physician oppose its benefit in hot and dry organic ill temperament, by saying that fire used in cauterization has hot and dry temperament, so it is impossible to get cure of hot and ill temperament by using hot and dry techniques. Some of the physician favour by saying that when body fluids meet the fire (hotness) of cautery, then human body cools down. Abul Qasim Zahrawi also favours this view [5]

In cold wet ill temperament, cauterization is always beneficial without any contradiction. Zahrawi advised his student to sincerely learn the secrets of mode of treatment of cauterization with fire and he advocates its superiority on the cauterization with corrosive medicines. He says that fire is single element (Johare-Mufred) and effect of fire dose note exceed from the site of application of hot metals, so does not cause harm to surrounding tissues. But in case of corrosive medicines, dangerous effect of corrosive medicines spread to surrounding organs, and sometimes causes dangerous deterioration and even causing fatality but fire is safe in this matter due to its good quality of constitution. According to Zahrawi, cauterization gives relief in all types of ill temperament, either of organic or functional types. Some of the Unani physician contradicts in the benefit of cauterization in organic hot and dry ill temperaments, but some physician favours benefits of cauterization in these two also.

Cauterization with fire may also cause damage to surrounding tissues if duration of application of hot metal to body part exceeds. There is also controversy in the optimum timing of cauterization, some of the Unani physicians consider spring season (Mausam-e-Rabeea) best for the cauterization, but Abul Qasim Zahrawi favours beneficial effect of cauterization in all seasons. He says that any loss due to cauterization done before time is lesser than the benefit gained by cauterization, especially in acute severe and throbbing painful conditions. He says if we delay cauterization in severe and acute painful conditions, than the prognosis will be poor due to development of complications and then cauterization will be ineffective. Cauterization is similar to those drugs, which cure ill-temperament and desiccate body fluids. Accumulation of these fluids creates painful conditions in body tissues. Cauterization is superior to drugs in respect to rapidity and strength of recovery. Cauterization causes recovery of those ailments, which are not cured by using different medications so it is a famous saying that cauterization is the last treatment of Tibb-e-Unani.

Cauterization by using cautery made up of gold is better than that of iron cautery. It is said due to elemental superiority and optimum temperament of gold. Abul asim Zahrawi devoted 56 chapters to cauterization in his famous book, Al-Tasrif, to cure different diseases e.g. headache, migraine, earache, facial paralysis, chronic apoplexy, phlegmatic lethargy, paralysis of entire body and flaccidity, epilepsy, malikhauliya, cataract, strenchy nose, flaccidity of eye lids, entropieon, lacrimal fistula, flaccidity of uvula, pain in molar tooth, dislocation of head of humerus, Asthma and hoarseness, lung disease, disease of stomach, cold temperament of liver, hepatitis, pleurisy, disease of spleen, dropsy, diarrhoea, haemorrhoids, disease of feet, fistula of anus, disease of uterus, disease of kidney, disease of gall bladder, stiffing of hip, sciatica, backache, gout and arthritis, hernia, leprosy, carcinoma, boils, gangrene, corn and warts, fever with chills and rigors, sticking pimples and pustules and to stop bleeding caused by severed artery.[6]

Different cauteries used by Zahravi:

Depending on the nature of the disease, the patient's temperament and the weather condition, different kinds of metals such as bronze, iron and gold could be used. The important considerations in the procedure include the shape of the cautery, the site of cauterization and the number of exposures. Many of the cauteries were taken from the Greeks, but Al-Zahrawi takes an independent line while describing cauterization for hare-lip, entropion, pulmonary disease, anal and pre-anal fistula, dislocation of femur, caries spine and corns. He describes about 20 cauteries for specific indications. These include the olivary cautery for a variety of indications including headache, the bolt and tube cautery for migraine, the punctuate cautery for ptosis, the probe cautery for fistulae, the

pronged cautery for humeral dislocation, the ring cautery for sciatica, and the quill cautery for corns.

Various types of cauterization, from head to the foot, are mentioned for every conceivable disease. Only a small percentage of these cauterizations are true, sharp cutting cautery for a hare-lip, the cauterization of haemorrhoids, the crescentic cautery for ptosis of eyelids, the cauterization for enteropion, lacrimal and perianal fistule, are some examples of the beneficial and effective cauterization. The heated cautery for opening a liver abscess also seems to be an ingenious idea, considering the available amenities in those days. The cautery as a means of controlling hemorrhage is in principle being used today by every surgeon in the form of the electro-surgical unit.

Though the procedure of cauterization has generally been repudiated by surgeons, a few of them have appreciated its efficacy and have compared its effect to that of modern ionizing radiation. It is rather strange that procedures such as venesection, cauterization, leech application and cupping, which were universally accepted by the ancient Greek, Roman and Muslim physicians and surgeons, find no place in modern medical armamentarium and are now looked down upon.

Kitab al-Tasrif:

The first two volumes of his book Al-Tasrif were primarily devoted to surgery. The first dealt with cautery which was used extensively in Arabia and it also contained a detailed description of the use of various instruments. There was also an extensive description of incisions, perforations, wounds, and the healing process.

The second volume of Al-Tasrif was devoted to the description of lithotomy, fractures, dislocations, and special treatment of fracture of pelvis. He wrote extensively about injuries of bones and joints, fractures of the nasal bones and the vertebrae. In fact Kocher's method for fixing a dislocated shoulder was explained by Al Zahrawi long before Kocher. He also described tonsillectomy and tracheotomy operations he had performed. [7]

The third volume described detailed procedures of performing ophthalmic operations including "cataract". Al Zahrawi was also an expert dental surgeon. He discussed the non-aligned teeth and showed a way to correct them. He also developed technique of replacing defective teeth.

105 chapters were devoted towards describing the details of various operative procedures including amputation, and the crushing of bladder stones. He used the grooved probe for dislodging urethral obstructions and invented sponge tipped probe for dislodging foreign particles from the gullet. He also used a syringe for irrigation of the bladder and the cleaning of the ear. Al Zahrawi also wrote about obstetrics and described several instruments used for delivery. He was the first to describe the welcher position in obstetrics. His book contains the pictures of Gynecological instruments used in the 10th century e.g. vaginal speculum and instruments to perform cranioctomy for bringing out the dead foetus. He was the first to write about ectopic pregnancy. [8]

Tasrif described how to ligature blood vessels almost 600 years and was the first recorded book to document several dental devices and explain the hereditary nature of Haemophilia. He was also the first to describe a surgical procedure for ligating the temporal artery for migraine, also almost 600 years before Pare recorded that he had ligated his own temporal artery for headache that conforms to current descriptions of migraine. [9] Abu al-Qasim was therefore the first to describe the migraine surgery procedure that is enjoying a revival in the 21st century, pearheaded by Elliot Sheval a South African surgeon.

Abu-al-Qasim also described the use of forceps in vaginal deliveries. [10] He introduced over 200 Surgical instruments.[11] Many of these instruments were never used before by any previous surgeons.

His use of catgut for internal stitching is still practised in modern surgery. The catgut appears to be the only natural substance capable of dissolving and is acceptable by the body. Abu-al-Qasim also invented the forceps for extracting a dead foetus, as illustrated in the Al-Tasrif. (12)

He also treated hydrocephalus in young children by making a small hole in the skull by means of cauterization to extract the fluid. The last volume of his Encyclopedic book Al-Tasrif contained a description of 200 surgical instruments. The majority of these instruments were devised, designed, and used by Al Zahrawi himself. [13, 14, 15]

He was considered one of the early leading "plastic surgeon" as he performed many plastic surgery procedures. In the 11th chapter of volume 30 of his book he put many principles in that surgical field [16] Al Tasrif became famous in the universities of Europe in the middle ages and was the chief reference work for surgery in the universities of Italy and France.[17.18]

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Ophthalmic Drops in the Book of Kitāb al-‘Umdah al-Kuḥlīyah fī al-Amrāḍ al-Baṣarīyah

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Summary

Ophthalmic drops have been known since the ancient ages, its industry and application had developed through Islamic ages, I have noticed that there are many general rules where the Muslim doctors had followed to the manufacture of this pharmaceutical form which the modern science has accepted, in addition some of the drugs are involved in the ophthalmic drops correspond to the complementary medicine in therapeutic uses.

The ophthalmic drops which have been mentioned by al-shadili in his book “al-’Umdah al-kuhliyah fi al-amrad al-basariyah” are simple examples of the drops which are used by Muslim doctors in those ages, where the author of this book selected these drops are carefully based on his personal experience on one hand and the famous eye drops that are used by Muslim doctors on other hand.

Key Words: ophthalmic drops, history of medicine, al-’Umdah al-kuhliyah, Islamic medicine.

Introduction:

Ophthalmology is one of the most important branches of the medical science, Arab doctors have cared so much in this kind of science because the importance of eye in the human body.

Muslim doctors allocated important chapters in their medical encyclopedia, as they wrote independent books in ophthalmology.

These books contained anatomy of the eye and diagnosis of its disease and its treatment by the surgical ways or the composed drugs.

My search focuses on the ophthalmic drops which were mentioned in the book “al-’Umdah al-kuhliyah fi al-amrad al-basariyah”, so it is considered an integral encyclopedia in ophthalmology.

This book contains all the experiments of Muslim doctors and their opinions about this science, this book was written by Sadaqah ibn Ibrahim al-Shadhili al-Hanafi who lived in the eighth H century, and he was known through his book, whereas Haji Khalifa is the first one who mentioned this book in his book “Kashfu alzonon”[1].

This book consists of five sections, each one consists of many chapters, the first section talks about the anatomy of eye, where the second section talks about the factors affecting the function of the eye, and the third section concentrates on the visible diseases of the eye, but the invisible diseases were mentioned in the fourth section, and the fifth section deal with the composed drugs which is used to treatment of the ophthalmic diseases.

I have divided the composed drugs into two sections:

- First section: Drugs which have a topical effect such as (drops, dusting powders, paints,…..etc).
- Second section: Drugs which have a systemic effects such as (tablets, pills, ….etc).

The ophthalmic drops in “al-’Umdah al-kuhliyah fi al-amrad al-basariyah”.

The ophthalmic drops were mentioned in the seventh chapter of the fifth section, and the author mentioned 21 prescriptions.

I have divided these drops into nine categories:

First category: drops treat boils and ophthalmic ulcers:

Al-shadili mentioned these drops for treatment the ophthalmic boils and explosion them. He mentioned four prescriptions in this field: for example:

Drop exploses boils and removes the extreme pain: one part of peeled barley is taken, two parts of washed fenugreek, boiled in fresh water on a light fire after covering them, when they get ripe they are filtrated by cotton, after that we return it to fire, then a part of sucrose, a quarter part of saffron is added, and it is stirred until it gets a homogeneous mixture, after that it is dropped twice a day. If the pain is severe and boil is big we add a common melilot with barley and fenugreek.

Second category: drops break down the cumulative blood in conjunctiva:

The author mentioned two prescriptions in this field: for example:

Drop breaks down the cumulative blood in conjunctiva: The powder of Frankincense is taken and dissolved in the milk of a young woman, then it is used after filtrating.

Third category: Drops color logades.

Alshadili depends on the water of (Poppy-wind flower or Pomegranate peel or green walnut peel) in this field, he mentioned two prescriptions for that purpose.

Fourth class : analgesic ophthalmic drops which are useful for treatment conjunctivitis:

We have found eight prescriptions for this purpose. The author recognized the stages of conjunctivitis (the beginning of conjunctivitis, severe conjunctivitis, the end of conjunctivitis).

Drop treats the severe conjunctivitis and removes its pain:

Half Durham of powder of Chaksine and Sarcocola are taken, one Durham of peeled barley and ten fruit of Quince are taken, then add a fresh water after putting them in a glass flask, and boil them on a light fire, after filtrating them we put the mixture in another flask then we add box thorn and the solution is filtrated and the resulting drops are used.

Fifth category: eye drop treat the beginning of cataract:

The author mentioned one prescription for that purpose, because the treatment of cataract needs a surgical procedure.

Sixth category: useful drop for itching of the eye and its fever:

Alshadili mentioned one prescription for this purpose.

Seventh class: useful drop for deviation of conjunctiva resulting from the shock of the eye.

Alshadili explained how he had treated one of his patients who was suffering from this disease. The author mentioned one prescription:

Eighth category: therapeutic drop for corrosion of canthus and its burn.

The author had mentioned one prescription for this illness.

Ninth category: therapeutic drop for conjunctivitis resulting from phlebotomy and diarrhea.

Alshadili had usually used this prescription for treatment his patients from this illness, he mentioned one prescription.

I have studied the prescriptions were systematically based on the discovery of general principles that Muslim doctors had depended on for making this pharmaceutical form, so I have noted some results compared with the basic requirements for the industry of the eye drops in the modern references.

Results and discussion:

1- Plants are washed and cleaned from undesired things before adding them to the ophthalmic drops, example (fenugreek is washed, barely is peeled and sifted before use).
2- The general method for the preparation of the ophthalmic drops depends on cleaning drugs, crushing, and sifting them until we get a soft powder then it is boiled on a light fire with fresh water or women's milk, after that the mixture is filtrated and used warm.
3- The reason for cooking drugs on a light fire is to ensure its slow dissolution and extracting the active ingredi-

Common name	Scientific name	Indications
Ammi	Carum copticum	Plant used externally in cases of rheumatism, oil extracted from plant used as antiseptic and antifungal because it contains a high concentration of thymol[2].
Barley	Hordeum vulgare L.	Plant’s powder used externally as compresses for treating some skin disorders[3].
Chaksine	Cassia absus L.	Seeds used topically for leucoderma, ring worm, venereal ulcers and other skin diseases, Chaksine possess a local anesthetic effect intra dermally[2].
Common mallow	Malva sylvestris L.	Purgative, anti-cough, expectorant, used as emulsion for treating cough, cold, irritation of the bronchi[2],[4].
Fenugreek	Trigonella foenum graecum L.	Seeds—used in loss of appetite, flatulence, dyspepsia, colic, diarrhoea, dysentery; enlargement of liver and spleen, and as a lact agogue, topically for furunculosis, myalgia, lymphadenitis , gout, wounds and leg ulcers[2],[5].
Flax	Linum usitatissimum L.	Flaxseed is used for removing foreign bodies from the eye. A single Flaxseed is moistened and placed under the eyelid, the foreign body should stick to the mucous secretion of the seed; as cataplasm for local skin inflammation.
		Oil— used in burns, skin injuries and sores[2],[4].
Frankincense	Boswellia carteri Roxb.	Gum-resin—antiseptic, anti-inflammatory, analgesic, sedative. Oil—used topically in chronic ulcers, ringworm[2],[6].
Onion	Allium cepa L.	Antibiotic, antibacterial, antisclerotic, anticoagulant, anti-inflammatory, antiasthmatic, expectorant, carminative, antispasmodic, diuretic, antidiabetic.
		It has been reported to reduce platelet aggregation, lower serum cholesterol, and to enhance fibrinolysis[2],[6].
Quince	Cydonia vulgaris Pers.	Leaf, bud and bark—astringent. Fruit—expectorant. Mucilage—used externally for scalds, ulcers and burns. As a lotion, it is used to soothe the eyes[2],[4].
Radish	Raphanus sativus L.	A decoction of dry radish is given orally in piles. Extract of the dry root is given for hiccough, influenza, dysentery, colic and urinary troubles. Extracted from the seeds, is active against Gram-positive and Gram-negative bacteria.
Sarcocola	Astragalus sarcocola L.	Gum—antirheumatic, aperient, anthelmintic, emollient[2].
Sucrose	Saccharum officinarum	Sucrose 30% eye drops have been used as a hypertonic agent for clearing corneal oedema[6].
Syrian rue	Peganum harmala L.	Latex—used for warts, leucoderma, venereal diseases.
		Root—emetic (used in West Indies as Ipecacuanha)[2].
Wind-Flower	Anemon coronaria L.	Plant is stated to possess sedative, analgesic, antispasmodic and bactericidal properties. Traditionally, it has been used for insomnia, boils, skin eruptions associated with bacterial infection[5].

ents and not spoiling them, because the strong heat burns the drugs and chars them. This leads to secondary products that destruct the effective components.

4- The ophthalmic drops are prepared in glass or silver vessels in order not to react to the walls of the vessels.

5- The dose of ophthalmic drops ranges from two times to three times a day.

In this field we can say that the medical dose don't depend on the pharmacokinetics of these drugs as we know recently, but the essential perspective of the ancient doctors is experiment and realization some properties of these drugs.

6- The requirements of the sever sterility during preparing the ophthalmic drops wasn't known in the past.

7- PH of ophthalmic solutions is 7.4, so all ocular solutions must be regulated at this value.

Women's milk has PH>7.2, so it is closer to PH of the ophthalmic solutions, so we make sure that irritant effects don't happen, while other mammals milk has PH<7.

Women's milk is sterile and free from pathogenic bacterial factors beside it contains immunologic proteins which kill bacteria such as (Staphylococcus-Streptococcus), while we don't notice that in other mammals.

8- The previous information describes the reason for adding women's milk to the ocular drops, so it plays a role as excipient and preservative substance.

9- Previous ophthalmic drops must be used warm, so it coincides with the method of their uses recently.

10- I have enrolled an index which clarifies the most important therapeutic properties that belong to some single drugs which are found in these drops, finally I depended on the modern references in this field.

Conclusion:

The Industry of the ophthalmic drops in the past was not by chance, but it was the result of the efforts and the experiments of doctors in this field, so we find many of the scientific bases in their industry which the modern medicine had proved it.

This search leaves a general impression about the development of pharmacy science in Islamic ages comparing with earlier ages.

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Toxicology in the Arab-Islamic Medical Heritage Abü'l Alä ibn Zuhr (Avenzoar), who Died 525 H/ 1131A.D, as an Example

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Summary

Introduction: Toxicology is the study of the effect of chemicals on the bodies of living organisms, especially their impact on the human body. The study of toxins and their therapies played an important role in the medical heritage of the Islamic since the first century of immigration.

Objectives: Shedding some light on the historical topics in toxicology and toxic substances, and the way it was treated by Muslim and Arab physicians, particularly Andalusian Physician, Abü'l Alä ibn Zuhr (Avenzoar) who wrote his book which contained a plenty of drugs of mono composition (Vegetarian, animal and mineral), which has the title of "Jam`ī El-foaid El-montakhaba men El-khawas El-mojaraba".

Method: We rely on the historical research method, by referring to the treatments that mentioned by Andalusian Physician, Abü'l Alä ibn Zuhr (Avenzoar) in his book the "Jam`ī El-foaid El-montakhaba men El-khawas El-mojaraba", then we trace matching points between ancient and modern medicine with regard to toxicology.

Results: 1- Follower of the products of Arab and Muslim scholars touches and clearly contributions venerable to describe and identify the symptoms of poisoning, and common poisons at that time, and then find effective antidote by animal and vegetable and mineral medicines which found in nature in order to benefit from this treatment poisoned and identify the poison cause of poisoning, such as the book of physician, Abü'l Alä ibn Zuhr (Avenzoar). 2- Despite the availability of herbal plants and mineral substances with toxic to humans and circulation between the House of Commons, but the criminal were not commonly used at that time, regardless of some individual cases and non-generalized. 3- Foregoing of excerpts from the manuscript of Abü'l Alä ibn Zuhr note the prevalence of the use of the individual plants, as well as the compound drugs in addition to metals and certain parts of animals as toxins and as treatments for other toxins, despite the lack of detail in the components, but it has been described the effects of toxicity that contributed to the detection components later. 4- The oversight of the role of the great Muslim scholars such as Ibn Sina and al-Razi and Ibn Rushd and Al-Zahrawi and Ibn Zuhr, made additions to the product of Greece and the Greeks physician prejudice intentional and unacceptable against them and their role in the evolution of science and medicine, especially in general toxins. 5- Many of the treatments mentioned by Abü'l Alä ibn Zuhr in the book mentioned above, mentioned by many physician after him and used. Thus, the Arabs and Muslims physician's shareholders were active in the development of toxicology through the ages.

Conclusion: Physician sought to better understand the natural compounds that were both useful and harmful to human, there was compounds have a toxic effect, Arab physicians clarified and Muslim scholars sought to detect and lighting it, modern science and chemistry confirm it, so it was obvious to recommended studying these plants, animals or minerals included in this modest study, revealed toxic components in order to have the documentation, audit and linkage data of modern science.

Key words: History of medicine, Toxicology, Abü'l Alä ibn Zuhr (Avenzoar), Arab Islamic Medicine.

Introduction:

Toxicology is defined as the science that looks at the nature of toxic substances, chemical was or physical, through an adverse effect on the organism, looking at the origin of the toxin and analyzed it, and in the methods of treatment and reduce the toxicity, Toxins are either exist in nature to harm humans by chance, or conjures industrially to kill the animal or human.

The toxins in the dictionaries of the Arabic language, the word poisoned in "Arabs tongue": the venom and poison and deadly poison.

The history of Toxicology dates back to the early humans who used animal and plant poisons for hunting and conflict. The Ebers papyrus (circa 1500 BC) describes several poisons known at that time. For example, it mentions hemlock as the state poison of the Greeks as well as opium, aconite and heavy metals such as lead, copper and antimony. Hippocrates (circa 400 B.C.) introduced clinical toxicology principles by describing elemental concepts of bioavailability and overdose. There are also several citations of the use of poisons in ancient Greece literature. It was Dioscorides , a Greek pharmacist, who made the first attempt to classify poisons. "De Materia Medica", his 5-volume systematic description of approximately 600 different plants and 1000 different medications, became the first systematic pharmacopoeia. Socrates (470-399 B.C.) poisoning by drinking hemlock is one of the best known cases of execution by poisoning. The use of poisonings was also a very common practice in Roman politics, reaching peak numbers during the fourth century B.C. It continued until the year 82 B.C. when the first law against poisoning was issued, named the Lex Cornelia.

First: Objective:

Muslim Physicians contributed in the development of Toxicology and their contributed clearly shone out from their influence on those who came after them.

The references stated that the historic old physician and philosopher Hermes III, who lived in Egypt before the Great Flood was a world of toxic poisons and poison organisms.

Snake is one of the most toxic and most dangerous animals known to man.

The study of toxins and their therapies played an important role in the medical heritage of the Islamic since the first century of immigration, Gaber Ibn Hayyan 200 AH / 815 AD, in his book "toxins and pay disadvantages", other encyclopedias of Arabic physician such as: Book "Mansouri", and "Hawii" in medicine for a Razzi (Rhazes), and "the law" of Ibn Sina (Avicenna), as well as Abü'l Alä ibn Zuhr (Avenzoar), all above show their contributions in the treatment of toxins in that historical period.

Second: Importance of research:

The importance of research comes from its focus on the contribution of Andalusian distinguished physician through his achievement to Islamic medicine in his book "Jam`ī El-foaid El-montakhaba men El-khawas El-mojaraba", he mentioned within it treatments he said it has effect on toxins of animals and plants and these treatments have not been taken up and investigated by any researchers before, in spite of the multiplicity of research in the field of toxicology in the Arab and Islamic medical heritage.

Upon return to the most important references for research and conferences that wrote research on toxins and therapies in Islamic medicine, in addition to research published on the World Wide Web, the plenty of this them, no limp one of the researchers (mostly) on the stated sentiments Abü'l Alä ibn Zuhr and treatments provided by him in the Medicines of plants, animal and mineral contained in the manuscript.

Third: Method:

We rely on the historical research method, by referring to the treatments that mentioned by Andalusian Physician, Abü'l Alä ibn Zuhr (Avenzoar) in his book the "Jam`ī El-foaid El-montakhaba men El-khawas El-mojaraba", then we trace matching points between ancient and modern medicine with regard to toxicology.

Forth: Historical summary of toxicology before Islam:

History of toxicology back to the early ages, human used animal and plant toxins for hunting and conflict. Ebers Papyrus (about 1500 BC) describes several poisons known at that time. For example, little hemlock, as well as opium, and heavy metals such as lead, copper and Alantimoan. Hippocrates gave (about 400 BC) Principles of Clinical Toxicology, which describes the concepts of racism bioavailability and excess dose. There are also many citations from the use of toxins in the ancient Greek literature. Discoridis, is the Greek pharmacist, who made the first attempt to classify toxins. His five books and systematic description of the approximately 600 different drugs and 1,000 different plant, where prescribing systematic description. Socrates (470-399 BC) poisoning by drinking hemlock is one of the most famous cases of death by poisoning. The use of poisoning is also a very common practice in Romanian politics, in the fourth century BC and lasted until 82 BC. When the first law against poisoning is passed named "Le Cornelia".

The sources said that the historic old physician and philosopher Hermes III, who lived in Egypt before the Great Flood was a scientist of toxic poisons and toxic organisms, consider the snake is one of the most toxic animals known to man and the most dangerous.

Fifth:

The most famous Muslim physicians who talked about toxins and their therapies in Islamic medicine and life of ibn Zuhr:

Studying of toxins and therapies had played an important role in the Islamic medical heritage since the first century of immigration, as the reference to the treatment of poisoning has already received in the "hadiths" (speech or action of the prophet Mohammad peace me upon him). The medical encyclopedias of Arabic physician included, such as: the book "Al-Mansouri" and "Al-Hawii" in medicine for a Razzie, and "The Law of medicine" for Ibn Sina, in addition to the works of Al-Zahrawi and Ibn al-Nafis, Ibn Rushd chapters dealing with toxins in the period between the early seventh and eighth AD until the late tenth and eleventh AD. Famous scientists also devoted like Jabir ibn Hayyan (about 721-815m) in his book "toxins and pay flaws" and Mousa Ibn Maimoun dedicated to this subject studies these subjects after about 400 years.

His life: Abü'l Alä ibn Zuhr Ibn Abu Marwan Abdul Malik Ibn Mohammed Ibn Marwan Ibn Zuhr is one of the Andalusian family member inherited the science of medicine from father to son and carried his brigade in the Islamic west and Al-Andalus from the fifth century until the seventh century of immigration, it has been a skilled physician in the diagnosis and treatment, highly proficient and knowledge, has selected treatments in medicine field and studying the details, and has a look and care in medicine, worked out a little in the days of al-Mu'tadid Abu Amr Abbad ibn Abbad (King of Seville in Al-Andalus at that period), his father and grandfather and son of the most skilled practitioners of the profession, insider secrets, and wrote them in workmanship and in all branches of medicine, therapy and secrets, even flew their fame reached the east and west they gain fame and wealth and benefited people with their knowledge.

Abü'l Alä ibn Zuhr (...- 525AH= …-1131 AD) Ibn Abdul Malik Ibn Marwan Ibn Mohammed Ibn Zuhr, Abü'l Alä, among "Iyady" family, philosopher, physician, Andalusian from people of Seville, grew up in eastern Andalusia, and housing Cordoba, and worked to speak and literature, and then accept the medicine, the owner of the supplement said: Ibn Zuhr forget the people medicine before him, briefing medicine and subtle for the sense, so that the people of Morocco were pride of him and his sons, and he was close to Sultan of Andalusia no one had that position before, was the presidency of physicians in his country and the membership, his books are: "Torr in Medicine", "Properties", "Single Drug" which was complemented, and "Solution Razi doubts on the books of Galen" "letters and Mojrebat," died in Cordoba, and carried to Seville.

Sixth:

The manuscript of "Jam`ī El-foaid El-montakhaba men El-khawas El-mojaraba" to Abü'l Alä ibn Zuhr:

The manuscripts has been edited verbally through interview full matching of two copies of the manuscript and study the contents of single drugs plant and animal and mineral historically and scientifically, and presented as a quest for a master's degree in the history of medical science in the Arab Scientific Heritage Institute at the University of Aleppo.

Description of versions of copies: Frist copy:

"Third Ahmed" library manuscript No. 2068 (1) Medicine. "Elected the benefits of proven properties" To Abü'l Alä ibn Zuhr history copies of the eighth century by beautiful cursive. Number of securities 9415 line measurement 18.5 * 26.5 mm. 15 × 10 word line (average rate) = 150 word page × 2 = 300 × 94 word paper and paper = 28200 words. Present in the microfilm library in the Arab Scientific Heritage No./921/ Institute, a copy of the manuscript is located in the core library of Ahmed III in Istanbul under the number (2068/1 / P-1037). the number of words between 9-11 word per line.

Second copy:

Council "Shorai" 1538 within the range of from page 279 to page 341 line (average rate) = 432 word page × 62 = 26784 words. Present in the microfilm library in the Arab Scientific Heritage No. /743/ Institute, a copy of the manuscript is located in the core Shorai Council Library in Tehran within the total number (1538) of the year 835

AH. 31 papers, the number of lines 27 line, the size of small words, and words about 15-17 per line.

Seventh:

Some treatments of toxins that contained in the manuscript:

Abü'l Alä ibn Zuhr mentioned in the manuscript: "If you want to do something of toxins, if anyone do want to do anything that mentioned in the book, let him plug his nose, ears and make him in every hole of his body, and cover his face and body, and do what he likes of toxins, if do not, he will kill himself before killing the enemy".

- **Human Hair**
  Melt human hair and put the blood of the monkey over it, it became a deadly poison.
- **Hart**
  If you steam the horn of Hart, it will expel vermin and all with poison, and its Rennet drink with vinegar benefit of other deadly toxins.
- **Citron**
  Its Squeezer protect of deadly toxins, if its pill vintage with wine.
- **Nut**
  If eat before the food it banned from all other deadly toxins. Although if eats figs and nuts and rue paper did not harm him anything of toxins that day.
- **Cyclamen**
  If mixed with meat and feed the tigers, dogs, pigs, flies, it is being killed as deadly poison.
- **Bezoars**
  The status of the sting of scorpions and other animals with toxins made him well and good.
- **Figs**
  If eaten after it's concocting with walnuts, blanched almonds opens the obstruction and benefit from deadly toxins.
- **Walnut**
  If eaten every day on an empty stomach, it did not harm anything from toxins.
- **Melilotus**
  If cooking with water heavily and bandaged the position of sting and other toxins animate him well and housing pain.
- **Green bean**
  It is sseful for all kind of poisoned food.
- **Spines**
  The ligature stung by snakes and drink from it made him well, though watering him with old paint benefit of the deadly toxins.
- **Castor**
  If mixed with Grease or fat and feed dogs so it is poison to them.
- **Dhenj**
  It is a stone on the Indian emerald color, if Knit with iron and drink who bites of poisonous pesticides and other toxins utility, it made him well.
- **Vulture**
  Its Yellow skin of its stomach, if took and crushed after indurated, and drunk with paint benefit every poison.
- **Turtle**
  Its blood and bitterness, and blood of elephant, equally benefit from all the deadly toxins.
- **Salamandridae**
  The bitterness of this animal, watered with boiled water of Chickpeas repeatedly, drained, and milk many times, and drank who poisoned and had deadly poison.
- **Rue**
  The crush of rue with oil and knead with bran and bandaged his head and opened it out of him poison, housing and beer.
- **Stone Devils**
  If this stone put in any house, no poison affect in this house.
- **Frog**
  Take a frog and pulled out what the combine and dry and crush and watered those drinking the poison, it is discharged.
- **T. gallica**
  The ash firewood tamarisk drinking water and paper healed of toxins and easier abdomen.
- **Elk**
  If drink anything from animal toxins or compound toxins, and drink three days of bitter Fawn weight every day dram makes him better.

- **Agaric**
  Chewing origin of it, and make it on the bites of scorpions, made him well from his time.
- **Elephant**
  If the elephant teeth peel, mixed with honey and swallowed by him, it benefit from the poison of snakes.
- **Mushroom**
  The fungus may be killing, and fatal if taken without knowledge of it, if drank honey and lukewarm water remove it.
- **Tar**
  Mixing tar with oil killed bugs with poison.
- **Costus**
  Its fumigate benefit from its deadly toxins.
- **Dog**
  If dogs milk drank, it benefit from all the deadly toxins.
- **Mrgiws**
  This stone is a green from land of India, if drink from it, benefit from damage of deadly toxins.
- **Magnet**
  If man had or drink poison, and drink something with iron or pus or magnet it made him well.
- **kale**
  Drinking its water is benefit for toxins.
- **Ostrich**
  Its bitter is very powerful poison.
- **Mandrake**
  Using its crust, the black, which brings the coast of Romans kills immediately.

Eighth: Results and discussion:

1. Follower of the products of Arab and Muslim scholars touches and clearly contributions venerable to describe and identify the symptoms of poisoning, and common poisons at that time, and then find effective antidote by animal and vegetable and mineral medicines which found in nature in order to benefit from this treatment poisoned and identify the poison cause of poisoning, such as the book of physician, Abü'l Alä ibn Zuhr (Avenzoar).
2. Despite the availability of herbal plants and mineral substances with toxic to humans and circulation between the House of Commons, but the criminal were not commonly used at that time, regardless of some individual cases and non-generalized.

   In the Middle Ages poison was the most common method of killing, however, a lot of methods of treatment of toxins in that period showed. This contributed to the availability of toxins and make them available for each one, the Herbalists was selling various medicinal herbs, and these shops of them were open to all, and thus use the poison for the purposes of murder and evil after it was supposed to be used for the treatment and cure of some the same period, the Arabs in the Middle East develop the arsenic poison, which is transparent and odorless, which is often difficult to detect poison. This is still "poison epidemic" prevalent in some parts of the continent of Asia to this day.
3. Foregoing of excerpts from the manuscript of Abü'l Alä ibn Zuhr note the prevalence of the use of the individual plants, as well as the compound drugs in addition to metals and certain parts of animals as toxins and as treatments for other toxins, despite the lack of detail in the components, but it has been described the effects of toxicity that contributed to the detection components later.

   Over the centuries operations of harmful poisoning have increased in varied forms, and at the same time and in parallel also advanced methods of treatment of these toxins. And the phenomenon of murder by poison in our modern world is decreased relating to the Middle Ages. Instead, the growing of accidental poisoning grows resulting from the use of industrial materials and eats some of the everyday products.
4. The oversight of the role of the great Muslim scholars such as Ibn Sina and al-Razi and Ibn Rushd and Al-Zahrawi and Ibn Zuhr, made additions to the product of Greece and the Greeks physician prejudice intentional and unacceptable against them and their role in the evolution of science and medicine, especially in general toxins.
5. Many of the treatments mentioned by Abü'l Alä ibn Zuhr in the book mentioned above, mentioned by many physician after him and used. Thus, the Arabs and Muslims physician's shareholders were active in the development of toxicology through the ages.

Following the middle ages came the age of enlightenment in which the field of toxicology was advanced by

very important contributions of notorious scientists as well as due to the advent of the industrial revolution. One of the big figures of that time "Paracelsus" (1493-1541), now considered the father of modern toxicology, contributed greatly by describing the principle that the dose makes the poison. In his own words he said "All substances are poisons; there is none which is not a poison. The right dose differentiates a poison from a remedy". His theories lead to the postulation of several concepts that recall what is now called as toxicology. During the 15th century that occupational hazards were first documented. This was the case of the adverse effects associated to exposure to heavy metals in activities like mining and goldsmithing. Among other scientists, "Ellenbog" (circa 1480) studied the toxicity of lead and mercury used in gold smithing. However, it was Paracelsus who published the most important work on the diseases of the miners. As a result of the industrial revolution there was an increase in occupational diseases. At this point "Percibal Pott", a British physician, made a significant contribution by describing the relationship between soot and scrotal cancer among chimney sweeps. This was the first time that an environmental agent was associated with the occurrence of cancer. Forensic toxicology has its roots on the work of a Spanish physician named "Orfila", who was the first scientist to use chemical analysis as well as autopsy-related materials as proof of poisoning in a court of law. During the nineteenth century and with the rapid advent of organic chemistry, many new chemical compounds were synthesized. This gave a new shift to the science of toxicology as it was necessary to test the newly developed compounds for its toxicological properties, as it is done today.

Conclusion:

As human searched for better understand natural compounds that were both beneficial and harmful to him, there was very little if any clear understanding of the fundamental chemical nature of substances. There was very little of the compounds have a toxic effect was clear for scientists of Arabs and Muslims to detect and lighting it, reveled by modern chemistry, so it's obvious, that recommended to study the plants included in this study, animals and minerals, to be study and detect for their toxic compounds with a view, for documentation and review, and linkage data of modern science.

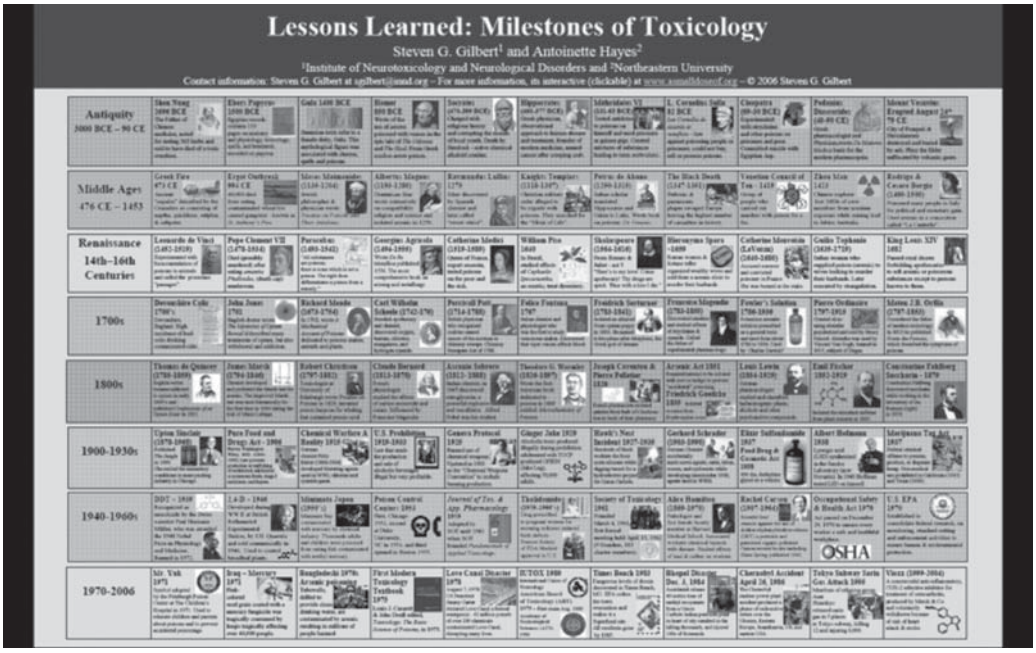

Fig. Shows the most important scientists through ages, and their contributions in Toxicology

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1. Toxicology (from the Ancient Greek words τοξικος toxikos "poisonous" and λογος logos) is a branch of biology, chemistry, and medicine (more specifically pharmacology) concerned with the study of the adverse effects of chemicals on living organisms. A toxicologist is a scientist or medical personal who specializes in the study of symptoms, mechanisms, treatments and detection of venoms and toxins; especially the poisoning of people.
2. Ibn Zuhr (Died 525 H/ 1131A.D), traditionally known by his Latinized name of Avenzoar, was a Muslim Arab physician. born at Seville in medieval Andalusia.
3. Pedanius Dioscorides (Ancient Greek: Πεδανιος Διοσκουριδης; c. 40 – 90 AD) was a Roman physician, pharmacologist and botanist of Greek origin.
4. A Muslim chemist.
5. Muhammad ibn Zakariyā Rāzī, also known by his Latinized name Rhazes or Rasis, (854 CE – 925 CE), physician, alchemist and chemist, philosopher and important figure in the history of medicine.
6. Avicenna (c. 980 – June 1037), is the Latinate form of Ibn-Sīnā, full name Abū Alī al-Husayn ibn Abd Allāh ibn Al-Hasan ibn Ali ibn Sīnā. One of the most significant thinkers and writers of the Islamic Golden Age. He is known to have written around 450 works across a wide range of subjects, of which around 240 have survived, including 150 on philosophy and 40 on medicine.
7. The word hart is an old alternative word for "stag" from Old English heorot, "deer".
8. The citron is a fragrant citrus fruit, botanically classified as Citrus medica, The fruit's name derives ultimately from Latin, citrus.
9. A nut in botany is a simple dry fruit with one seed, Family Fagaceae.
10. Cyclamen is a genus of 23 species of perennials growing fromtubers, valued for their flowers with upswept petals and variably patterned leaves, family Myrsinaceae.
11. Bezoars were sought because they were believed to have the power of a universal antidote against any poison. It was believed that a drinking glass which contained a bezoar would neutralize any poison poured into it. The word "bezoar" comes from the Persian pād-zahr, which literally means "antidote".
12. The common fig (Ficus carica) is a species of flowering plant in the genus Ficus, from the family Moraceae, known as the common fig (or just the fig).
13. A walnut is that part of any tree of the genus Juglans (Family Juglandaceae), particularly the Persian or English walnut, Juglans regia used for food after being processed while green for pickled walnuts or after full ripening for its nutmeat.
14. Melilotus, known as Melilot, Sweet-clover and Kumoniga (from the Cumans), is a genus in the family Fabaceae. Members are known as common grassland plants and as weeds of cultivated ground. Originally from Europe and Asia.
15. Various cultivars of the common bean (Phaseolus vulgaris).
16. Spine (zoology), needle-like structures in animals, here fish.
17. The castor oil plant (Ricinus communis) is a species of flowering plant in the spurge family, Euphorbiaceae. It belongs to amonotypic genus, Ricinus, and subtribe, Ricininae. The evolution of castor and its relation to other species are currently being studied using modern genetic tools.
18. A Stone is green in color Peridot no metal in gold or copper.
19. The Egyptian vulture (Neophron percnopterus), also called the white scavenger vulture or pharaoh's chicken, is a small Old World vulture and the only member of the genus Neophron. It is widely distributed; the Egyptian vulture is found from southwestern Europe and northern Africa to India.
20. Turtles are reptiles of the order Chelonii or Testudines characterized by a special bony or cartilaginous shell developed from their ribs and acting as a shield. Turtle may refer to the chelonian order as a whole (American English) or to fresh-water and sea-dwelling chelonians (British English).
21. The Salamandridae are a family of salamanders consisting of true salamanders and newts. Currently, 74 species (with more expected) have been identified in the Northern Hemisphere - Europe, Asia, the northern tip of Africa, and North America.
22. Ruta graveolens — commonly known as rue, common rue or herb-of-grace — is a species of Ruta grown as a herb. It is native to the Balkan Peninsula. It is now grown throughout the world as an ornamental plant in gardens, especially because of its bluish leaves.
23. A Black stone.
24. Frogs are a diverse and largely carnivorous group of short-bodied, tailless amphibians composing the order Anura (Ancient Greek an-, without + oura, tail). The oldest fossil "proto-frog" appeared in the early Triassic of Madagascar.
25. Tamarix gallica, the French Tamarisk, is a deciduous, herbaceous, twiggy shrub or small tree reaching up to about 5 meters high.
26. The elk or wapiti (Cervus canadensis) is one of the largest species of the Cervidae or deer family in the world, and one of the largest land mammals in North America and eastern Asia. It was long believed to be a subspecies of the European red deer (Cervus elaphus).
27. An agaric is a type of fungal fruiting body characterized by the presence of a pileus (cap) that is clearly differentiated from the stipe

(stalk), with lamellae (gills) on the underside of the pileus. "Agaric" can also refer to abasidiomycete species characterized by an agaric-type fruiting body.

28. Elephants are large mammals of the family Elephantidae and the order Proboscidea. Traditionally, two species are recognised, the African elephant (Loxodonta africana) and the Asian elephant (Elephas maximus).
29. A mushroom (or toadstool) is the fleshy, spore-bearing fruiting body of a fungus, typically produced above ground on soil or on its food source. The standard for the name "mushroom" is the cultivated white button mushroom, Agaricus bisporus; hence the word "mushroom" is most often applied to those fungi (Basidiomycota, Agaricomycetes) that have a stem (stipe).
30. Tar is a substance obtained from a variety of organic materials through destructive distillation. Tar can be produced from coal, wood, petroleum, or peat. It is black, and a mixture of hydrocarbons and free carbon.
31. Costus is a genus of perennial tropical herbaceous plants from the costus family (Costaceae). They are often characterized and distinguished from relatives such as Zingiber (true ginger) by their spiraling stems.
32. The domestic dog (Canis lupus familiaris, or Canis familiaris) is a member of the Canidae family of the mammalianorder Carnivora. The term "domestic dog" is generally used for both domesticated and feral varieties.
33. A green stone from India.
34. A magnet (from Greek μαγνπτις λιθος magnetis líthos, "Magnesian stone") is a material or object that produces a magnetic field. This magnetic field is invisible but is responsible for the most notable property of a magnet: a force that pulls on other ferromagnetic materials, such as iron, and attracts or repels other magnets.
35. Kale or borecole (Brassica oleracea Acephala Group) is a vegetable with green or purple leaves, in which the central leaves do not form a head. It is considered to be closer to wild cabbage than most domesticated forms of vegetables.
36. The ostrich or common ostrich (Struthio camelus) is either one or two species of large flightless birds native to Africa, the only living member(s) of the genus Struthio, which is in the ratite family.
37. Mandrake is the common name for members of the plant genus Mandragora, particularly the species Mandragora officinarum, belonging to the nightshades family (Solanaceae).
38. http://www.toxipedia.org/

Treatment of Cancer Disease in the Islamic Arab Medical Heritage in the Third and Fourth Hijri Centuries

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Summary

Introduction: Muslim Arab physicians studied cancer disease in the context of handling tumors in their general medical writings. None of the physicians in the third and fourth Hijri centuries had written special books about cancer disease. Some of them had considered cancer as solid tumor, and others considered it as a black tumor.

Objectives: studying cancer disease in the Muslim Arab Heritage, and how Muslim Arab physicians dealt with this illness.

Method: Relying on the historical research method, by referring to books of some famous physicians in the third and fourth Hijri centuries.

Results:

1. Cancer was known by Muslim and Arab physicians.
2. There are no specific writings about cancer disease by Arab and Muslim physicians.
3. Rhazes considered cancer as incurable disease.
4. Rhazes, noticed.the importance of detecting cancer in its early stages.
5. Muslim and Arab physicians' treatment of cancer differed: decreasing its accompanying symptoms, phlebotomy, or avoiding curing.

Conclusion: Arab and Muslim physicians, especially Rhazes noticed the importance of early detection of cancer disease and showed that healing could be done by surgery. I think that it is important to shed lights on the successful treatments of Arab and Muslim physicians to this disease.

Introduction:

Cancer is known as malignant and incurable disease to physicians of third and fourth Hijri centuries. According to their cognitive system that is based on the theory of the four humors, they attributed this disease to black humor (Black Bile). Modern medicine has not come out to explain why naming cancer that name; the word "Cancer" is a Latin word which means "Crab" in the English language. The reason of this name in modern medicine is the shape of breast cancer; composed of body and extensions, which resembles the arms of crab. This interpretation is very close to the interpretation of a number of physicians in the third and fourth Hijri centuries. These physicians also identified the most vulnerable organs to cancer, and described the symptoms and signs of this disease. Treatments used by Muslim Arab physicians were focused around three points, puking, localized treatments and surgery.

Objectives:

This research aims to study the forms of cancer that were known to the main Arab and Muslim physicians in the third and fourth Hijri centuries. Besides, it shed lights on the definition of cancer by Arab physicians, to what extent the presence and interest of cancer was in their writings, and the types of cancer which they described. Also, this research is a trial to explore the methodology adopted by those physicians in monitoring cancer signs, dosage forms (both single and composite), and surgeries which they adopted in cancer treatment and management.

Method:

This research is based on the historical recovery method, through the study of what has been written about cancer by the main physicians in the third and fourth Hijri centuries, knowing that those physicians did not classify specific writings about cancer, but they talked about it in their writings about diseases that affect the body from head to toe. Arab Muslim physicians in the third and fourth Hijri centuries dealt with the subject of cancer in two ways; either they mentioned the disease in general, or they specified a certain organ of the body where the can-

cer occurs. In this research, I started studying the concept of cancer to Arab and Muslim physicians in the third and fourth Hijri centuries, and then I did a research on their description to that disease and its symptoms. Following that, I studied their kinds of treatment of this disease, and finally I talked about some types of organ-specific cancer studied by the most important Arab and Muslim physicians in the third and fourth Hijri centuries.

First_The Concept of Cancer as Viewed by Main Physicians in the Third and Fourth Hijri Centuries:

Thābit ibn Qurra considered that cancer is a solid tumor, describing it by saying: "In solid tumor known as cancer: This tumor is solid and palpable and is similar to the flame of fire. It looks like solid organs such as nerves, muscles and veins, so it stretches to them in a way of veins full of black blood"[1].

Thābit ibn Qurra also explained most vulnerable organs to cancer for men and women by saying:

".... And it occurs in women mostly in the breast and uterus, and in men in the bowel, urethra and face"[2].

Besides, Abu Bakr Rhazes transfered from Hunayn ibn 'Isḥāq al-'Ibādī what he said about the most vulnerable organs to cancer, he said:

"Cancer is most generated in the uterus, breast and eye"[3].

Abu Bakr Rhazes identified cancer by dividing it into two types, solid and ulcerated, he said:

"Cancer is a solid tumor, has many origins in the body, and it is supplied by green veins. Its palpation is rough, while the sore form of it is thick lumpish sore, overturned to outside in red and green"[4].

Rhazes differentiated between cancer and solid tumor[5] in his book *Ma Al-Fariq* , he said:

"Cancer in its onset is small then increases and moves from place to place. Veins surround it -like legs of crab, and it is accompanied with severe pain and heartburn. Whereas solid tumor does not come in the beginning, but it comes after warm blood tumors and cold sputum tumors, the sense accompanied it is weaken or null, and no pain at all"[6].

Ya′qūb al- Kashkarī identified cancer (depending on the theory of the four humors[7]) as a black incurable tumor, he said:

".... While cancer is a black tumor form that occurs from black bile, it does not have a treatment nor a pure"[8].

Abul-Hasan al-Tabari also mentioned the most vulnerable organs to cancer, he said:

"... it is more generated in body organs that are wet, such as breasts in women, uterus, intestines and all other wet places"[9].

Second_Description of Cancer and its Causes as Viewed by Physicians in the Third and Fourth Hijri Centuries:

Abu Bakr Rhazes, cited from Galen, described the symptoms of cancer, he said:

".... and it is accompanied with a heartburn and pain like twinge. It alienates from each medication put on it. It has sharpness and pungency, and is possibly burst by itself, as there is a rotten cave in which a blood overflow like a lees and eat and spoil everything surrounds it. It is sensitive, so if treated by severe medication, it would result cramping, fever, nausea and tremor"[10].

Abu Bakr Rhazes Classified cancer as incurable diseases, he said:

"There are some diseases that have no complete cure, and have no medication, like cancer and gout"[11].

While Ya′qūb al- Kashkarī defined cancer as an incurable black tumor, he said:

1. Al-Zakhira fi elm Al-Tibb, page 228.
2. Al-Zakhira fi elm Al-Tibb, page 228.
3. Abu Bakr Rhazes, Al-Hawi fi al-tibb, Volume 4, Section 12, Page 6.
4. Abu Bakr Rhazes, Al-Mansuri fi al-Tibb, page 316
5. Perhaps Rhazes meant (when he defined cancer as solid tumor) the characteristic of tumor, and not the solid tumor as a disease in itself.
6. Abu Bakr Rhazes, book Ma Al-Fariq, page 253.
7. The theory of the four humors is Greek theory that prevailed in Europe until the 19th century. It considered everything is composed of soil, air, fire, and water. Hippocrates adopted this theory and believed that bodily fluids in the body are four: (blood, phlegm, yellow bile, and black bile). He considered health and illness as a result to the balance of these humors. Haj Qasem, Medicine in Muslim and Arab, page 32.
8. Ya' qūb al- Kashkarī,Al- Kunnash fi al-tibb, page 46.
9. Abul-Hasan al-Tabari, Al-Mualajat Al-Buqratiyah, page 97/2.
10. Abu Bakr Rhazes, Al-Hawi fi al-tibb, volume 4, section 12, page 10.
11. Abu Bakr Rhazes, Al-Hawi fi al-tibb, Volume 4, Section 11, Page 62.

"…. Cancer is a black tumor that occurs from black bile; it cannot be treated nor cured"[12].

Abul-Hasan al-Tabari described the form of cancer, he said:

"... it looks like a crab because it contains large number of veins, and it shows veins hanged on the organs"[13].

Abu al-Qasim Al-Zahrawi (Albucasis) mentioned cancer as a kind of tumors, classified it, and clarified its name. Besides, he treated cancer by surgery if in it was in its late stages, and by some medications if it was in its early stage, he said:

"It is called a cancer because it looks like a crab, it may be of two types, either novice of itself, or caused by hot tumors if they became solid. It occurs from the lees and thick blood. If this disease is complete, it will not be cured nor healed at all except by handmade if the affected organ can be eradicated in a whole by amputation, but if this disease is treated properly in its early stage then it might stop and not increase"[14].

Ali ibn Rabban al-Tabari attributed cancer occurrence to black tumor if it moved to one of the organs and concentrated in it, he said:

"....If the black bile flows to some organs and gathered, cancer will occur"[15].

Avicenna classified cancer among black cold tumors, he said:

"Cold tumors are either phlegm, melancholia, windy, or complex. Phlegm tumors are either naïve called loose tumors, or water tumor as in the anasarca of an organ, or soft bubonic like goiters, or hidroa like pigs. Solid and melancholy cleaves are either Skiros or cancer"[16].

Third-Cancer Treatment as viewed by Arab and Muslim physicians in the Third and Fourth Hijri Centuries:

Thābit ibn Qurra described general localized treatment for cancer, distinguishing two types whether the affected organ has ulcer or not, he said:

"and from its illinition in the chapters of wheat and ban, and ceruse of Armenian or sealed clay dirham by dirham, and washed aloe two dirhams by two dirhams we get a sieved spices. If it was not ulcerated, then it could be illinitiated with a rose sebum, but if it was ulcerated then the crusty substance of it should be lactated on the ulcer and illinitiated around it with a rose sebum.

Besides, if it was ulcerated, then it is suitable for fissure in the breech, and heat in the womb, so it may be leaked with the water of common purslane , lettuce, or plantago psyllium making from it a rose sebum for use.[17]

Abu Bakr Rhazes cited from Galen his treatment for cancer with puking of the black bile, in addition to the phlebotomy. Then Rhazes presented his opinion by saying:

"Different kinds of cancer in their early stages might be stopped from increase when the black chyme is puked. This is because in the early stage of cancer, the … is mixed with blood, and transferred from it a little by little to the organ. In this case, if it is not decreased, then at least it will not be increased, and a person will suffer from phlebotomy and diarrhea to the black line, and continue feeding till new cold soft blood cells appear"[18].

Rhazes assured that cancer must be treated as soon as possible, because early treatment might stop its spread. Besides, Rhazes specified the worst type of cancer in terms of prognosis when he said:

"Cancer is accompanied with depression. If it is treated accordingly in its early stages then it may stop and not increase, if it increases then it will not be cured, and if it is ulcerated then it is the worse and the most difficult one"[19].

Rhazes also cited from Galen the treatment of cancer by excision and cauterization, for those curable types of cancer. He said:

"To treat cancer, you can do excision and cauterization, so that these two ways are the solutions of curable types of cancer"[20].

Ya′qūb Al- Kashkarī assured that cancer is incurable disease because it is a result of the black bile. He said:

"It is incurable because it is from the chyme of the black bile"[21].

12. Ya' qūb al- Kashkarī, Al-Kunnash fi al-tibb, page 46.
13. Abul-Hasan al-Tabari, Al-Mualajat Al-Buqratiyah, page 97/2.
14. Abu al-Qasim Al-Zahrawi (Albucasis), Al-Tasrif liman ajiza al al-talif, page 1006.
15. Ali ibn Rabban Al-Tabari , Firdous al-Hikmah fi al-tib, page 241/N.
16. Avicennna, Al-Qanun fi al-tibb, section 3, page 129.
17. Thabit Ibn Qurra, Al-Zakhira fi Al-Tibb, page 229
18. Abu Bakr Rhazes, Al-Hawi fi al-tibb, volume 4, section 12, page 11.
19. Abu Bakr Rhazes, Al-Mansuri fi al-tibb, page 316.
20. Abu Bakr Rhazes, , Al-Hawi fi al-tibb, volume 4, section 12, page 7.
21. Ya' qūb Al- Kashkarī, Kunnash fi al-tibb, page 419.

Abul-Hasan Al-Tabari also described how to do the surgical excision for the organ that is affected with cancer. He said:

"If a man wanted to cut it, then he should do it as I explained: around its spot, it should be bandaged for several days with wax and sebum that is filled and mixed with the uvula of psyllium, the uvula of quince seeds, and honey until it becomes soft. Then, it should be messaged with a tough mat until the hematidrosis appear. So that a man can cut the hematidrosis and cauterize the part from which it comes, then take it by a hook, and go deep in taking it off until it is excised. Then, he should fill it with the place wool filled with sebum that consists of: wet Hyssopus, the uvula of quince seeds, wax, and the sebum of viola, then it is poured in a grinding bowl, and poured on it the water of Paris Quadrifolia and mixed together. Then, the wool is wet by it, and we put the wool in the location of cancer. A soft sponge is taken and dipped in that liquid, which is the water of Paris Quadrifolia and put on the wool so that it prevented it from being dry. The best thing that we have tried is to lactate on the location everyday from a breast on a woman who breastfeeding boys"[22].

Albucasis also showed how to excise cancer when he said:

"…….. then you put the patient in a way that you can work, and throw the suitable hooks on the cancer, then you grasp from each side, with a patience to excision so that none of its origins remain, and then leave it bleed, and seize the locations with your hand or with a specific tool so that the thick blood flow, and if you come to a great phlebotomy during your work due to vein or artery cut, then cauterize the hematidrosis till phlebotomy stops, and treat it with medication until it is cured"[23].

Fourth- Some Types of Cancer as Viewed by Physicians in Third and Fourth Hijri Centuries

1- Eye Cancer:

Yuanna Ibn Masawayh (Messue), Abu Bakr Rhazes, Ali ibn 'Abbas al-Ahwazi, Abul-Qasem Albucasis, and Avicenna mentioned that eye cancer happened in the cornea. They all agreed on describing the symptoms of this disease, and considering it an incurable disease. They were interested in relieving the pain of the patient through a number of localized treatments like eggs and some kinds of milk. Avicenna was distinguished in using painkillers like anal suppositoria that contain opium.

2- Nose Cancer:

Abu Bakr Rhazes, Abul-Hasan Al-Tabari, and Abul-Qasim Albucasis described this disease. The first scientist, distinguished two types of nose cancer, the first type is cancer that we should not deal with, whereas the second type is benign cancer, and he advised to excise it. Abul-Hasan Al-Tabari described nose cancer as a result of specific tumor, and he agreed with Rhazes not to treat it, and treat it with some medication. Whereas Albucasis avoided surgical treatment to nose cancer, and he only described its symptoms.

3- Tongue Cancer:

Albucasis and Avicenna mentioned tongue cancer. Albucasis advised not to treat this cancer, whereas Avicenna mentioned tongue cancer in the context of different types of cancer that he treated with phlebotomy, diarrhea, in addition to some localized treatments, and he also was interested in the type of food that the patient eats.

4- Throat and Pharynx Cancer:

Rhazes was distinguished in mentioning this type of cancer, so he described its size, and claimed that it might cause death. Rhazes specified only one type in which excision and cauterization is allowed, but he warned that this cauterization might cause ulcer to the cancer.

5- Breast Cancer:

This type of cancer was mentioned by Abu Bake Rhazes and Avicenna. Rhazes showed the reasons that cause breast cancer, whereas Avicenna mentioned a story that showed the possibility of cancer transferring from an affected breast to a health breast after cauterizing the first breast, and he showed that the reason for this might be two things and he favored one of these two reasons. Besides, Avicenna was interested in ,,,,,,,,,,,,, breast cancer that might follow breast tumor.

Fifth- Results and Discussion

1- Muslim and Arab physicians in the Third and Fourth Hijri centuries defined cancer disease. Some of them considered cancer as hard tumor (Abu Bake Rhazes was

22. Abul-Hasan Al-Tabari, Al-Mualajat Al-Buqratiyah, page 97/2.
23. Albucasis, P 381.

excelled in distinguishing between the two). Al-Tabari, Al- Kashkarī, and Avicenna defined cancer as black bile according to the theory of four humors. Thabit Ibn Qurra, Rhazes, and Abul-Hasan Al-Tabari exceled in defining the most vulnerable organs to cancer.

2- Muslim and Arab physicians had not classified specific writings about cancer disease, rather, they talked about cancer in their general writings about disease from head to feat.
3- Rhazes considered cancer as incurable disease, and this disease is considered incurable until today.
4- Physicians, specifically Rhazes, noticed the detecting cancer in its early stages, and this thing has its importance in the modern medicine, and that healing according to treatment is possible through excision and cauterization. Avicenna assured what Rhazes mentioned that cure is possible if cancer is detected in its early stages.
5- Muslim and Arab physicians' treatment for cancer differed, and they mentioned ways to decrease its accompanying symptoms. Thabit Ibn Qurra interested in healing the ulcer that accompany cancer, Avicenna used opium in decreasing pain in eye cancer, Rhazes mentioned the black bile puking according to the theory of tumors considering that this bile is the cause of cancer. Some physicians advised not to treat cancer, Albucasis advised not to treat tongue cancer. Other physicians use surgery in a trial to excise cancer as Rhazes, Abul-Hasan Al-Tabari, and Albucasis.

Conclusion:

Physicians, specifically Rhazes, noticed the detecting cancer in its early stages, and this thing has its importance in the modern medicine, and that healing according to treatment is possible through excision and cauterization. Avicenna assured what Rhazes mentioned that cure is possible if cancer is detected in its early stages. I suggest to do comprehensive study in this field to the successful treatments which were done by Arab and Muslim physicians in case of early detection of cancer.

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Inhalation Therapy in Kitāb al-‘Umdah al-Kuḥlīyah fī al-Amrāḍ al-Baṣariyah

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Summary

Introduction: Inhalation therapy had been used in the past, its industry and usage had developed in Islamic ages, where the Muslim doctors had used it as a part of their treatments because it may prepared and used easily.

The inhalants which were mentioned in the book “ al-‘Umdah al-kuḥlīyah fī al-amrāḍ al-baṣarīyah” comprise a simple example about that inhalants which had been used in those ages.

Objectives: In this search we focus on these inhalants which were mentioned in the book “al-‘Umdah al-kuḥlīyah fī al-amrāḍ al-baṣarīyah”, and their medical uses besides the methods of their preparation and comparing them with the modern pharmacy references.

Methods: We rely on the historical research method, by referring to the inhalants which were mentioned in the book “al-‘Umdah al-kuḥlīyah fī al-amrāḍ al-baṣarīyah”, then we trace matching points between ancient and modern medicine in this field.

Results: Inhalants have been known since the ancient ages, its industry and application had developed through the Islamic ages, I have noticed that there are many general rules where the Muslim doctors had followed to manufacture this pharmaceutical form which the modern science has accepted, in addition some of the drugs that are involved in the inhalants correspond to the complementary medicine in therapeutic uses.

Conclusion: Muslim doctors had used inhalants as one method of their medicinal treatment, and this base coincides with the modern knowledge about this pharmaceutical form.

Keywords: Inhalants, History of medicine, Islamic medicine, Al-umdah Al-kuhliya, Al-shadhili, Ibn-Sina.

Introduction:

Inhalants have been used for more than two thousand years, the first recorded use was in ancient Egyptian times, so the inhalation of the vapour of black henbane is recorded in Egyptian Ebers papyrus (1554 BC); Egyptian physicians put the herb in hot bricks, causing the alkaloid contents to vapourise, so that patient who suffers difficulty in breathing could inhale it.

Inhalants have been used for many centuries, not far away from our present time, in (1778) John Mudge had used the opium vapour to treat the cough, also menthol inhalants had been known in (1778) and they were used for treating the cough and common cold, as another inhalants had been come to light in eighteenth and nineteenth century, so they were used to treat the asthma and tuberculosis[1].

Most of the Muslim doctors had included the inhalants in their books because they may be prepared and used easily.

The inhalants which were mentioned in the book “ al-‘Umdah al-kuḥlīyah fī al-amrāḍ al-baṣarīyah” comprise a simple example about that inhalants which had been used in those ages.

Objectives:

I have preferred in this search to focus on the inhalants which are mentioned in the book “ al-‘Umdah al-kuḥlīyah fī al-amrāḍ al-baṣarīyah” in order to study the methods of their preparation and comparing them with the modern pharmacy references on one hand and to make some scholars know some parts of this book which is still unknown for many of them on the other hand.

Methods:

In this research, we are going to rely on the historical research method by referring to Muslim Arab medical books which mentioned the inhalants; to focus on the inhalants which were mentioned in the book “al-‘Umdah al-kuḥlīyah fī al-amrāḍ al-baṣarīyah”, then we refer to some modern books in this field.

Inhalants in “ al-‘Umdah al-kuḥlīyah fī al-amrāḍ al-baṣarīyah”

The book “al-‘Umdah al-kuḥlīyah fī al-amrāḍ al-baṣarīyah” is considered an integral encyclopedia in ophthalmology, so it contains all the experiments of Muslim doctors and their opinions about this science, this book was written by Sadaqah Ibn Ibrahim al-Shadhili who lived in eighth H century, whereas Haji Khalifa is the first one who mentioned this book in his book “Kashfu al-Zonon”[2].

Al-shadhili had divided his book into five sections, each one consists of many chapters, the first chapter talks about the anatomy of eye, while the second section talks about these factors affecting the function of the eye, and the third section concentrates on the visible diseases of the eye, but the invisible diseases were mentioned in the fourth section, and the fifth section deals with the composed drugs which are used to treatment of the ophthalmic diseases.

Inhalants were mentioned in the fifth chapter of the fifth section, so al-shadhili had definited an inhalant as a substance put on the nose and the patient smells it, or we put the substance in a flask setts on a light fire then the patient smells the resulting odor from it.

Al-shadhili had mentioned the purpose of the inhalants that they were used to strengthen the brain by cooling or heating it, also they may treat some of the ophthalmic diseases.

There is a great similarity between the inhalants and the snuffs, but Ibn Sina had mentioned the difference between them:

- Inhalants are wet substances enter the nose by the air.
- Snuffs are wet substances which are dropped in the nose[3].

This basic difference between the inhalants and the snuffs is the corner stone to understand the method of their influence and the nature of their ingredients.

The modern pharmacy references definite the inhalants as drugs or combination of drugs that by virtue of their high vapor pressure can be carried by an air current into the nasal passage, where they exert their effect.

Inhalants are divided into two categories according to the nature of their influence:

1- Topical inhalants: as (Propyl hexedrin Inhalant): It is a liquid that volatilizes slowly at room temperature, it relieves the nasal congestion.
2- Systemic inhalants: as (Amyl Nitrite Inhalant): It is a clear yellowish volatile liquid that acts as a vasodilator when inhaled[4].

The definition of inhalants has recently developed, where it comprises every finely powdered or liquid drugs that are carried into the respiratory tract by the use of powder blowers or low-pressure aerosol containers holding a suspension of the drug in a liquefied propellent[5].

If we compare the last definitions with the basic difference that Ibn Sina had mentioned, we conclude the following results:

1- Inhalants consist of volatile substances or substances may be vaporize, while the snuffs consist of dry powdered or liquid substances.
2- The influential method of the inhalants is the movement of the drugs into the nasal passage by air, but the snuffs need instruments to make the drugs enter the nasal cavity.

Al-shadhili had mentioned seven prescriptions in this field, all of them were used to strengthen the brain and to treat some of the ophthalmic diseases.

I have studied these prescriptions and mentioned the way of preparing some of them, theses prescriptions are:

1- **An inhalant strengthens and heats the brain and benefits in treating the conjunctivitis resulting from cold.**

   Preparation method: the raw amber is dissolved in chamomile oil or quince oil, then we add a small amount of saffron to the resulting mixture, after that the patient puts an amount from it in his hand and inhales it.

2- **An inhalant treats the dryness of the brain and the weakness of the optic nerve.**

   Preparation method: we take equal parts of sweet almond oil, viola oil, and women’s milk, then we dissolve a small amount of saffron with them, after that the patient puts an amount from the preparation in the palm of his hand and inhales it.

3- **An inhalant benefits the old peoples especially in winter**.
4- **An inhalant strengthens the brain and it benefits in treating the conjunctivitis resulting from heat.**
5- **An inhalant treats the severe conjunctivitis and its pain resulted from cold.**
6- **An inhalant relives the pains of the conjunctivitis resulted from heat.**
7- **An inhalant treats the composed conjunctivitis and the composed diseases.**

Preparation method: we take a part of sandal-wood and musk , then we dissolve them in rose water, after that we wet a thin piece of cloth in this preparation and vapourise it by the rods of cardamom.

I have systematically studied these prescriptions depending on the discovery of the general principles that Muslim doctors had depended on for making this pharmaceutical form, so I have noted some results compared with the basic requirements for their industry in the modern references.

Results and discussion:

1- The general bases of inhalants, which are mentioned by al-shadhili- depend on the use of the nasal passage for treating some of systemic diseases.

This method had been lately used as one of the systemic medicinal treatments, where it ensures the rapidity of influence on one hand and the medicinal substance doesn’t spoil by the hepatic metabolism on the other hand.

2- Al-shadhili had mentioned two methods for using the inhalants according to the nature of the drugs that make prescriptions, these methods are:
   a- The first method depends on using of the volatile oils as (amber with chamomile oil and saffron- almond oil with viola oil and saffron and camphor).
   b- The second method depends on heating some of herbal drugs in order to vapourise the volatile oils from them, (sandal-wood is dissolved with the water of willow, then the mixture is vaporized with the rods of cardamom and camphor).
3- The herbal drugs were mixed with the volatile oils (viola oil- camomile oil), in order to extract the active ingredients from them.

This process coincides with the bases of the pharmaceutical industry that belongs to the inhalants, where we mask the drugs which contain amino radicals by adding the volatile substances, so this process increases the influence of the inhalants[4].

4- I have enrolled an index which clarifies the most important therapeutic properties that belong to some sin-

Common name	Scientific name	Indications
Amber	---	Amber oil is used with eucalyptus oil, menthol, and camphor for treating cold symptoms and nasal congestion[6].
Camphor	Cinnamomum camphora Fr. Nees.	Applied externally, camphor acts as a rubefacient and mild analgesic, it is also an ingredient of many inhaled nasal decongestant preparations but it is of doubtful efficacy. The use of camphor liniment (camphorated oil) is discouraged because of its potential toxicity. It has been withdrawn from the market in both the UK and the USA. In the USA the concentration of camphor in preparations for external use may not exceed 11%[6].
Chamomile	Anthemis nobilis L.	Chamomile oil reduces histamine-induced reactions, including hay fever and asthma, so it Prevents of minor allergic reactions in the upper respiratory tract, in addition it treats cough and common cold [6],[7].
Mustard	Brassica alba L. Brassica nigra L	Black mustard oil had been used with other compounds for treating the respiratory tract congestion, and musculoskeletal and joint disorders[6],[8].

Common name	Scientific name	Indications
Perfumed cherry	Prunus mahaleb L.	Leaves—applied hot in rheumatic pains. Smoked to relieve headache. Seed—paste used in stomatitis. Wood—paste used in mouth and tongue sores [7].
Saffron	Crocus sativus L.	Saffron is used to colour medicines, foods, and cosmetics. It is also used as a flavouring agent. Saffron has been included in preparations for teething pain. It is being investigated for the treatment of depression [6].
Sandal-wood	Santalum album L	The wood of white sandalwood has antibacterial and antispasmodic activity and is used in herbal medicine as an adjunct in the treatment of infections of the lower urinary tract. Sandalwood oil is used in aroma therapy and in perfumery [6],[8].
Sweet almond	Prunus amygdalus Stock.	Almond oil, which consists mainly of glycerides of oleic acid with smaller amounts of linoleic and palmitic acid, has nutritive and demulcent properties. It is used as an emollient and to soften ear wax. It is also used as a vehicle in some injections [6].
Violet	Viola odorata L.	Expectorant, anti-inflammatory, diaphoretic, antipyretic, diuretic. Used for catarrhal and pulmonary affections, also for diseases of liver and intestines [7].

gle drugs which are found in these inhalants, finally I depended on the modern references in this field.

Conclusion:

Inhalation therapy had been used in the past, its industryand usage had developed in Islamic ages, where the Muslim doctors had used it as a part of their treatments because it may prepared and used easily.

The inhalants which were mentioned in the book “ al-‘Umdah al-kuḥlīyah fī al-amrāḍ al-baṣarīyah” comprise a simple example about that inhalants which had been used in those ages, and the bases of their uses coincide with the modern information which were lately discovered.

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Ustukhuddoos (Lavandula stoechas Linn.)-A Review on Morphology, Phytochemistry and Pharmacological Activities.

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Summary

Ustukhuddoos is a plant drug used in Unani System of Medicine since long. This drug was aware to Unani Physicians since very long time. It has many important medicinal properties. It is used particularly for brain disorders like anxiety, amnesia, epilepsy and headache. This paper enlightens the different activities of Ustukhuddoos and its use in Unani (Graeco-Arabic) System of Medicine.

Key words: Ustukhuddoos, Lavendula stoechas, Unani Medicine.

Introduction:

The genus Lavandula is an important member of family Lamiaceae/Labiatae. Its species are widely distributed in the Mediterranean region and cultivated in France, Spain and Italy. Ustukhuddoos (*L .stoechas* Linn.) is a herb having leaves like the leaves of Saatar (*Zataria multiflora*) but thinner and longer than that. Flowers are in cluster having smell like Camphor [1, 2]. As stated by Dioscorides, this plant is named Stoechas from its growing on the Stoechades, a group of islands on the south coast of Gaul near massila. In Western India, it is wrongly named 'Alfazema'. It is known in Spain as "Romero Santo" meaning sacred rosemerry[3].

Vernacular Names [4,5,6,7]

Arabic	- Anis-ul-Arwah, Mumsik-ul-Arwah
Bengali	- Tantana
English	- Stoechadas, Arabian or French Lavander
Gujrati	- Lavandara-na-phula
Hindi	- Dharu, Alphagandharu, Ustukhuddusa
Marathi	- Alphajan
Persian	- Shahsafram
Siryani	- Sakhawis
Unani	- Hafizul arwah
Urdu	- Ustukhuddoos

Scientific Classification [8]:

Kingdom	- Plantae
Division	- Magnoliophyta
Class	- Magnoliopsida
Order	- Lamiales
Family	- Lamiaceae/ Labiatae
Genus	- Lavandula
Botanical name	- *Lavandula stoechas* Linn.

Habitat and Distribution:

This herb is found in forests and mountains having wet soils in rabi season. In India, it is found in Azimabad (Patna) and Bengal but the quality is not good [9]. It is found in Canaries, Portugal, and eastwards throughout the Mediterranean region to Constantinople and Asia Minor [7]. The plant cultivated in Peshawar and Afghanistan is of the best quality [10]. Lavandula cultivated in Hejaz and Rome is more potent [1].

Botanical Description:

L. stoechas Linn. is a plant of Lamiaceae/Laniatae family. It is a perennial shrub upto 90 cm, grey-tomentose, entire, and sessile with somewhat revolute margins; flowers dark purple, about 4 mm, long in dense short peduncled spikes with terminal tuft of large purple bracts. Flowering occurs in june-july, which is situated in the axils of downy, heart shaped bracts [6].

Description of Drug in Unani Literature:

Ustukhuddoos was aware to Unani physicians since very long time and Dioscorides has described it in Kitabul-Hashaiyash [11,12,13]. This plant attains a height upto one and half feet. The stem of plant is of green colour having rough surfaces. The leaves are linear and arranged in denses. The flowers are arranged in dense peduncle spikes. The leaves are similar to Satar leaves having lesser width and more length. There are hairs on the dorsum having essence which produce sneezing on smell. Grey coloured and slight bitter in taste with a bit pungency is rated best of quality[14,10,15,1,16]. Dioscorides mentioned that this plant is called Stoechas from its growing on Stoechadas, a group of islands on the south coast of Gaul near Massilia and it is much valued by the Muslim physicians [17,18,3]. The taste of the plant is bitter [19,1,20,18]. It has been credited with cephalic virtue and called as 'Jaroob-e Dimagh' which means broom of the brain. It is called so because it sweeps away all phlegmatic impurities, removes obstructions, strengthens its power of expelling waste crudities and improves the intellect [1,3]. Its medicinal values was first described by Jalinoos (Galen), that is why, it is also known as Galeenial herb (Giah-e-Jalinoos) [3].

Parts used [17]:

Whole plant, flowers, Essential oil

Mizaj (Temperament):

Hot 1° and Dry 2° [6,21]
Hot 1° & Dry 2° as mentioned by Ibne Sina [1,19,22]

Af'aal (Pharmacological Actions):

Muhallil (resolvent)
Mulattif (demulscent) [23,24]
Mufatteh sudad (deobstruent)
Jali (detergent) [24]
Muqawwi (Tonic)
Munaqqi (purifier)
Muqawwi-e-Asab (Nervine tonic) [23]
Habis (styptic)
Dafe taaffun (antiseptic) [6,19,1,24]
Mushily-e balgham (phlegmagogue)

Therapeutic Uses:

It is beneficial in *Malikholia* (Melancholia), *Junoon* (Mania), Nisyan (Amnesia), *Sara* (Epilepsy), *Waswas saudawi* (Anxiety), *Istirkha* (Atony), *Tashannuj-e-imtelayi* (Congestive Convulsion), *Khidre* (Numbness), *Ikhtelaj* (Trembling). Ibne Sina has also mentioned it in his treatise '*Advia qalbia*' and described its efficacy in removing *sauda* (black bile) from head and brain [18]. It is quite efficacious for removing *saudawi* and *balghami* (black bile and phlegmatic) morbid matters from the brain, hence called as 'broom of brain' (*Jaroobe Dimagh*) [1,19,25]. It also provides strength to head, brain, liver, spleen, stomach and intestines [19,22,18,21]. Muslim physicians consider it to be cephalic (tonic), resolvent, deobstruent, and carminative and prescribe it in chest affections and for expelling bilious and phlegmatic humours. The author of *Makhzanul Advia* has credited it with cephalic virtue and calls it 'broom of the brain' (*Jaroobe dimagh*) because it sweeps away all phlegmatic impurities, removes obstructions, strengthens its power of expelling (waste) crudities and clarify the intellect. [17,3]

Mazarrat (Toxicity) [1,19]:

Harmful for hot and safrawi temperament people.

Musleh (Correctives):

Sikanjabeen [1,19]
Katira (*Astragalus gummifer,* Labill) [6]

Badal (Substitutes):

Frāsiyūn (*Marrubium vulgare* Linn.) [23,19]
Akasbel (Aftimoon, *Cuscuta reflexa*) [6,19]

Miqdare Khurak (Dosage) [18,26] :

According to Rhazes, its dose is 7-10 gm and is better to use with sikanjabeen

Ethno-botanical Report:

Pharmacological Actions:

Resolvent
Antiphlegmatic
Carminative [7]
Expectorant
Deobstruent
Stimulant [3,27,28,29,30]

Therapeutic Uses:

It is used as anticonvulsant and antispasmodic [30]. The essential oil obtained from its flowering twigs has been used as a remedy against colic and chest affections, to relieve nervous headache, biliousness and for cleansing wounds [27,28,29,31]. This plant is claimed for having the properties to remove obstruction, strengthens brain power, expels the crudities from the brain and clarifies the intellect [3,30].

Scientific Studies:

Phytochemical Studies:

The oil content of *L. stoechas* varies from 0.77–1.2% [32]. It contains organic substances as carbohydrates, glycosides, phenols, steroids, terpines and resins, and inorganic substances as aluminium, calcium, iron, magnesium, potassium and strontium. It also contains Apigenin-7-O-β-D-glucoside, luteolin, its 7-glucoside and 7-glucuronide, rosmarinic acid and 6-caffeoyl glucose isolated from leaves., fenchon (30.85), pinocarveyl acetate (10.2.), camphor (9.58), eucalyptol (8.12) and myrtenol (4.65%) determined as major components in essential oil, longipin-2-en-7β, 9α-diol-1-one(I) and its 9α-acetate(II) Isolated from aerial parts [33]. The ethanolic extract of whole plant of *L.stoechas* Linn. was reported to yield β-sitosterol, ursolic acid and an unidentified triterpenic acid [34]. In the essential oil, 51 compounds have been described, the major ones being fenchone, pinocarvyl acetate, camphor, eucalyptol and myrthenol constituting 63.4% of the oil [35].

Pharmacological studies:

L.stoechas Linn is reported to have antibacterial, blood purifying and adaptogenic/antiageing properties [36]. The aqueous extract of flowers and stem of *L. stoechas* showed hypotensive effect blocked by atropine in dogs along with negative chemotropic effect on isolated frog heart and spasmodic effect on guinea pig ileum [37]. *L. stoechas* aqueous extracts have cytotoxic and genotoxic effects [38]. An aqueous extract of *Lavandula stoechas* flowers is found to have anticonvulsant, sedative, but not hyponotic, and antispasmodic effects in mice. It additionally prolonged pentobarbital sleeping time in a manner similar to that of diazepam [39]. *L. stoechas* has been fount to have hypoglycemic activity [40]. The oil of *L. stoechas* has been found to be useful as nocturnal sedative in elderly patients in the form of an air freshener [41,42]. It has also beneficial effects in stress [43]. Inhaling the lavender oil vapours shows anticonvulsive action [44].

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Clinical Efficacy of a Unani Formulation on the Subjective Parameters of Zaghtuddam Qavi Ibtidai (Primary Hypertension)

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Summary

Systemic hypertension is the most prevalent cardiovascular disorder all over the world affecting a large chunk of population causing tremendous damage in terms of morbidity and mortality. 95% of hypertensive patients have no cause of it known as primary hypertension while 5% have a definitive cause of raised BP known as secondary hypertension. The present clinical study of primary hypertension has been carried out in hospital National Institute of Unani Medicine, Bangalore to evaluate the efficacy of a Unani Formulation, Khameera Sandal Sada, particularly on the subjective parameters of Primary Hypertension.

Key words: Zaghtuddam Qavi, Hypertension , Khameera Sandal Sada, Unani Medicine.

Introduction:

Zaghtuddam Qavi (Systemic hypertension) is the most common cardiovascular disorder. It is a chronic condition of concern due to its role in the causation of coronary heart disease, stroke and other vascular complications. It is one of the major risk factors for cardiovascular mortality, which accounts for 20-50 percent of all deaths [1].

In classical literature of Unani medicine, the term hypertension has not been used as such by Unani physicians and the term *Zaghtuddam qavi* was adopted by the Unani authors as a translation of hypertension. Ancient Unani scholars used a term *Imtala* to describe a condition in which normal or abnormal fluids are too much accumulated in the body producing certain type of symptoms. The clinical symptoms of *Imtala bi hasbil auiya* described by the Unani physicians are very similar to that of hypertension.

The prevalence of hypertension varies considerably among and within population. In general, societies in whom acculturation and industrialization are advanced have a higher prevalence of elevated blood pressure than less developed societies [2]. In western countries, nearly 50 percent of all persons develop hypertension some time during their span of life and one-fourth of all deaths in the elderly are due to one of the complications of hypertension. Even in India, where its incidence is said to be comparatively low due to environmental factors and nature of the diet (mostly vegetarian with a low consumption of animal fat and salt) m m; nearly 20 percent of all persons past 40 years suffer from hypertension. In India the overall incidence of hypertension in the population is stated to vary from 1 to 4 percent. [3]

The idiopathic hypertension is called as essential or primary hypertension while have a definitive cause of the disease called as secondary hypertension. About 95% of cases are of the primary hypertension and about 5% cases belong to secondary hypertension.

The clinical features usually associated with *Zaghtuddum Qavi Ibtidai* are headache, especially in the morning, fatigue in the evening, palpitation, breathlessness, flushing of the face and sometimes epistaxis. These symptoms may or may not be present in all the cases.

The complications of hypertension affect the heart, kidney and nervous system. Hypertensive patients are prone to renal failure, peripheral vascular diseases. Cerebrovascular diseases and coronary artery diseases are the most common causes of death in hypertension. [4]

The term *Zaghtuddum qavi* (hypertension) does not exist as such in classical Unani literature but most of clinical features representing hypertension has been mentioned under the heading of *Imtala bi hasbil auiya*.

Methodology:

The present study has been undertaken in the department of Moalejat, National Institute of Unani medicine, Bangalore. The patients were selected from Hospital, National Institute of Unani Medicine for the assessment of the efficacy of test drug. Before starting trial, the research protocol was submitted for ethical clearance. The institutional ethical committee of National Institute of Unani Medicine, Bangalore has approved the protocol for the study. Individually every patient of hypertension was thoroughly questioned for detail history of the disease. Patients were clinically examined and required hematological, biochemical investigations were carried out. Clinical symptoms, history and investigations were recorded on the prescribed case report form, designed for the study under the direct supervision of supervisor and co supervisor. The duration of study was two years and patients were enrolled from 2006 to 2007.

1. **Criteria for Selection of Cases**
   The patients selected randomly, were enrolled in the study after having fulfilled the following criteria.
   a. **Inclusion Criteria**
      1. Clinically stable patients.
      2. All patients of Primary hypertension.
      3. Patients with all grades (Mild, Moderate, Severe) of Primary hypertension.
      4. Patients in the age group of 18-70 of years.
      5. Both sexes.
   b. **Exclusion Criteria**
      1. Cases of Secondary hypertension.
      2. Patients below 18 years and more than 70 years of age.
      3. Patients who did not report for the follow up.
      4. Patients on any possible anti-hypertensive treatment.
      5. Patients with severe anaemia.
      6. Lactating mothers and pregnant ladies.
      7. Patients with severe neurological disorders.
      8. Patients with chronic liver failure, severe liver disease.
      9. Patients with history of M I, severe IHD, valvular diseases, DM.

4. **Study design**
   The study was designed as a randomized, Single blind, standard controlled clinical study.

5. **Sample size** The sample size was fixed as 60 patients.

6. **Allocation of subjects**
   60 patients were randomly allocated by using computer generated random table into two groups comprising 30 patients in each of test (Group A) and control (Group B) groups respectively.

7. **Assessment of mizaj**
   Determination of mizaj was done on the basis of assessment of different parameters mentioned in classical Unani literature. These parameters have been shown in the table attached with the above report form.

8. **Duration of protocol therapy**
   The treatment period in both test and control groups was fixed as 60 days.

9. **Criteria for selection of Khameera Sandal Sada.**
   As evident from the drug management of this ailment it requires Musakkinat, Munawwimat, Moaddil e jazbat, to relieve anxiety, mental stress and insomnia; Mubarridat to cool the temperament; Muddirrat to excrete out excessive fluid from the body; Musaffiyat and Moaddilat e dum to purify the blood and Muffattihate urooqe damvia to facilitate the blood to the organs, Khameera Sandal Sada is a Unani formulation which is found to have all requisite qualities like diuretic, sedative and coolant properties etc., the particular formulation is selected for the trial.

10. **Method of preparation, dosage and mode of administration of test drug**
    The best quality drugs were provided by the pharmacy of National Institute of Unani Medicine. Before preparing the formulation, all of the drugs were properly identified to ascertain their originality. The sandalwood powder was soaked with rose water for about 24 hours.

This mixture then boiled up to the time it become half than add sugar and boiled and stirrer the substance with pastel till it becomes in the form of khameera. 7 gm of drug twice daily was given for two months.

11. Administration of control drug

The control drug Atenolol (Aten-50) was procured from the market and 1 tablet of 50mg was administered orally once daily to 30 patients in control group (Group B).

No concomitant treatment was allowed during entire treatment with the test drug and control drug.

12. Statistical Analysis

The results were statistically analyzed using wilcoxan matched pair test.

Composition of Khameera Sandal Sada[5]:

Ingredients		Quantity
Sandal Safaid	*(Santalum album)*	75 gm
(Burada or Fine powder)		
Gul-e-Surkh	*(Rosa damascena)*	500 ml
(Arq or Distillate)		
Sugar		1 kg

Results and Discussion:

Effect on Headache

Headache is the main symptom in hypertensive patients, occurring especially in the morning time in the occipital region.

As shown in Table No. 5, there were 80.0% patients, having the complaint of headache in test group. After six weeks of the treatment, 79.2% patients recovered completely while in rest of the patients, the severity of headache came down significantly. The improvement in headache is due to sedative properties of Sandal safaid. The rose has also the properties of relieving head pain due to anxiety, stress. The anxiety and stress may be the causes of primary hypertension. Hence the Sandal Safaid and Arq Ghulab are beneficial in headache. The data is supported by Anonymus[6], Najmul-Ghani[7], Rafeequddin[8], Vivian Lunny[9], Anonymus[10]

In control group there were 60% patients of headache before the treatment. After eight weeks of treatment 33.3% recovered completely while in rest of the patients the severity of the disease came down significantly.

Effect on Palpitation

As shown in Table No. 5, out of total patients of palpitations, 77.3% patients got improvement in test group and 22.7% patients were remained in any one of the grades of palpitations.

Sandal safaid and rose has been successfully used in the past for palpitation. The significant improvement in palpitation is due to sedative effect of sandal safaid. The data are supported by, Najmul Ghani[7] and Robert Bently[11]

In control group there were 63.3% of patients of palpitation before the treatment. After the treatment 26.3% patients recovered completely.

Effect on Nervousness

As evident in Tabel No. 5, out of total patients of nervousness, 70.0% patients recovered completely and 30.0% patients were remained in any one of the grades of nervousness.

The nervousness in hypertension may be due to anxiety and stress. Sandal Safaid has the sedative property which are helpful in reducing anxiety, stress and hence nervousness. In the same way Rose is also beneficial in anxiety and stress. This is supported by Anonymus[6], Najmul Ghani[7], Rafeequddin[8], Vivian Lunny[9],Anonymus[10].

In control group there were 60.0% patients of nervousness before the treatment. After the treatment 27.8% of patients recovered completely.

Effect on Dizziness

As shown in Table No.5, out of total patients of dizziness, there was improvement of 61.9% of patients. 38.1% were remained in any one of the grades of dizziness.

In control group there were 60% of patients of dizziness before the treatment. Out of these patients 27.8% of patients recovered completely.

Effect on Insomnia

As shown in Table No. 5, out of total patients of insomnia, 76.5% patients recovered completely after the treatment. 23.5% were remained in any one of the grades of insomnia. This significant effect is due to the sedative property of sandal safaid which is supported by Anonymus[6], NajmulGhani[7], Rafeequddin[8], Vivian Lunny[9], Anonymus[10].

In control group there were 50.0% patients who had the complaint of insomnia before the treatment. 26.7% patients got the improvement after the treatment.

Table 1: Data Analysis of Test and Control drug on Symptoms

SYMPTOMS	Test Group				Control Group			
	BT	AT	IMPROVEMENT		BT	AT	IMPROVEMENT	
	No. of Patients	%	No. of Patients	%	No. of Patients	%	No. of Patients	%
HEADACHE	24	5	19	79.2	18	12	6	33.3
PALPITATION	22	5	17	77.3	19	14	5	26.3
NERVOUSNESS	20	6	14	70.0	18	13	5	27.8
DIZZINESS	21	8	13	61.9	18	13	5	27.8
WEAKNESS	17	7	10	58.8	16	12	4	25.0
INSOMNIA	17	4	13	76.5	15	11	4	26.7

Wilcoxon matched pair test:

Conclusion:

The study revealed that test drug has given good response on general symptoms than control drug while the control drug found to be highly significant in lowering the elevated blood pressure than the test drug. Collectively, Khameera Sandal Sada (test drug) can be recommended for reducing the symptoms in general and mild to moderate elevated blood pressure in particular of hypertensive subjects.

On the basis of above results it can be concluded that Khameera Sandal Sada is effective and safer in the management of symptoms of Primary hypertension. In this preliminary clinical trial Khameera Sandal Sada was found to be safe and effective. However it can be further taken up on large scale for conduction of phase second and third clinical trial for further establishment of its therapeutic efficacy.

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Description of Aetio-pathology of Risk Factors of Non-communicable Diseases in Unani System of Medicine

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Summary

The aetio-pathogenesis of the most chronic diseases like hypertension, diabetes, atherosclerosis and other cardiovascular diseases are yet to be explored. Some diseases are diagnosed very late i.e. in advanced stage from where the chances of its recovery are less because their complications usually results in organ damage. At present cardiovascular diseases and Cancer are the leading causes of death accounting for 70% to 75% deaths worldwide. Relying solely on treatment options to combat NCDs is very costly. So many risk factors are responsible for the onset of chronic diseases. The medical fraternity is continuously trying to minimize the burden of diseases by taking appropriate preventive measures in the form of health education, socioeconomic development, exercise and lifestyle modifications etc. In spite of all these measures chronic diseases are increasing day by day. The focus on strengthening protective factors and earlier investment in prevention of NCDs among young people, especially through Unani medicine is therefore essential. Here we are going to mention how Unani System of Medicine describes the risk factors of NCDs. This is very important because only after knowing this concept we can recommend the preventive steps at every possible level so as to rid off from risk factors.

Key Words: Risk factors, Unani medicine, Non communicable disease, Mizaj

Introduction:

Currently, the health scenario is riddled with the burden of non-communicable diseases (NCDs), such as cancer, cardiovascular disease and diabetes. These are most common causes of deaths in wealthier countries and are now increasing in prevalence in developing countries too. Last 2 decades witnessed the change in the balance of diseases in the population from communicable to non -communicable diseases. Since the international community has begun to pay closer attention to the enormity of the human and financial burden of chronic disease, especially after a 2011 high-level meeting on NCDs at the United Nations. The aetio-pathogenesis of the most chronic diseases like hypertension, diabetes, atherosclerosis and other cardiovascular diseases are yet to be explored. Some diseases are diagnosed very late i.e. in advanced stage from where the chances of its recovery are less because their complications usually results in organ damage. At present cardiovascular diseases and Cancer are the leading causes of death accounting for 70% to 75% deaths worldwide.[1,2]

The prevalence of chronic diseases is showing upward trends due to some unknown and partially known reasons. One likely reason is increased life expectancy, so that larger number of people is living in older age groups and hence they are at greater risk of age related chronic diseases. Other reasons may be changing lifestyle and Behavioural patterns of people which favours the precipitation of chronic diseases.[2,3] NCDs share four main behavioral risk factors, all of which will likely escalate in developing countries: tobacco use, harmful use of alcohol, insufficient physical activity, and unhealthy diet/ obesity. According to the World Bank, more than half of the NCDs burden could be avoided through health promotion and prevention initiatives. Relying solely on treatment options to combat NCDs is very costly, parti-

cularly in developing countries where governments and health infrastructures are unprepared to respond to this growing problem. So many risk factors are responsible for the onset of chronic diseases. The medical fraternity is continuously trying to minimize the burden of diseases by taking appropriate preventive measures in the form of health education, socioeconomic development, exercise and lifestyle modifications etc. In spite of all these measures chronic diseases are increasing day by day.

Unani Concept:

The focus on strengthening protective factors and earlier investment in prevention of NCDs among young people, especially through Unani medicine is therefore essential. In Unani system of medicine health is assessed by Mizaji E'tedaal (normalcy of temperament) which depends on four Arkan.4,5 The composition of arkan is fixed in every living thing, so is in the human.6 The perfect equilibrium of Arkan in an individual determines health and existence of the individual by imparting him specific Mizaj. This equilibrium depends on six essential of life (Asbabe Sittah Zarooriya), so any imbalance or deviation in these six essentials of life, either qualitative or quantitative or both may deviate the Mizaj which results in disease. The deviated temperaments can be corrected easily by modulating six essentials of life, especially the diet and drink.

Risk Factors:

The risk factors for NCDs are divided into two main groups; Lifestyle Risk Factors and Biological Risk Factors. Lifestyle risk factors are the risk factors which arise from the way the persons live their daily lives. It includes unhealthy Diet and Drinks, Physical Inactivity, Obesity, Tobacco and Alcohol consumption.2 Biological risk factors are risk factors which arise from the way the body functions or dysfunctions. Certain biological risk factors may also be linked to the genes which persons inherit from their parents. Biological risk factors include: raised blood sugar, raised blood pressure, and raised serum lipids.7 So we can say all the biological risk factors (except age and genetic inheritance) are ultimately depends on lifestyle risk factor. A general recommendation for all risk factors is the development of a system and an environment which avoids the development of these risk factors and helps persons who already have these risk factors to minimize them. Such a system would include a multi-disciplinary medical approach especially the holistic (Unani) approach of health and disease. That would be able to help persons with multiple risk factors to avoid the development of others. Here we are going to mention how Unani System of Medicine describes the risk factors of NCDs. This is very important because only after knowing this concept we can recommend the preventive steps at every possible level so as to rid off from risk factors.

Age:

Age is a non-modifiable risk factor for chronic diseases especially after 4th decade of life.2,3 Mizaj of Mashayikh (old age persons) is considered as extremely Barid Yabis (cold and dry).8 In fact Yaboosat (dryness) increases with the advancement of age due to depletion of Rutubaate Asliya (Bit Taba' Yaboosat). Though the older people frequently suffer from Rutoobi Amraz (cold and wet diseases) like cough, running nose, common cold etc., and these conditions develops due to formation of Rutoobate Fasida (Bil A'rz Rutoobat) as a result of weakness of Hararate Tabai (digestive capacity).9

Genetic Factors:

Genetic factors are those factors which are inherited from parents to their respective offspring through Rutoobate Manwiya (sperm and ovum).10 Rutoobate Ghariziya of Nutfa (fertilized ovum/ zygote) is determined by Rutoobate Manwiya upon which the Mizaj of child depends.6,11 That is why family history of chronic diseases is very important because they may be inherited to the offspring up to significant extent.

Psychological Factors:

Afa'ale Nafsani (psychological factors) like stress, anger, irritation etc. are responsible for Tahleele Rutoobat (dissolution of fluids) from the brain and also produces Hararat (hotness) and Yaboosat in the heart. Ultimately it results in dominance of Yaboosat both in brain and heart.12 This generalized Yaboosat results in hardness and stiffness of the arterial wall.

Smoking and Tobacco Chewing:

Smoking and tobacco chewing are responsible for deposition of nicotine in arterial wall13 due to which hardness and stiffness may occur in the arterial wall. It is obvious that hardness and stiffness comes either due to Buroodat or Yaboosat.[9] Nicotine is considered as Ajzae Arzia and its deposition leads to hardening of vascular walls.[6]

Diet and Drinks:

According to Ibne Rushd Har and Yabis Amraz can occur due to excessive use of Har Yabis Ghiza (hot and dry diet),14 excessive salt intake produces Yaboosat in the body because of its Har Yabis Mizaj.14 Gaarhi Sharab (concentrated alcohol) produces viscid blood i.e., blood become more viscous on excess intake of concentrated alcohol. This type of concentrated alcohol is very difficult to digest in the stomach and hence results in the production of morbid matter in the body15 which leads to Yaboosat.

Smoking and excessive salt intake are strong risk factors for hypertension and in turn hypertension is a strong risk factors for cardiovascular diseases.[2]

Obesity is another risk factors for cardiovascular diseases like atherosclerosis & hypertension etc. Obesity is defined as abnormal growth and increase in number of fat cells (shaham).[2] It is extra unwanted fat in the body. Mizaj of fat is Barid Ratab (cold and wet),6 so extra deposited fat produces excessive buroodat as a Kaifiyate Fai'la (active quality)[6] and when it dominated it freezes the fat into the different places of the body and organs,9 especially in large and medium sized artery like aorta and coronary artery. This deposition of fatty material, causes narrowing of lumen of respective arteries hence results in disease like atherosclerosis, which decreases the myocardial blood supply.

Deviation of Mizaj with these Risk Factors:

Rutoobate Manwiya of both male and female are liquid and temperamentally wet (Ratab Bil Kaifiyat).[6] Dominance of Rutoobat after intermixing of Maddae Manwiya is essential in Nutfa because this dominance of Ratoobat is essential for the growth of zygote. Actually human body is Layyan and Ratab (soft and wet) so same type of Madda is necessary for the growth and maintenance of body throughout the life. Rutoobat continuously decreases throughout life.[6] Most of the risk factors of NCDs are responsible for Yaboosat, either by rapidly dissolving Rutoobat or by formation of putrid matter. According to Raban Tabri, Hararat and Rutoobat sustains life14 while Buroodat and Yaboosat leads to death.10 So keeping above concept in mind, broadly preservation and prevention of health, against NCDs, can be obtained by following two methods:

1. Makool wa Mashroob (diets and drinks); especially of those which are very similar to Tabiyat of human.
2. Evacuation of morbid matter from the body.[10]

Conclusion:

We can not stop the ageing processes as Sir James Sterling Ross Coated, "you don't heal old age, you protect it, you promote it, and you extend it." These are in fact the basic principles of preventive medicine2 i.e., we can only extend, protect and promote the old age in a healthy way by providing good quality of Ratab Ashiya (liquid materials)10 to the body in the form of Ghiza (diet) and Ghizae Dawai (medicinal diet). By this way we can minimize the burden of chronic diseases and their hazardous effects.

For example, in obesity (Roghani Ajza of blood is the materialistic cause) Shahmi Ajza (fat cells) are deposited into the different body organs. According to Jalinoos the thing which is freezes with Buroodat is dissolved by Hararat while the thing which is solidified by Yaboosat can be dissolved by providing Rutoobat.[9] This is the basic principle for dissolving the unwanted extra fat by providing Hararat in the form of diet, drugs and other measures.

By adopting Holistic / "Unani System of Medicine" based on health education regarding the preventive aspects and motivation of the general mass to incorporate healthy lifestyle practices into their daily lives.

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The New Informations About Aromatherapy and Scents Edited by Albucasis

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Summary

Introduction: For thousands of years people have recognized the beneficial properties of certain plants and natural substances to human health and well being.

The wide trade in spices and perfumes and aromatic substances such as musk, ambergris, cloves, camphor, sandalwood, and aloeswood, in the medieval period shows the importance of these substances, most of them used in the Near East and Spain were compounded to form perfumes and incenses; through that the industry of the aromatic substances and scents and fragrances become more developed especially its chemical and pharmaceutical forms.The ancient art of aromatherapy becomes more popular in modern times for medicinal and therapeutic purposes. The important writer on aromatics is the Spanish cosmetologist Abu al-Qasim al-Zahrawi (Albucasis). He dealt with aromatic and cosmetics in the nineteenth book of his great work, Kitab "al-Tasrif", this text would likely have added much to this work.

Aim of the paper: is to introduce the most significant achievements of Albucasis in the field of aromatherapy and shed light on the method of preparation of perfumes and scents which Albucasis had been famous for, and analyze his cosmetics and scents textbook.

Material and Methods: Historical research methodology is adopted. It is based on ancient Arabic medical books; historic medical publications of the ancients, contemporaries, and orientalists; and the nineteenth volume of Albucasis encyclopedia (al-tasrif liman ajiza an altaleef) Guide to novice practitioners. This volume is mainly about cosmetics and scents.

Results: By the study of commandments given by Albucasis we can mention:

1- The nineteenth volume of his encyclopedia, especially its first section, is unique; it is concerned with the preparation of perfumes and scents.

2- Albucasis considers that aromatherapy is a part of alternative medicine which involves the use of volatile botanical substances and aromatic substances; and it helps improve one's mood and temperament which, in return, helps improve general health.

Conclusion: Albucasis was a pioneer in the field of aromatherapy, He made several advances in perfumery and invented perfumed stocks, rolled and pressed in special moulds, similar to modern roll-on deodorants.

He also recommended that after laundry, clothing should be in a room full of incense or perfume, so that the clothes will give a pleasant fragrance.

Key Words: Islamic Pharmacy, Pharmacy in the Medieval Ages, Cosmetics, Albucasis, Beauty, al-Tasrif, Aromatherapy, Scent, Perfume, Fragrance, Volatile, Aromatic oil.

Introduction:

Archaeologists have found evidence that ancient civilizations such as Assyria, Babylonia, China, and Sumeria extracted and blended plant oils for ointments, fragrances and incense;(5) also the use of perfumes was first recorded in hieroglyphics in ancient Egypt when the use of aromatic oils, perfumes and fragrances in the highest religious acts are described;(6) Perfume has been used throughout history for a variety of reasons. So that people have used perfume, oils and unguents on their bodies for thousands of years in lesser or greater amounts dependant on fashion whims;(7) The Greeks and Romans used a wide variety of aromatics imported from Arabia, India, and further afield, the use of imported aromatics continued into the Islamic period, when a veritable golden age of commerce occurred. In the meantime a great amount of new material had come into use and been assimilated into the classical canons by the activities of Arabic civilization, (8) also the western Muslim physician and cosmetologist Albucasis who believed that holistic treatments (aromatherapy) were greatly beneficial, and developed the medical using of the essential and fatty oils and the scents and other perfume derivatives as we will see in the analytical study of the cosmetics treatise of Albucasis, so we suggest call him an aromatologist.

The Arabic word *'El-tib'* or *'Tyyb'* 'الطيب' is fragrant substance used as perfume to enhancing the body smell or the place smell and sometimes in treating some diseases, it consists of animal, and aromatic botanical substances such as musk, ambergris, cloves, camphor, sandalwood, and aloeswood; While the Arabic word *"Itr'* 'عِطْرٌ' also known as *'Ottor'* or *'Attar'* (masculine *'attar'* and feminine *'attarah'*) meaning a fixed perfume or fragrant oil distilled from flowers by distillation,(9) this term is used loosely to signify the spirit of the flowers; the names of most of them also passed into Persian and Spain and others from Arabic,(10) they used them not only for scents, but in medicine, cooking, and especially in religious offerings of incense.(8)

In English the word perfume is used today to describe scented mixtures and is derived from the Latin word *per fumus*, meaning through smoke,(11) while the term *aromatics* may used to denote them, and in Greek *aromatikoi*. (12) Aromatherapy is a method of therapeutic treatment developed during the present century, but mostly based on herbal remedies evolved over many centuries, in which the essential oils of aromatic plants are applied to the body by massage, in aromatic baths, or in compresses, or the aroma of them is inhaled, while the Aromachology is a branch of aromatherapy concerned with the physiological effects of scents, the term *'aromatherapie'* (13) was coined in the early 1900s by *'René-Maurice Gattefossé'*; (14) Islamic cultures contributed significantly in the development of Western perfumery in both perfecting the extraction of fragrances through steam distillation and introducing new, raw ingredients. Both of the raw ingredients and distillation technology significantly influenced Western perfumery and scientific developments, particularly chemistry;(11) especially the Muslim and Arabian scientist (5) in the 9-10th century, such as Jābir ibn Hayyān (Geber, born 722, Iraq) who developed many techniques, including distillation, evaporation and filtration, which enabled the collection of the odour of plants into a vapour that could be collected in the form of water or oil, and Al-Kindi (Alkindus, born 801, Iraq) who established the perfume industry, was the real founder of perfume industry as he carried out extensive research and experiments in combining various plants and other sources to produce a variety of scent products. He elaborated a vast number of 'recipes' for a wide range of perfumes, cosmetics and pharmaceuticals; and the Persian Muslim physician and chemist Avicenna (also known as Ibn Sina) introduced the process of extracting oils from flowers by means of distillation,(15) also Albucasis mentions several methods of distillation we well explain them in this article.

The importance of research:

The importance of research is to confirmation the fact that Albucasis believed that cosmetics and aromatherapy constituted a legitimate branch of medicine, which he called aromatherapy a concept that has been adopted by the modern perfumes industry with the advent of scent.

The arrangement of medical knowledge was the earliest text to deal with Albucasis also detailed procedures still used by today's aromatologist.

The aim of the research:

Definition by Albucasis, and to introduce the most significant achievements of Albucasis in the field of aromatherapy and shed light on the method of preparation of perfumes and scents which Albucasis had been famous for, and analyze his cosmetics and scents textbook.

Material and Methods:

Historical research methodology is adopted. It is based on ancient Arabic medical books; historic medical publications of the ancients, contemporaries, and orientalists; and the nineteenth volume of Albucasis encyclopedia *(al-tasrif)* Guide to novice practitioners. This volume is mainly about cosmetics and scents.

The Biography of Al-Zahrawi (Albucasis), The Author:

Abū al-Qāsim al-Zahrawī Known as Abulcasis or Albucasis in Europe; has a notable work, known as Kitab *"al-tasrif",* consists of 30 volumes on medicine, surgery, pharmacy, cosmetics, aromatherapy, and other health topics.(16)

The treatise 28th was translated into Latin and Provençal (17) with the title "*Liber Servitoris* (18) *de praeparatione medicinarum simplicium"*(19) describes about 1500 drugs. It was printed in Venice in 1471, It also contains a very clear description of the process of distillation,(20), (21) and provides the reader with recipes (15) and explains how to prepare the "simples" from which were compounded the complex drugs then generally used,(22) and it includes the practice of pharmacy where rudimentary physicochemical procedures such as pharmaceutical formulations are described.

The other treatise 19th is designed as a cosmetic and aromatherapy textbook, which is called (*Adwiyat al-Zinah*) "Medicine of Beauty", (23) that address similar aesthetic issues, (17) Albucasis divided this treatise into two parts, the second part is about cosmetics, while the first one deals with the preparation of perfumes, scented aromatics and incense, (23) and aromatic waters used in aromatherapy.

Albucasis pioneered the preparation of medicines by sublimation, distillation, (24) fusion and crystallization, evaporation and filtration, which enabled the collection of the odor of plants into a vapor that could be collected in the form of water or oil, besides the distillation (25) which is described in his writings.(20)

The techniques of distillation which are explained by Albucasis introduce the perfume industry guide lines, because his strategy in the scents industry depends on two main categories, the first one about classification of the aromatic substances, and the other one is how to produce and management of preparing methods related to chemical and physical and human practical guide lines; The aromatic chapter of the nineteenth treatise divides into ten sections as a following:(17)

1- Elements of fragrances' essences.
2- Types of essences: (Their effectiveness, their benefits and what can be used in making fragrances).
3- Ben oil, fragrant pastes, and other fragrant oils.
4- Manufacture of aromatic waters.
5- Making of fragrant decoctions.
6- Manufacture of incense-based preparations.
7- Manufacture of ambergris-based preparations.
8- Manufacture of fragrant hygiene preparations.
9- Preparations of medical aromatic preparations.
10- Fragrant recipes precautions and procedures.The writings of Albucasis lived three centuries later. (20)

An Analytical Study of the Perfume's Chapter in Kitab al-Tasrif:

This treatise which exists in manuscripts (26) but has not been published,(2) *Hamarneh* provides the first summary in English of this treatise, which is concerned with perfumes and cosmetics,(2), (27) and *al-Khattabi* insert some recipes of the (19th treatise) in his book "*ala'ghthiah wala'douiah a'nd moulfi alghrb alislami*" which means (the drugs and food used by Spanish-Muslim authors) .

He introduces some recipes in Arabic language,(29) but our search is depended on the original three copies (on microfilm) of (*al-Taṣrīf*) Manuscripts.(30)

Kitab al-Tasrif (28)

As we seen above Albucasis mentions several perfume substances and preparations**,** we did a several ways of classification to explain the treatise perfectly in easy way.

Our classification is according to the following items:

1- The Origin of the Fragrance Substances:

1-1: Animal sources:

- Ambergris: were secreted by the sperm whale.
- Honey: from the honeycomb of the honeybee.
- Beeswax: the yellow to grayish-brown wax secreted by the honeybee for constructing honeycombs. (31)
- Deer musk: originally derived from the musk sacs from the Asian musk deer.
- Gazelle dropping: it has perfumed properties.

1-2: Botanical sources:

- Volatile aromatic oil: it's prepared by distillation the aerial part of the plants, such as jasmine and others aromatic plants.

- Fixed fatty oil: it's prepared by compressed the seeds or roots of the plants.
- Other non-aromatic botanical substances: such as wormwood, storax, and pistachio, and others.
- Resin: such as frankincense, wood betony, and gum tragacanth, and others.

1-3: Other natural sources:

- Lichens: such as oakmoss.
- Fragrance talons of sea shells: perfumed adfar (azfār) which is protective outer layer created by an animal that lives in the sea. The shell is part of the body of the animal, it has perfumed properties.

2- The Physical and Pharmaceutical Forms of the Fragrant preparations:

- Solution: oily essence, aqua extracts.
- Semi solid: ointment, cream, lotion.
- Solid: sticky (buttery texture), powder.

3- The Fragrant Properties:

3-1: Basic substances:

Albucasis mentions the basic fragrant substances in the first chapter; we sort them alphabetical as following:

- ***ās***:'آس' myrtle,(32) *Myrtus communis*.
- ***Anbar or 'inbar***: 'عنبر' amber or ambergris, which is found in oily, grey lumps floating in the sea, mainly in the Indian ocean, or cast on to its shores. Speculation about the origin of this material persisted until the 19th century. The substance is excreted by the sperm whale (*Physeter macrocephalus*); Albucasis describes it as moderate hoot a substance.
- ***Ashen***: 'أشنة' moss,(32) *Lycopodium clavatum*.
- ***Ashnan***: 'أشنان' potash or glasswort '*Salicornia europaea var. herbacea L*' some references define it as *Anabasis aphilla,* this plant has an alkaline property and used in biblical "sope-making," were derived from the ashes of glassworts and other halophytic species. The potash was then mixed with olive oil; so that it was used to prepare an ancient soap by adding oil or vinegar,(33) as to the bible "Jeremiah/Yirməyāhū 2:22". (34)
- ***Azfār al-Tyyb***: 'أظفار الطيب' perfumed talons of sea shells.
- ***Ba'aer al-Ghazal***: 'بعر الغزال' gazelle dropping, it has perfumed properties.
- ***Busbatheh***: 'بُسباسة' nutmeg (32) fruits, *Myristica fragrans*.
- ***Cutran***: 'قطران' wood betony, (32) *Betonica Officinalis*.
- ***Dhurnub***: 'زرنُب' yew**,**(32) *Taxus baccata*.
- ***Duhun al-Balasān***: 'دهن البلسان' elder,(32) *Sambucus nigra*.
- ***Duhun al-Bān***: 'دهن البان' ben or Ben (32) oil, *Moringa oleifera*.
- ***Fagerah***: 'فاغرة' fagara,(32) *Xanthoxylum zanthoxylum*.
- ***Habak Qurunfulli***: 'قرنفلي حبق' kind of basil,(32) *Ocimum sp*.
- ***Hernuwah***: 'هرنوة' Albucasis mentions it as cayenne, it is an Indian aloe tree, *Aloexylon agallochum*.
- ***Iflanjah***: 'إفلنجة' Perfumed Indian seeds
- ***Juz bawwa***: 'چوز بو' nutmeg (32) leaves and barks, *Myristica fragrans*.
- ***Kabāba***: 'كبابة' cubeb,(32) *Piper cubeba*.
- ***Kafur***: 'كافور' camphor tree,(32) *Cinnamomum camphora*.
- ***Khayri***: 'خيري' keiri, English lavender, (32) *Lavandula angustifolia*.
- ***Koshour al-Itrej***: 'الأترج قشور' sweet orange,(32) *Citrus sinensis*.
- ***Ladhen***: 'لاذن' rockrose,(32) *Cistus ladanum*.
- ***Lubbān***: 'لبان' frankincense,(32) *Boswellia carteri*.
- ***Lubna***: 'لُبنى' or ***Mā'i'a Saeeleh***: 'مياعة سائلة' liquid storax,(32) *Liquidamber orientalis*.
- ***Mā' al-'anber***: 'ماء العنبر' ambergris water, *Physeter macrocephalus*.
- ***Mā' al-Kafour***: 'ماء الكافور' camphor water,(32) *Cinnamomum camphora*.
- ***Mā' al-Musk***: 'ماء المسك' muskmallow (32) water, *Abelmoschus moschatus*.
- ***Mā' Nawar al-Aas***: 'ماء نوار الآس' myrtle (32) flower's water, *Myrtus communis*.
- ***Mā' al-Qurunful***: 'ماء القرنفل' clove (32) water, *Caryophyllus aromaticus* or *Syzygium aromaticum*.

- ***Mā' al-Ward***: 'ماء الورد' rose (32) water, *Rosa centifolia*.
- ***Mā' al- Za'farān***: 'ماء الزعفاران' saffron (32) water, *Crocus sativus*.
- ***Mahleb***: 'محلب' mahaleb Cherry, *Cerasus mahaleb*.
- ***Mā'i'a Yābiseh***: 'مياعة يابسة' dried storax,(32) styrax, *Liquidamber orientalis*.
- ***Misk***: 'مسك' musk, *Moschus moschiferus*.
- ***Marteck*** or ***Almartak***: 'المرتك' almartaga of Arabic origin means litargirio or Litharge (see *http://en.wikipedia.org/wiki/Litharge)* is one of the natural mineral forms of lead (II) oxide, PbO. Litharge is a secondary mineral which forms from the oxidation of galena ores or lead ochre (*A Dictionary of Spanish mining terms, p 211*).
- ***Nabek***: 'نبك' nabk,(32) *Zyzyphus spina-christi*.
- ***Nesreen***: 'نسرين' dog rose**,**(32) *Rosa canina*.
- ***Oud or 'üd***: 'عود' aloewood, (*Excoecaria agallocha*), Aquilaria Spp, Also called Aloeswood, one of the most valuable of all perfume materials since it was introduced into Europe by the early Arabs during the 8th century AD.
- ***Oud al- Balasān***: 'عود البلسان' balsamea;(35) *Balsamodendron*.
- ***Qoshour al-Fwstuk***: 'قشور الفستق' pistacia, *Pistacia lentiscus*.
- ***Qoshour al-Twfah***: 'قشور التفاح' apple peels,(32) *Malus domestica*.
- ***Quret al-Ayyen***: 'قرة العين' water cress,(32) *Nasturtium officinale*.
- ***Qurfet al- Qurunful***: 'قرفة القرنفل' Ceylon cinnamon,(32) *Cinnamomum verum*.
- ***Qāqulla Kaberah***: 'قاقلة كبيرة' major or great cardamom,(32) *Elettaria cardamomum*.
- ***Qāqulla Sagherah***: 'قاقلة صغيرة' minor or small cardamom,(32) *Amomum aromaticum*.
- ***Qasab al-Dharira***: 'قصب الذريرة' calamus or sweet flag,(32) *Acorus calamus*.
- ***Qurunful***: 'قرنفل' cloves,(32) *Syzygium aromaticum*..
- ***Qust***: 'قسط': kust or cane-reed,(32) *Costus specious*.
- ***Qust hindi***: 'قسط هندي' Indian costus,(32) *Saussurea costus*.
- ***Rjel al-Hamam***: 'رجل الحمام' pigeon's grass,(32) vervain, *Verbena officinalis*.
- ***Sadarwan***: 'سادروان' saduran, a black odorless juice extracted from tree roots like major walnut tree; used in making fragrances and dying aloeswood.
- ***Salekha***: 'سليخة' Chinese cinnamon,(32) *Cinnamomum aromaticum*.
- ***Sandal***: 'صندل' sandalwood,(32) *Santalum sp*.
- ***Sandarous***: 'سندروس' sandarac,(32) *Tetraclinis articulate*.
- ***Sau'd***: 'سُعد' adrue, sedge, *Cyperus articulates*.
- ***Shama'***: 'شمع' wax, *Cera alba*.
- ***Shamam***: 'شمام' sweet melon, *Cucumis melo*.
- ***Sukk:*** 'سُك' Sukk is an aromatic preparation widely used perfume of the early Arabs which was based on pounded gallnuts, raisins and pomegranate seeds, with various fragrant materials added.(50)
- ***Sunbul***: 'سُنبل' Indian nard,(32) *Valeriana jata,* other suggested name sumbul (32) which is called musk root, *Ferula sumbul*.
- ***Ward***: 'ورد' rose,(32) *Rosa centifolia*.
- ***Wors***: 'ورس' turmeric,(32) *Curcuma domestica*.
- ***Yasamin***: 'ياسمين' jasmine,(32) *Jasminum officinale*.
- ***Za'farān***: 'زعفران' saffron,(32) *Crocus sativus*.

3-2: Supplement substances:

Albucasis mentions the supplement fragrant substances in recipes of the perfume and other fragrant preparations; we sort them alphabetical as following:

- ***afsantin***: 'أفسنتين' wormwood,(32) *Artemisia absinthum*.
- ***asterk***: 'أصطرك' kind of storax,(32) *Liquidamber sp*.
- ***'asal***: 'عسل' honey.
- ***'asal buni***: 'عسل بني' brownish honey.
- ***'asal ma'akoud***: 'عسل معقود' cooked honey.
- ***'ausfer***: 'عُصفر' safflower,(32) *Carthamus tinctorius*.
- ***bateekh***: 'بطيخ' watermelon,(32) *Citrullus lanatus*.
- ***cumkam***: 'كمكام' pistachio, *Pistacia terebinthus*.
- ***dakeek al-'ades***: 'دقيق العدس' lentil flour, *Lens exculenta*.

- ***dakeek al-bakela***: 'دقيق الباقلى' broad bean (32) flour, *Vicia faba*.
- ***dakeek al-foul***: 'دقيق الفول' bean flour, *Vicia narbonensis*.
- ***dakeek al-karsaneh***: 'دقيق الكرسنة' ervil flour, *Vicia ervillia*.
- ***dakeek al-sha'aeer***: 'دقيق الشعير' barley (32) flour, *Hordeum distichon*.
- ***dhanbaq rasasi***: 'زنبق رصاصي' White Lily,(32) *Lilium candidum*.
- ***dhanbaq raziqi***: 'زنبق رازقي' Lime,(32) *Citrus aurantifolia*.
- ***dhanbaq tayyb 'ateek*** : 'زنبق طيّب عتيق' linden,(32) lily, *Tilia species*.
- ***duhun al-hamahem***: 'دهن الحماحم' sweet marjoram (32) oil, *Origanum majorana*.
- ***duhun al-lüs al-taree***: 'دهن اللوز الطري' almond oil,(32) *Prunus amygdalus*.
- ***duhun al-sawsan mutayyib***: 'دهن السوسن المطيب' orris or iris (32) oil, *Iris species*.
- ***duhun habb qartam***: 'حب دهن القرطم' safflower (32) oil, *Carthamus tinctorius*.
- ***duhun keiri***: 'دهن خيري' garden lavender oil (32)*Lavandula angustifolia*, not to be confused with (keiri) wallflower (32) oil, *Cheiranthus cheiri*.
- ***habāk***: 'بحق' basil(32), *Ocimum basilicum*.
- ***hahy al-'alem***: 'حي العلم' golden moss or common stonecrop,(32) *Sedum acre*.
- ***kandar***: 'كندر' known as '***Lubbān zakār***', frankincense or olibanum,(32) *Boswellia Carteri*.
- ***kandas***: 'كندس' white hellebore,(32) *Veratrum album*.
- ***khamer 'ateek***: 'خمر عتيق' old wine.
- ***Khitmi***: 'خطمى' marshmallow,(32) *Althaea officinalis*.
- ***kusaerā baydā***: 'كثيراء بيضاء' gum tragacanth,(32) *Astragalus gummifer.*
- ***mā' al-ās***: 'ماء الآس' myrtle (32)water, *Myrtus communis*.
- ***mā' al-māzrancoush***: 'ماء شوكنرزمال' oregano (32) water, *Origanum vulgare*.
- ***mā' al-safarjal***: 'ماء السفرجل' quince (32) water, *Cydonia oblongata*.
- ***mā' al-samegh***: 'ماء صمغ' gum tragacanth (32) water, *Astragalus species*.
- ***mā' al-sawsan***: 'ماء السوسن' iris (32) water, *Iris species*.
- ***mā' rayhān***: 'ماء ريحان' sweet basil (32) water, *Ocimum basilicum*.
- ***marmahaur***: 'مرماحور' Syrian oregano, *Origanum maru*.
- ***mastikā***: 'مصطكى' mastic tree,(32) *Pistacia lentiscus.*
- ***māzrancoush***: 'مزرنكوش' sweet marjoram, *Origanum majorana*.
- ***murr***: 'مُرّ' myrrh,(32) *Commiphora molmol*.
- ***natron***: 'نطرون' natron (36) is a naturally occurring mixture of sodium carbonate decahydrate ($Na_2CO_3 \cdot 10H2O$, a kind of soda ash) and about 17% sodium bicarbonate (also called baking soda, $NaHCO_3$).
- ***jawz***: 'جوز' walnut,(32) *Juglans regia*.
- ***jawz al-tyyb***: 'جوز الطيب' nutmeg,(32) *Myristica fragrans*.
- ***jullanār***: 'جلنار' pomegranate blossoms,(32) *Punica granatum*.
- ***rand***: 'رند' daphne,(32) *Laurus nobilis*.
- ***ramik***: 'رامك' One of the most widely used of early Arab compound perfumes; it was also employed in medical preparations. Prepared on a base of mashed-up green gallnuts. (50)
- ***rayhān akhdar***: 'ريحان أخضر' wild basil, *Ocimum sanctum*.
- ***rubb mutayyib***: 'رُب مطيب' date Palm (32) sugary paste, *Phoenix dactylifera*.
- ***rubb al-'anāb***: 'رُب العنب' grape (32) sugary paste, *Vitis vinifera*.
- ***rummān***: 'رمّان' pomegranate,(32) *Punica granatum.*
- ***safarjal***: 'سفرجل' quince seeds,(32) *Cydonia oblongata*.
- ***samegh 'arabi***: 'صمغ عربي' gum Arabic,(32) *Acacia Senegal*.
- ***shama' abyed***: 'شمع أبيض' white wax, pure bee wax.
- ***sharāb 'ateek***: 'شراب عتيق'
- ***sharāb al-āb'asal al-tayyb***: 'شراب العسل الطيب' pure honey syrup.

- ***shebet al-rayhan***: 'شبت الريحان' dill,(32) *Anethum graveolens*.
- ***sherij tayyb***: 'شيرج طيب' scented sesame oil,(32) *Sesamum orientale*.
- ***sukar tabarzed***:(37) 'سكرطبرزد' rock candy, (also called rock sugar) is a type of confectionery mineral composed of relatively large sugar crystals. This candy is formed by allowing a supersaturated solution of sugar and water to crystallize onto a surface suitable for crystal nucleation.(38)
- ***sumsum***: 'سمسم' sesame,(32) *Sesamum orientale*.
- ***shybā baydā***: 'شيباء بيضاء' white wormwood, *Artemisia inculata*.
- ***tuffāh***: 'تفاح', apple tree,(32) *Malus domestica*
- ***tuffāh al-edhkher***: 'تفاح الإذخر' citronella, lemongrass,(32) *Cymbopogon citratus*.
- ***tranjān***: 'ترنجان' lemon balm,(32) *Melissa officinalis*.
- ***zayt tayyb***: 'زيت طيب' ***zyt al-mā'***, is an olive oil,(32) *Olea europaea*.
- ***zayt al-enfak***: 'زيت الأنفاق' wild olive oil.
- ***zaytton aswad***: 'أسود زيتون' black olive fruit.
- ***zingar yabis***: 'زنجار يابس' dried verdigris, a blue or green chemical (39) powder.

4- Traditional Type's Classification (Sort Alphabetical):

4-1: Anbar:

'عنبر' there is two meaning of the amber or ambergris, the first one is refer to the perfumed substance, it is found in oily, grey lumps floating in the sea, mainly in the Indian Ocean, or cast on to its shores. Speculation about the origin of this material persisted until the 19th century. The substance is excreted by the sperm whale (*Physeter macrocephalus*); it is used in making perfume preparations, while the second meaning is the perfumed oily mixture based on ambergris as a basic component mixed with other fragrant oils and plants such as crushed aloeswood and musk into which ambergris melted in rosewater is added. Then, the resulting mixture is ground. If added, Ben oil would make the ambergris more expensive; Albucasis classifies types of ambergris according to the kinds and quantities of musk, ambergris, and aloeswood used; so Albucasis mentions nine types of ambergris as following: splendid ambergris, fine ambergris, ambergris for the public, ambergris for kings and women, other ambergris for lords, simple ambergris (few ingredients), saffron ambergris, yellow ambergris, other yellow ambergris; we shall mention two recipes, the first one is splendid ambergris which is prepared as following: *"Separately crush and sift six pennyweights of good quality musk, five pennyweights of Indian aloeswood, and four pennyweights of sugar. Pour the mixture into a pot and crush one more time. Melt three pennyweights of blue ambergris with Ben oil in a tumbler then add it to the mixture in the pot. Gently smash the mixtures until the oil has dried then pour into a bottle. Prepare a lily bottle and Ben oil bottle together with some rosewater beforehand. Pour a little of each of the above-mentioned ingredients along with the previously prepared mixture and use at will."*(40) The second recipe Ambergris for the public which is prepared as following: *"Separately crush and sift an ounce of aloeswood half an ounce of musk. Together mix the crushed aloeswood and musk and crush one more time. Dissolve quarter an ounce of ambergris in rosewater than add it to the aloeswood and musk. Pour the mixture into a pot and crush until dry. To get a more enhanced recipe, add drops of Ben oil."* (40)

4-2: Ashnan:

'أَشْنان' Albucasis mentions it as a recipe for hygiene often refers to soap, which is prepared by mixing one or more kinds of legume flour (Fabaceae family) with fatty perfume substances and aromatic scents (we think that the reaction between the saponins contents of Legumes, which is a class of natural surfactant agents for making 'soaps' and the fatty acid come from fragrant fatty oils to create a soap-like substance "in chemistry, soap is an ester's salt of a fatty acid"); (41) in this treatise Albucasis sets forth two kinds of *'ashnan'* (external tablet soap, and internal detergent for mouth); Albucasis presents four recipes of *'ashnan'*: one used to clean the hands, cure freckles, and moisten the limbs, and two recipes used to cleanse the hands and remove unpleasant smells, another one as detergent agent for mouth and gum special for kings; We shall mention one of them for hands: *"Together grind and sift barley flour, lentil flour, and bean flour, thirty pennyweights of each; myrtle leaves, rose flower leaves, oregano, sweet marjoram, nabk ten pennyweights of each; sandalwood and costus five pennyweights of each; and clove and sukk and cardamom two*

pennyweights of each. Knead the mixture in watermelon juice. Make tablets and dry in the shade. Then crush the mixture, add camphor and leave it to mature or you may incense it with aloeswood." (40); Albucasis prepares the soap in a tablet form similar to tablet soap nowadays, another recipe for mouth as a following: *"Together grind and sift twenty pennyweights of musk, dried peels of watermelon, apple, citron, dry storax, oregano, ten pennyweights of each; adrue, sandalwood, costus and peeled mahaleb, four pennyweights of each; nutmeg fruits, cardamom, cubeb, clove, and aloeswood, two pennyweights of each; and one pennyweight of camphor. Then knead the mixture in good quality red drink. Make small tablets and dry in the shade. Then put the mixture in a pot and crush adding some camphor and leave it to mature or you may add some musk; this can be so useful for the mouth and gum."* (40)

4-3: Bān:

'بان' there is two meaning of the *bān*, the first one is refer to the perfumed oil which is prepared from ben seed oil, or safflower seed oil, or purified olive oil, its best kind has musky odour, in Latin *Moringa oleifera*, it is used as a fragrant stabilizer; one of the most important applications of ben oil, it is also used in making cosmetics preparations, while the second meaning is the perfumed oily mixture based on Ben oil as a basic component mixed with other fragrant oils and plants, Albucasis sets for two recipes of preparing the Ben mixture, the most important recipe which is called '*Iraqi, Barmaki Ben oil*' as following: "*Together crush and mix one pound of clove powder, one pound of 'iflanjah' powder and half a pound of flower leaves. Put the mixture in a pot and add ten pounds of pure Ben oil; leave the pot on smokeless, gentle heat to boil. Strain the Ben oil and put it aside. Meanwhile, prepare powder mixture of clove, Indian nard, and sandalwood, half a pound of each. Grind and add the mixture to the Ben oil already prepared and leave it to boil. One more time, strain the Ben oil and put it aside. Again, prepare powder mixture of 'hernuwah' and aloeswood, half a pound of each. Grind and add the mixture to the Ben oil and leave it to boil then empty the pot. Then add to the pot three pounds of the best kind of sukk called (musky sukk) then grind and mix perfectly with water; add some of the mixture to it and mix with light heating. Add the rest of the mixture while you mix it perfectly; the result is a superb mixture"* (40)

4-4: Barmakiyyah:

'برمكية' related to *'al-Barāmikah'* 'البرامكة' (pl. *barmakiāt* 'برمكيات') which is special incense's recipe is prepared especially to the Caliph of the Barmakids dynasty the barmakids are often credited with an interest in aromatics; (51) Albucasis presents three varieties of *Barmakieh*, one of them as a following: *"Together crush one ounce of Indian aloeswood, naval kust, a pennyweight and a half of yellow sandalwood, styrax, frostwort, terebinth, storax, and pomegranate, half a pennyweight of each, five pennyweights of good quality musk, a pennyweight of camphor, and a pennyweight and a half of saffron. Then, sift the mixture and add drops of elderberry oil. Knead the mixture in both apple and orris water. Make small pieces in the shape of hazelnut then dry in the shade. Once dried, add a pennyweight of ambergris and sprinkle some musk."*(40)

4-5: Bukhur:

'بخور' means incense, according to Albucasis, not only does incense have pleasant smells, but also they have many benefits: they do help treat cold, plague and fevers. They come in different shapes: balls, tablets and powders. Albucasis sets forth a description of six different types of incense as following (common incense recipe, incense for the public recipe, fragrant incense recipe, cheap incense recipe, slow-burning incense recipe, incense for treatment alzheimer), which are prepared in different pharmaceutical forms such as tablets, stamps, and powders, with multiple volumes similar to walnut seed volume (*'bunduq'* in Arabic) or yellow lupine seed volume (*'turmus'* in Arabic), or finely granulated volume (*'dhurur'* in Arabic); we will mention one recipe of the common incense designed for the public using as a following: *"You need one pound of kust, quarter an ounce of aloeswood, quarter an ounce of sandalwood, quarter an ounce of 'azfar', ten ounces of 'iflanjah', six ounces of clove, two ounces of 'basbaseh', one and a half ounce of 'hernuwah' and half a pound of 'ramek'. Soak the 'ramek' and some styrax in rosewater for one day then heat until dissolved. Roast the incense then add all ingredients to honey. Finally, sprinkle one ounce of camphor powder and the recipe is ready to use."* (40)*;* Albucasis also explains how to make slow-burning incense as following: *"Together mix one ounce of good quality aloeswood,*

three ounces of styrax, and quarter a pennyweight of musk crushed with little honey. Make tablets as the size of lupine and dry in the shade." (40)

4-6: Dharirah:

'ذريرة' (pl. *dharirat* 'ذريرات') is a kind of scented powder which was burned as incense many hours of the day and night, (51) this formula derevites from the word calamus, while this kind of perfume has no calamus plant in his ingridients, so that its name does not related to the compositions of its; it is a variety of compound fragrances. It is sprinkled and can be prepared via crushing and sifting fragrant plants which then are incensed by other fragrances. Then, it is left to mature. This is done differently depending upon the season in which it is used. In summer for instance, use camphor to help calamus mature. In winter, use musk. According to Albucasis, calamus is usually hot which can help strengthen the body organs such as the brain and the heart. In this respect, it is similar to *ghawali*; Albucasis sets forth a description of 20 types of *dhareerah*: two recipes of *Jafarieh* calamus, and two recipes *al-ghafikieh* calamus, camphor calamus recipe, light sandalwood calamus recipe, other sandalwood calamus recipe, light pink calamus recipe good in the summer, other pink calamus recipe, *al-hashemia* calamus recipe, two recipe of citron calamus, three recipes of algae calamus one of them are made especially for *Jafar Al-mutawakel*, light calamus recipe made with filtered adrue this recipe is one of Jafar bin Yahya bin Barmak perfumes (*min moust'amalatouh* من مستعملاته), redolent Iraqi calamus recipe made with fresh apple, other light calamus recipe made with adrue, other calamus recipe made with Egyption adrue, myrtle petals (nawar) calamus recipe, we shall mention the composition of the recipe of *Al-Jafarieh* calamus as a following: *"Crush, sift and incense one ounce of red flower, aloeswood and clove, third an ounce of each, yellow sandalwood, and Indian nard, a pennyweight of each. Add some camphor and nutmeg then leave it to mature. al-jafarieh calamus is especially good for the youth."* (40); Albucasis also talks about a pharmaceutical trademarks such as (*al-ghafikieh* calamus recipe and *al-jafarieh* calamus recipe and *al-hashemia* calamus recipe and others), also Albucasis suggests filling the fragrant powder in sachet as a pharmaceutical bags or compressing it in pharmaceutical forms such as (tablets, or similar to dinar volume), also he mentions three kinds of recipes (hot recipe, light recipe *'sazajeh'*, redolent recipe).

4-7: Duhun:

'هُنْد' (pl. *adhān* 'أدهان') it is perfumed aromatic oil**;** there are two kinds of it according to his components:

4-7-1: Simple perfumed aromatic oils: They consist of one kind of aromatic oil such as (rose oil, orris oil, jasmine oil, garden lavender oil, etc) mixed with carrier oil (fatty oil) such as (olive oil, sesame oil), they are prepared by two different ways as following:

"First method (old one): *Pick red dry flower and remove the white petals after it has completed one day and lost three fluid ounces of its liquid then soak it with extra virgin olive oil whose olives are not ripe yet. The flower must be soaked in a glass container and sealed by plaster; it can be prepared using one of the following methods:*

- *Put the glass container in the sun for forty days then filter and use.*
- *Lower the glass container into a well and keep it for forty days in the water; this helps preserve the flower fragrant in the oil.*
- *Bury the glass container in soil for forty days.*

Second method: *in this method, used by the Iraqis, sesame, preferably skinned sesame, is soaked in flower from seven to twenty times then squeezed. This method is used in the making of ointments made of jasmine, orris, and other kinds."* (40)

4-7-2: Compounds perfumed aromatic oils: They consist of many aromatic volatile oils mixed with other fragrant substances (non volatile) and carrier fatty oil, the method of preparation is as a following:

Mix the fragrant components then add them to the carrier oil, and get rid of the water then filter the mixture (the lower powdery phase may be used in preparing another fragrant past due to its perfumed smell) while the oily phase is the compounds perfumed aromatic oils (in a few recipes Albucasis vapors it with some fragrant incense).

Albucasis sets forth eighteen different types of compounds perfumed aromatic oils, some of them just for perfumed purposes for men or women, and others for treating some diseases such as tonic agents and beautification by anti oxidant agents, he classifies it by its cost (expensive or cheap), we mention the following recipe for example:

"Royal perfumed aromatic oil recipe: (*al-duhun al-malāqi al-muāshaq*) 'ادلدُهن المَلَكي المُعشّق' *mix an ounce of*

the following plants (indian seeds, nutmeg leaves and barks) and half an ounce of the following plants (nutmeg fruits, cloves, indian aloe tree, sumbul, chinese cinnamon barks, peeled mahaleb cherry, ceylon cinnamon) sift it then knead the mixture in rose water and incense the mixture with al-oewood and musk and camphor several times, then add a pound of white lily or lime and pound of garden lavender oil and half a *pound of fragrant rose and dried sweet melon and three apple fruits, stir and add basil then steam for a day then leave it for several days as a result the oily phase be on the upper layer screen it off it by a flax cloth then knead them with rose water and incense the mixture with musk and camphor then add to the mixture saffron stigma then screen it off before using it."*(40)

4-8: Ghāsül:

'غسول' or *'gāsleh'* 'غسلة' (pl. *ghāsülat* 'غسولات') is a kind of aromatic detergent solution, *"Together crush four pennyweights of clove, one ounce of natrun, and three ounces of bean flour. This mixture proves to be so useful and effective."* (40)

4-9: Ghaliyah:

or *ghaliya* or *ghalia* (52) 'غالية' (pl. *ghawali* 'غوالي') was ideally a mixture of musk and ambergris mixed with ben oil (42) used as an ointment;(8) also *"ghaliyat al-afawih"* made from herbs and perfumed with camphor, ambergris, and musk,(8) the Arabic name refers to the value of this preparation which id designed especially for the Caliphs or others rich people,(43) and it has active effect on the nervous system diseases by topical application which compares nowadays with the aromatic spa treatment, Albucasis says that it helps cure heart and brain minor illnesses and strengthen all body organs especially the internal organs. It is also useful for the elderly in winter, youths, and women suffering from changes of mood, Albucasis mentions ten recipes for preparing *ghalia* two of them for caliphs and rich people and one recipe called *al-ghalia al-Shahba* which means the white perfume due to using white amber called *anbar ashhab* and other recipe has moderate cost and other three recipe is cheap for festivals and parties (as public with low cost) while the last four recipes are made from different components to achieve the same result with low cost such as *ghalia* based on *tar* and other based on *martaga,* Albucasis mentions the preparation method as following: *"Crush and sift one ounce of musk; make sure you crush the musk gently so as not to be burnt. It is preferable if the musk is only sifted. Heat half an ounce of good quality ambergris. Leave it on gentle heat. As it starts melting, add a few drops of Ben oil. Drain the mixture and add to the musk in a kettle. Make sure that the ambergris is not very hot as it may ruin the musk. Crush the mixture and peel it with a gold plate; do not use a copper or metal plate so as not to ruin the mixture. Store the mixture in a gold or glass container."* (40) And he determines the most suitable time of makes it at dawn when there are temperate weather and gentle winds. It is preferable to make in spring, also he gives in details the most convenient tool to crush the musk is mortar made of pure gold or a glass kettle. Melt the ambergris in obsidian brought from Mecca and store in either a pure gold bowl or a white glass container.

4-10: Hadameh:

'الهضمة' or *'mahdoma'* 'المهضومة' (pl. *ahdām* 'أهضام') kind of traditional incense mixed with musk and ben oil, (44) which means digestive incense; it has a good aromatic smoke prepared as follows:"*Separately chop good quality aloeswood. Prepare some crushed musk and camphor and add some lily rosewater and boil until it turns black then add the chopped aloeswood and stir it up. Dry in a clean plate then adds ambergris after it has melted on gentle heat."*(40)

4-11: Hali Mutyabeh:

'مطيّبة حَلْي' (pl. ***hollyie*** 'حُلِيّ') Perhaps the source of this word related to "sweet", which means beautiful thing, and the word "costume" is the word began to be used from ancient times, and can say that it can be expressed as "ornaments" (jewelry) and (accessories) (45); It is no surprise that Albucasis concludes volume nineteen of his encyclopedia talking about the preparation of perfumed jewels, especially that he understands that fragrances, when inhaled, improve one's mood and help cure some illnesses. Albucasis sets forth seven perfumed jewels recipes: *'juman'* or silver pearls, musk jewels, camphor jewels, saffron jewels, clove jewels, flower jewels.

Preparing saffron jewels: *"Crush some saffron and some Arabic gum. Soak the Arabic gum in rosewater to soften and then mix a quarter of the Arabic gum with*

three quarters of saffron. Use the mixture to paint whatever jewels you want." (40)

Albucasis sets forth a recipe to dye jewels and necklaces with natural substances. *"Separately crush fennel leaved pondweed, sandarac* (32) *and dry verdigris, one pennyweight of each. Put some wax in a tumbler and put on low heat until it has melted and become like oil. Sprinkle some the fennel leaved pondweed over the melting wax and leave it to sink to the bottom. Sprinkle some verdigris (copper patina) over the melting wax and leave it to sink to the bottom. Now sprinkle some sandarac until the wax has completely thickened. Keep on fire until the wax has dried and become so solid. Take it off the fire to cool off. Then break the tumbler and take the colourful wax out. Now you can use it to make any kind of jewels, necklaces and decorated beads. You may also engrave them with whatever designs and inscriptions you like."* (40)

4-12: Khuluk:

'خُلوق' (pl. *khulukat* 'اخاَلُوقات') kind of perfumes,(46) may be its related to creation a good appearance by enhancing the aromatic smell of the body, it is a type of fragrance made from fragrant oils, incense, lily, aloeswood and the like; Albucasis sets forth the recipes of five kinds: one recipe used for tension, white recipe by Yehia Bin Masweih, high quality recipe, another recipe for women, yellow recipe for both men and women, we shall mention two recipes one of them for tension as following:*"Crush and sift some tragacanth then knead it in water and vapor it with muthallatheh for seven times. Add some mahaleb powder, camphor and fresh lily, and then add some tragacanth. You may leave the mixture white or color it with saffron. Knead until it becomes like marshmallow."*(40)*;* another recipe for both men and women called yellow *khuluk* as following: *"Together crush and sift half an ounce of saffron, two pennyweights of flower, and clove, cardamom and Indian nard, one pennyweight of each. Knead the mixture in lily then incense it with muthallatheh, add some camphor and leave it to mature."* (40)

4-13: Lufafeh:

'لُفافة' (pl. *lāfayef* 'لفايف') it is a kind of solid fragrance made of musk, ambergris, aloeswood, rosewater, and ben oil. It is shaped as a *'bunduq'* hazelnut template, Albucasis presents two *'al lāfayef'* recipes, one of which is used by caliphs as following: *"Separately crush two pennyweights of Indian aloeswood, two pennyweights of old musk, and a pennyweight of brown musk. Add quarter a pennyweight of camphor and mix together. Melt two pennyweights of ambergris. Sprinkle the mixtures with rosewater or water, and add the melted ambergris then knead the mixtures."* (40)

4-14: Lakhlakhah:

'لخلخة' (pl. *lakhalikh* 'لخالخ') it is type of moist compounded paste; the term meant a compound perfume which one could be smeared with. They could evidently be made into balls or lamps which could be rubbed to release their scent. There is a verb *lakhlakha* meaning to perfume the skin, so a *lakhlakha* was a confection designed for this purpose; (51) it is a combination of plant powders, plant essence and certain types of fragrances, and refers to activating aromatic preparation especially for the stomach as spasmolytic by anointing or rubbing with it, or using it as bandage, or by using it by inhalation its vapours, also sometimes it uses for common cold, liver disorders, and some mental disorders, there is another uses of it for the bath room especial for the kings and the rich men to exchange the local air and giving the activation effect by smelling its smell. Albucasis mentions eleven *'al- lakhalekh'* recipes: one recipe by Yehia Bin Masweih for stomachache in winter, another recipe for indigestion and strengthening the stomach, another recipe to strengthen the stomach, recipe for severe indigestion, White simple recipe, two black recipes, one recipe by Ibin Al Jazzar good for removing sputum and stomachache; also good for the elderly, recipe good for stomach weakness, recipe good simple; we shall mention three recipes of *'al-lakhalekh'* one of them which is prepared by Yehia Bin Masweih for stomachache in winter as following: *"Together crush and sift some clove, Ceylon cinnamon, adrue, mastic tree, wormwood Indian nard, aloeswood, kust, sweet flag and cardamom. Pour boiling water to soak the mixture then add some saffron to fix the color. Now add pure lily and incense with aloeswood for few days. The mixture can be either used to anoint patients suffering from stomachache or inhaled by the elderly who feel cold in winter."* (40); another recipe for toilet it can be inhaled or used to light lanterns as air freshener special for kings as following: *"Grind and sift some green basil after you remove the stalks. Incense the sifted basil with either nutmeg or styrax then pour it into a tumbler and soak it with perfumed nuduh. For each pound add two pennyweights of camphor and clove, nutmeg, Ceylon cinnamon, one ounce*

of each. The mixture can be used in bathrooms. If the mixture is not used for a while and gets dried, you may add some camphor and essences to soften it." (40); another recipe for stomach weakness as following: *"Together crush and sift half a pound of fresh myrtle, half a pound of newly picked flower, one ounce of white sandalwood, one ounce of fried nabk, some storax, perfumes sukk and half an ounce of aloeswood. Knead the mixture in myrtle water, rosewater, and apple water then incense with pure aloeswood and add two pennyweights of saffron. Bandage up the upper part of the stomach and change the bandage from time to time. Simultaneously, the patient should take the mixture orally; it helps strengthen the body in general and the stomach in particular. It also improves digestion."* (40)

4-15: Maliha:

'ملیحة' (pl. *malihat* 'ملیحات') is a kind of perfumes, its name means beautiful which is prepared as following: *"Take the same amount of Major Cardamom, Minor Cardamom, yew, iflanjah, nutmeg fruits, cubeb, Chinese cinnamon, Indian adrue, Indian nard, yellow sandalwood, sukk, clove, mahaleb, dried storax, rose, aloeswood, grind all ingredients then mix them and filter the mixture, then knead them with sufficient quantity of perfumed Ben oil, then vapor it three times with each of coquillages, and aloeswood, and vapor them one time with camphor, then knead the mixture with Ben oil, and keep it in a glass bottle till we need it."* (40)

4-16: Mā' 'itriah:

'ماء عطریة' (pl. *miāh 'itriah* 'میاه عطریة') which is an aromatic herbal water, which is prepared by distillation, Albucasis mentions the distillation method as a following: *"Pour five pounds of musk-rose water into a glass bottle and add an ounce of Indian aloeswood, preferably ground one. A bit more than an ounce is good as it enhances the scent. Seal the bottle and wrap it up with a clean, spotless cloth and leave it for five days. Then gently strain the mixture into a distillation bowl and pour it into another bottle. Take two pounds of the resulting water and add five pennyweights of saffron, five pennyweights of pure clove, and two pennyweights of nutmeg. Pour the mixture into a distillation bowl and seal it for one day then put it in a distillation oven on smokeless, gentle heat. Once you see water dripping, remove the bowl from heat. Separately, grind a carat of musk, a carat of ambergris, and two pennyweights of camphor. Pour them all to the distillation bowl and seal it again. Put it in the oven in order for the mixture to be distilled. This distillation process is characterized by three different colours representing three stages:*

- ***Stage one:*** *Pour the white distilled water into the first bottle; it is for caliphs and princes.*
- ***Stage two:*** *Pour the slightly yellowish distilled water into the second bottle and seal it with wax. It is for those below caliphs and princes.*
- ***Stage three:*** *Pour the reddish distilled water into the third bottle. It is for women."* (40)

Albucasis presents the recipes of nine types of distilled plants as a following: *'jawzeen'*(47) water (rose water which caliphs used as a scent in the past), camphor water, musk water, saffron water, clove water, sandalwood water, apple water, date water, after shave aromatic water; most of it is prepared base on the rose water and sometimes on the drink water for using it as a solvent for extraction the essence of the plant.

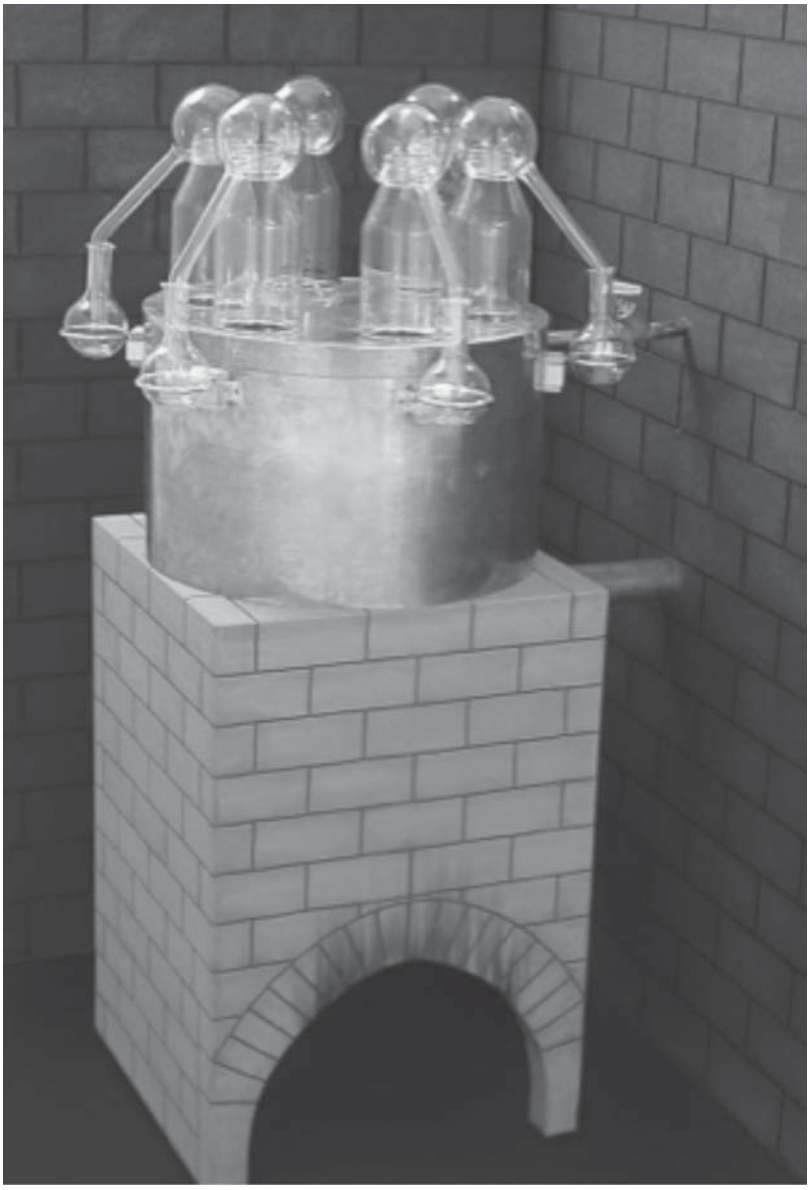
Apparatus for distilling rose water. Replica built by the Institute for the History of Arab–Islamic Sciences,

According to a description by the physician az-Zahrâwî from the late tenth century in Muslim Spain.

Image courtesy of Fuat Sezgin, Institute for the History of Arab–Islamic Sciences, University of Frankfurt, Germany. (48)

4-17: Musuh:

'مُسوح' (pl. *musuhat* 'مُسوحات') it's a fragrance paste: consist of some grinded fragrant plants mixed with fragrant fatty oils and aromatic oils to prepare a sticky perfume; this mixture is vaporized with some fragrant incense, Albucasis mentions nine fragrant medical pastes: (pure dog rose fragrant paste recipe, another dog rose fragrant paste recipe, magic fragrant paste recipe called *'sameria'*, another two magic fragrant paste recipes called *'quronfullia'*, Public fragrant paste recipe prepared by mahaleb cherry, rose fragrant paste recipe, cheap fragrant paste recipe, expensive fragrant paste recipe.); we shall mention one of them, the rose fragrant paste recipe *"Grind one dried flower, a third of aloeswood, and a quarter of sandalwood. Knead the mixture in pure camphor muthallatheh then incense with aloeswood for one day. Then add some sukk to the mixture to be ready."* (40)



4-18: Mutayeb Al-Thiab:

'يُطمب الثياب' (pl. ***mutayebat al-thiab*** 'مُطيبات الثياب') a recipe for perfuming clothes special for medical purposes to give it a fragrant smell, he was fully aware of the health benefits those substances had when it comes to treating some illnesses, also he classifies clothes perfumes into two types: first one is clothes perfumes with preventive properties from diseases, second one is clothes perfumes with curative properties, and they help improve the mood, the following recipe is designed for perfuming clothes in hot weather for both ill and healthy people: *"Dissolve yellow sandalwood in rosewater and add one ounce of camphor. Use the mixture to perfume clothes, coats, and quilts."* (40)

4-19: Muthallatheh:

'مُثلثة' (pl. *muthallathat* 'مثلثات') it means the "tripartite" the basic idea was that it consists of three main ingredients in equal proportion: musk, ambergris, and aloeswood, which is basically a combination with incense, fragrant plant

powders dissolved in rosewater, and honey, the important thing is presence of the camphor like the vapor rub cream which is used nowadays, especially for common cold treatment; the recipe of *'al-muthallatheh'* is prepared as following: *"Chop some kust and Indian aloeswood and yellow sandalwood. Knead crushed saffron in rosewater. Crush some camphor and mix with the dissolved saffron and leave it stand for a night. Then add incense and stir the mixture then pour it into a plate and dry it in the shade. Once dried, add hot honey and sprinkle some saffron and camphor over the mixture."* (40)

4-20: Nadd:

'نَدّ' (pl. *naddud* 'نددون') is a kind of aromatic medical incense, this variety of incense which has a lot of health benefits when used; Albucasis sets forth five *Nadd* recipes, for caliphs and for the nobility, and other recipes used in winter to cure cold, catarrh and coughs, and for changeable weather, It is made from aloeswood and fragrant plants and can be prepared in two methods:

- **The old method:** *"Together mix aloeswood powder and sugar and knead in water. Pour the mixture into wooden moulds that have a silk layer. Dry in the shade then add ambergris. After the mixture has melted, once again add aloeswood and it is ready to use."* (40)

The recipe as stated by Albucasis: *"Together mix and crush an ounce of aloeswood, two pennyweights of sugar and some camphor then sift the mixture using a thick sieve then knead in water. Make wooden moulds and fasten silk rags to them. Pour the mixture and leave it in the shade to dry. Melt some ambergris and add drops of water then put the melted ambergris on fire for a while and take it away."* (40)

- **The modern method:** *"Together mix aloeswood powder with fragrant plants and sugar. Add vintage wine and knead well. Shape the mixture as needed and leave it in the shade to dry."* (40)

Albucasis sets forth a useful recipe of aloe wood for cold, catarrh and coughs as following: *"Together mix two pennyweights of yellow sandalwood and saffron, a pennyweight of sytrax, storax, Indian nard, frostwort, and (sukar tabarzad) kind of hard sugar. Crush and sift good quality aloeswood, origanum, and citron peels then pour vintage drink and knead well. Dry in the shade. It is used in winter and can be particularly useful to cure diseases."* (40)

4-21: Nuduh:

'نُضُوح' (pl. *nuduhat* 'نُضُوحات') refers to the aromatic cleaning agents, special for the mouth which called nowadays fragrance mouthwash, which means in Arabic the process of losing the inner water, (we think that because the method of preparing it depends on losing some of its component by the "*ta'tik"* which means concentration and enhancing the adsorpition of the aromatic substances), which made from essence of grape or apple or other plants which is called "*rubb* بُر" means marmalade mixed with fragrant plants and herbal water then vapor them with incense, this mixture is designed to use for both men and women, when used by men, contains neither turmeric nor saffron. However, when used by women, it does need to contain half an ounce of saffron and quarter an ounce of turmeric for each pound of fragrance; Albucasis presents three recipes of *'nuduhat'* we shall mention one of them as a following: *"Extensively boil grape marmalade and remove the foam. Together mix and crush mahaleb peels, and dry storax, half an ounce of each, and one ounce of kust. Put the mixture in a metal or pottery frying pan and add two pounds of dry sifted basil. Knead the mixture in the pan then put the frying pan on fire and cover it with a plate or lid in order for the incense to remain. Keep on fire and make sure that the mixture underneath the basil has burnt so that the basil absorbs the smoke. Now add the resulting mixture to ten pounds of grape marmalade already prepared. Make sure you do not add the basil before the grape marmalade has cooled. Add dry storax and Ceylon cinnamon, three ounces of each. Add flower leaves, mahaleb core, cubeb, fagara, adrue, clove, and nutmeg, one ounce of each. If you wish to add more amounts of these ingredients, you may get an enhanced mixture that can last longer. Crush and sift the mixture then add to the grape marmalade and basil. Make tablets and leave them to dry in the shade. Then take them back to a pot and crush with two pennyweights of sukk once again add some camphor and leave the mixture to mature or you may add some musk which can make the mixture useful for the mouth and gum."* (40)

4-22: Sebag Mutyab:

'صِباغ مطيّب' (pl. *asbega mutybeh* 'أصْباغ مطْيبة') a recipe for dying and perfuming clothes special for medical purposes to dye it with natural colors and give it a fragrant

smell, he was fully aware of the health benefits those substances had when it comes to treating some illnesses, also he classifies natural dyeing perfumes for clothes into two types: first one has preventive properties from diseases, second one has curative properties, and they help improve the mood, one recipe with dyer's saffron, one recipe with dyer's saffron and dyer's safflower, two recipes with dyer's red Damask rose, one recipe with dyer's yellow sandalwood, we shall mention some recipes: recipe for dyeing perfumed clothes as following: *"Separately crush two thirds of musk and a third of ambergris. Melt the ambergris in one drop of Ben oil and leave it for an hour to cool off. Add the crushed musk to the ambergris and pour the mixture into a pot to crush again. Now pour the mixture into a pottery pot filled with lily rosewater and put the clothes in it, afterwards, take the clothes out and dry them using your hands. Make sure you dry them in places where there is no sun or smoke."* (40)

Albucasis talks about two recipes for perfuming and dying clothes that can help stop diarrhea and cure some digestive disorders related to the oesophagus and the intestines. These perfumes are especially good for the elderly. They are two: one of them is used to dye a diaphanous dress worn in the summer to strengthen the body organs and cure digestive ailments, another one a recipe used to dye a diaphanous dress worn to help get rid of any phlegm ailments that the elderly suffer from as following: *"Together crush and sift half a pound of white sandalwood, two ounces of flower powder, two ounces of saduran, half an ounce of sukk, a pennyweight of saffron. Knead the mixture in rosewater and myrtle water. Add some camphor and leave the mixture to mature. Dye the diaphanous dress and dry it in the shade. Put the dress in a sealed container and incense with aloeswood and sandalwood. Patients wear the incensed dyed dress, hold fresh flower, and put al lakhalekh on their stomachs as we mentioned earlier."* (40) Also there is a recipe used to dye a diaphanous dress worn to help get rid of any phlegm ailments that the elderly suffer from as following: *"Together crush perfumed sukk and sift half a pound of white sandalwood, half an ounce of mastic tree, cardamom, half an ounce of brownish aloeswood, nutmeg fruits and leaves and barks, saffron, a pennyweight of each. Dissolve the mixture in rosewater sufficient to soak the dress. Add ten cups of apple water and leave the mixture to mature. Dye the dress and give it to the patient; it is so useful for diarrhea."* (40)

4-23: Shahirieh:

'شاهريه' (pl. *shahiriat* 'شاهريات') is a kind of fragrance that contains lily instead of Ben oil as in *'al-ghaliyah'*, Albucasis lists two kinds of *'al-shahirieh'* one of them is called *"shahiriate beni Hisham"* recipe as follows: *"grind and filter three derhams of musk, three derhams of sukk and four derhams of Indian aloeswood , then add two derhams of black amber. Put in damask glass bottle with some old ben oil, then add two pennyweights of white lily, then mix all ingredients and keep till using. Add an amount of it with half an amount of rose water to be ready for use."* (40)

5- The Preparations Cost:

It is surely the most important components of the perfumes are the basic fragrant substances as we sort above, other ingredients were often added, some to extend the perfume without the use of more expensive ingredients, and sometimes other valuable ingredients were added, according to this Albucasis mentions three types of the perfume recipes according to its cost as following:

5-1: Expensive: just for Caliph and for important and rich people.

5-2: Moderate: has reasonable cost.

5-3: Cheap: for public uses.

Albucasis sets forth his observations that resulted from his long-term pharmaceutical experience in making various types of fragrances and cosmetics. Such observations shall help pharmacists overcome numerous obstacles and problems that they encounter during manufacture. He also makes mention of different inexpensive solutions to those problems in the tenth section which has a title **'**recipes precautions and procedures', Albucasis had a marvelous skill in choosing natural substances that were an alternative to those used in making of *'al-ghaliyah'*; his main concern of this procedure was to reduce the cost of *'al-ghaliyah'* making. He calls this *'al-shafakah'* means cheap formula, such as the management of saduran in preparing *'ghaliyah'* to reduce cost as following: *"After you have separated it from soil, put some pure black saduran in a frying pan and put it on fire. Stir-fry until fried like wheat. Sprinkle some pure water. Now stir-fry again and sprinkle some water, too. Repeat this four times.*

Leave it to cool off then crush and sift using silk. Pour into glass tumbler and add some water. Leave it for one night. Strain and slowly add the water to the musk water in the shade. Crush it and leave it to dry then sift with silk, then use it" (40)

And the management of musk in preparing *'ghaliyah'* to reduce cost as following: *"If you want cheaper musk preparations crush good quality of sukk using a thick sieve. Put the sukk in a glass pot and drop some ben oil; keep crushing until smooth, otherwise if you want most expensive musk preparations you may crush it with pure musk, this shall also give a stronger fragrance."* (40)

Albucasis also mentions four methods to handle tar used in the making of *'ghaliyah'* based on tar which has a reasonable cost; we shall mention one of them here as following: *"Pour ten pennyweights of Damasian tar into a vitrified tumbler. Heat the tumbler for two or three times. Add ten pennyweights of white hellebore powder after it has been sifted by silk. Stir the mixture and leave it to cool off."* (40)

Albucasis explains how to make the martaga which is used to reduce the cost of *'al-ghaliyah'* making as following: *"Crush one piece of martaga until it becomes like kohl. Add good quality Ben oil, an amount which is seven times greater than the martaga, put the mixture on coal fire and keep stirring in order for the musk not to sink to the bottom. Take a small amount of the mixture and put it on a smooth stone. If it becomes similar to ointment, you should know that it is ready."*(40)

Albucasis types two methods to roast pistachio used in the making of cheap *'ghaliyah'* , we shall mention one method here as following: *"Peel some pistachio and roast it in a new frying pan or in a pottery bowl. Crush the pistachio adding some fragrant ointment. Incense for several times with aloeswood and ambergris."* (40)

The Results and the Discussion:

The study of the commandments which given by Albucasis can be inferred and discuss the following results:

- **First:** Albucasis was a distinguished figure especially when it comes to the making of various types of pharmaceutical forms related to perfume.
- **Second:** Albucasis is considered the true founder of aromatherapy. His highly sophisticated taste and talent in making recipes is evident in each and every product he mentions in his encyclopedia.
- **Third:** Albucasis mentions clearly major spectrum of perfume and scents; attitudes about aromatherapy did not undergo another shift until one thousand years later, when the physician and aromatologist Albucasis believed that aromatherapy constituted a legitimate branch of medicine.
- **Forth:** Albucasis was pharmaceutical technician and has a wide knowledge in the aromatherapy field cause he introduced unique compositions and easy way to preparing it.
- **Fifth:** Albucasis is considered to be the most effective inventor in this field and maybe he was the first who was talking about the following items:

1- Albucasis mentions a dying and perfuming clothes special for medical purposes.

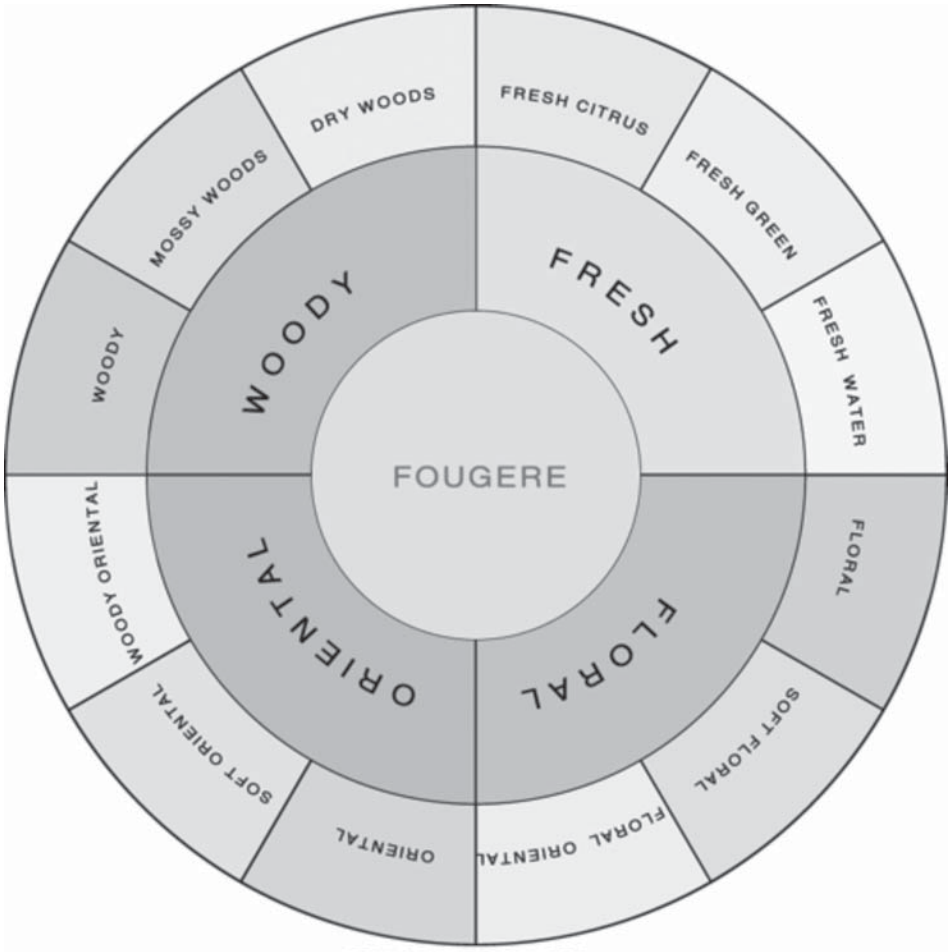
2- Albucasis mentions the *muthallatheh* recipe for treatment the respiratory tract diseases based on the camphor contents like the vapor rub cream by topical application.

3- Albucasis mentions a slow-burning incense recipe.

4- Albucasis explains a special distillation method of plants, and he pioneered the preparation of medicines by sublimation and distillation. (55) and evaporation and filtration, which enabled the collection of the odor of plants into a vapor that could be collected in the form of water or oil; also he Introduced improvements to the evaporation methods of liquidation, distillation, fusion and crystallization.

5- Albucasis understands the main rules of compounding the components of the perfume preparations, and he classifies the perfume substances in special way closely like the modern classification (fragrance wheel) (53), the sub-groups of the fragrance wheel are as following: (49) (54)

5-1: Floral: floral, soft floral, floral oriental (*fresh-cut flowers; aldehydes powdery notes; orange blossom sweet spices)* such as jasmine, rose water…



FRAGRANCE WHEEL
created by Michael Edwards, 1983

5-2: Oriental: soft oriental, oriental, woody oriental *(incense & amber; oriental resins)* such as ambergris …

5-3: Woody: woods, mossy woods, dry woods, aromatic *(dry woods & leather;* oakmoss *& amber; aromatic woods & vetiver)* such as frankincense, sandalwood…

5-4: Fresh: citrus, fruity, green, water *(aquatic notes; green notes; fruits; citrus oils)* such as lavender, sweet orange …

5-5: Aromatic: such as fagara, rose water…

5-6: Fougére: is a fifth family that is in the centre of the fragrance wheel; fougére has a universal appeal as it combines the elements of the other four families, such as oak moss.

6-Albucasis classifies the using of perfume preparations as follows:

6-1: Aesthetic values: To enhance the smell of the body as an important part of beautification making as good social habits, and some recipes for beatification and take care of the skin such as *'duhun al-jamal'* beautification perfume recipe.

6-2: Medical properties: Albucasis classifies the active and basic fragrant substances into four groups according to its properties:

- **The first group** is hot and dry fragrant substances: such as amber, nutmeg fruits, and elder…
- **The second group** is cold and wet fragrant substances: such as oak moss.
- **The third group** is cold and dry fragrant substances: such as myrtle, camphor tree, and rose water…
- **The fourth group** is moderate in hot and cold: such as cubeb.
- **This classification serves the practician in two subjects:**

6-2-1: Technical guide: to know how to mix the different types of fragrant components, which is similar to the modern way of mixing the essence depending on the tone classification: the note of head (high tone) – the note of heart (middle tone) – the basic note (low tone).

Also Albucasis types the fragrant substances according to the possibility of heated it in the fire process into two groups:

A- Heated substances: such as musk, nutmeg, and sukk…

B- Unheated substances: such as cubeb, sweet flag, and fagara…

6-2-2: Therapeutic guide: which is depending on the treating by oppositing the symptoms such as when the disease is hot the drug must be cold and vise versa so that Albucasis depends on this classification in his strategy of treatment.

This is exactly an aromatherapy; Albucasis talks about many diseases could be treated by aromatherapy as following:

- **Medical fragrant preparations for topical application:** for dermal diseases treatment, for systematic disorders management, by using several pharmaceutical forms such as creams, ointment, and bandage or by perfuming the clothes for medical purposes.
- **Medical incenses:** for treatment by inhalation, and others for purifying the air and treating the epidemics.

Albucasis talks about many diseases which are treated by aromatherapy such as: treating the mental disorders, and the digestive disorders and the respiratory tract disorders, and some skin disorders such as dermatitis…

7- Albucasis Classifies the Perfumes According to Gender as Follows:

7-1: Feminine fragrances: such as perfume's based on saffron and turmeric, and third kind of the rose water which is prepared by distillation, and myrtle petals (*dhareerate nawar al- ās*) calamus recipe...

7-2: Masculine fragrances: *'nuduh'* recipe without saffron and turmeric, and other perfumes recipe based on camphor, and first kind of the rose water which is prepared by distillation …

7-3: Unisex perfume recipes: for each men and women such as *'al-ghafikieh'* calamus recipe, and *'al-khuluk'* perfume recipe …

8- Albucasis Classifies the Perfumes According to Age Stage of Users as Follows:

8-1: special for children: such as *'al-ghaliyah'* perfume recipes…

8-2: special for teenagers: such as *'Jafarieh'* calamus perfume recipes…

8-3: special for elders: such as *'duhun al-Itrej'* sweet orange aromatic oil recipe…

9- Albucasis Classifies the Perfumes by Season as Follows:

9-1: Summer scents: such as the camphor preparations, and rose calamus recipe…

9-2: Winter fragrances: such as the musk preparations, and light calamus recipe made with adrue…

Conclusion:

The commandments of Albucasis are set of rules that must be performed by aromatologist and is currently used aggressively by pharmacists especially in the industry of perfumes.

So Albucasis was the father of cosmetics and perfumes and scents, and his cosmetics chapter was the first original contribution to cosmetology worldwide.

Apart from being a skillful surgeon, Albucasis both revived various kinds of perfumes and their preparations and developed aromatherapy and its applications.

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Albucasis, the Notable Cosmetologist Worldwide

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Summary

Introduction: Cosmetology is the scientific study and application of aesthetic and therapeutic cosmetic products used beautify the face, hair, and skin, including make-up and cosmetics toiletry, and special female care products; this science is the newest branch of pharmacy.

The notable Arab Andalusian cosmetologist Abu al-Qasim al-Zahrawi (Albucasis) considered cosmetics a branch of medicine, which he called (Adwiyat al-Zinah) "Medicine of Beauty"(1), ('Ziynet' in Turkish) calls to mind ornament and ornamentation;(2) and in which he addresses similar aesthetic issues.(3)

Aim of the paper: is to introduce the most significant achievements of Albucasis in the field of cosmetology and shed light on the method of preparation of cosmetics and the drugs of beautification which Albucasis had been famous for, and analyze his cosmetics textbook.

Material and Methods: Historical research methodology is adopted. It is based on ancient Arabic medical books; historic medical publications of the ancients, contemporaries, and orientalists; and the nineteenth volume of Albucasis encyclopedia (Al-Tasrif Liman Ajiza An Altaleef) Guide to novice practitioners. This volume is mainly about cosmetics and scents.

Results: By the study of commandments given by Albucasis we can mention:

1- The nineteenth volume of his encyclopedia, especially its second section, is unique; it is concerned with the preparation of cosmetics.
2- The medicated cosmetics he invented includes under-arm deodorants, hair removal sticks, hand lotions, hair dyes for changing human hair color to blond or black, hair care for correcting kinky or curly hair, and early suntan lotions, describing their ingredients and benefits in depth, and a remedy for bad breath resulting from eating garlic or onions.(4)
3- Other cosmetics he invented include solid lipsticks which were perfumed stocks rolled and pressed in special moulds.
4- He also described the care and beautification of hair, skin, teeth and other parts of the body. (4)

Conclusion: Albucasis was the father of cosmetics and beauty treatment, and his cosmetics chapter was the first original contribution to cosmetology worldwide.

Apart from being a skillful surgeon, Albucasis both revived various kinds of cosmetics and developed cosmetology and its applications.

Key Words: Islamic Pharmacy, Pharmacy in the Medieval Ages, Cosmetics, Albucasis, Beauty, al-Tasrif

Introduction:

Beauty is an important reflex of human nature; beauty needs three elements: the sender, the receiver and the signal of transmit, so the sender here is the one who wants to be beautiful and the receiver is the one who wants to see and like it, and the signal here is the key factor.

So there are two areas related to beauty: the first one is emotional and the second one is physical, the emotional is not affected by the time and the place; it is related to the love and relations. The physical is related to measurable factors like the length, body shape, purity, shining of the skin, and other factors.

The art of beautification is called cosmetology (from Greek *κοσμητικός, kosmētikos*) (5) is the study and application of beauty treatment. Branches of specialty including hairstyling, skin care, cosmetics.

And the Arabic word refers to the cosmetology is *el-zynah* (الزينة) and *el-tajmeel* (التجميل) which means being beautiful.

Cosmetics are substances used to enhance or protect the appearance or odor of the human body. Cosmetics include skin-care creams, lotions, powders, perfumes, lipsticks, fingernail and toe nail polish, eye and facial makeup, permanent waves, colored contact lenses, hair colors, hair sprays and gels, deodorants;

The first pharmacist who is talking about this art as a separate is Abu al-Qasim(6) Khalaf (7) al-Zahrawi(8).

The importance of research:

The importance of research to the fact that Albucasis believed that cosmetics constituted a legitimate branch of medicine, which he called the medicine of Beauty – a concept that has been adopted by the twentieth century cosmetics industry with the advent of claimed anti – aging products.(9)

The Arrangement of Medical Knowledge was the earliest text to deal with Albucasis also detailed procedures still used by today's cosmetologists.

The aim of the research:

Definition by Albucasis, and to introduce his most significant achievements in the field of cosmetology and shed light on the method of preparation of cosmetics and the drugs of beautification which Albucasis had been famous for, and analyze his cosmetics textbook.

Material and Methods:

Historical research methodology is adopted. It is based on ancient Arabic medical books; historic medical publications of the ancients, contemporaries, and orientalists; and the nineteenth volume of Albucasis encyclopedia *(Al-Tasrif Liman Ajiza An Altaleef)* Guide to novice practitioners. This volume is mainly about cosmetics and scents.

The Biography of Al-Zahrawi (Albucasis), The Author:

Abū 'l-Qāṣim(11) al-Zahrāwī, (12) or Abol-ghasem (13) Khalaf Zahravi, (14) known in the west as Albucasis or Alsaharavius,(15) was born in Zahara near Córdoba (d.1013 A.D).(16)

Albucasis's works were very important for medicine, the influence of his works extended to as late as the 18th century(17); Albucasis was a pharmacist, chemist and cosmetologist who dedicated a special chapter of his book *(Kitab al-Tasrif)* (18) to cosmetology(4), his famous medical encyclopedia is comprised of 30 treatises, the treatise nineteen on cosmetics richly spiced perfumery, toiletries, hair dressing, and delicacy and charmer adornments; eye salves (pulverized as in kohl, and in liquid form for drops); and mouth and gum drugs.(19),(20) Later on, this chapter was translated into Latin and was used in the West.(21) There are many copies of the manuscript related to this book, Hamarneh provides the first summary in English of this treatise, which is concerned with perfumes and cosmetics,(19) and al-Khattabi insert some recipes of the (19th treatise) in his book *"ala'ghthiah wala'douiah a'nd moulfi alghrb alislami"* which means (the drugs and food used by Spanish-Muslim authors) these recipes in Arabic.(22)

The Cosmetic Textbook (Kitab al-Tasrif) Analysis:

The nineteenth treatise as a cosmetic and aromatherapy textbook is divided into two parts: the first part deals with the preparation of perfumes, incense, aromatic waters used in aromatherapy, while the second part is concerned with techniques and products for the care and beautification of the body, nine of the ten chapters of this part are directly connected with physical appearance and cosmetics; the last chapter is concerned with gynecology (3) as follows:

1. Hair dyes for grey hair.
2. Hair growing recipes, hair curling recipes, hair shaving recipes, hair preserving recipes & hair removing recipes.
3. Hair growing & blackening recipes for eyebrows and eyelashes.
4. Face lotions good for face color, freckles, small pox, & cleansing & exfoliating face skin.
5. Recipes for mouth's bad breath, gum, reddening lips and whitening teeth.
6. Voice and sore throat recipes.
7. Moisturizing recipes for skin dryness and thickness.
8. Deodorants for armpit, elbow and thigh odour.
9. Recipes for tautening breasts.
10. Recipes for the vulva (odours, wounds and excessive vaginal wetness).

The main topic in this chapter is divided into three lines, the first one is toiletry and the second is therapeutic cosmetics and the third is the cosmetic industrial information; Albucasis used many pharmaceutical forums such as (cream,

ointment, mask, oil, extract, lipstick, external tablet, mouth wash, lotion, solution, powder, and others) to introduce his variety products to be more suitable to everyone and there is another classification related to the cost of the product such as (expensive and cheap), in our study we depend on three copies (on microfilm) of (*al-Taṣrīf*) Manuscripts(23), and we arrange the pervious ten chapters in following classification:

1- Hair care recipes.

2- Skin care recipes.

3- Aesthetic recipes.

4- Dentistry cosmetic recipes.

5- Female care recipes.

1- Hair care recipes:

Albucasis was interested in the hair treatment and beautifying so here he sets forth twenty seven recipes for cosmetics and drugs used to cure hair diseases that are connected with the scalp and hair problems, he points out that the most effective way to have smooth straight hair is to relax and constantly have healthy foods and drinks, then there is some recipes as follows:

1-1: Strengthening hair: for example Albucasis sets forth an ointment as follows: *"Together mix two ounces of green myrtle leaves, poley, dry olive leaves, gall oak, sweet sumac, pomegranate blossoms, and dry white willow leaves, one ounce of each, half an ounce of Indian nard and half an ounce of green henna leaves. Boil in six pounds of water and two pounds of green olive oil on gentle heat so that the water evaporates, and the ointment remains. Fill in bottles and apply over the hair when needed."*(24)

1-2: Strengthening hair roots: for example Albucasis sets forth a lotion as follows: *"Stir-fry some salt and leave it to cool off, then crush and sift. Add sugar and marshmallow whose amount is just equal to the amount of the salt. Then add wild olive oil or sweet sesame oil. Now apply to the hair; it is very useful."*(24)

1-3: Thickening hair: for example Albucasis sets forth a lotion as follows:*"Together mix cypress leaves, pomegranate blossoms, dry myrtle, dry poley, dry apple leaves, white willow leaves, olive leaves, and Swiss chard leaves, one ounce of each; wormwood, maidenhair, marshmallow, zedoary, cardamom and juniper half an ounce of each. Boil in seven pounds of water and three pounds of sweet sesame oil on gentle heat so that the water evaporates, and the ointment absorbs the effective ingredients of the herbs. Leave it to cool off and pour into a glass container. Apply over the hair when needed."* (24)

1-4: Preventing hair's damage: for example Albucasis sets forth tablets for external use as follows: *"Together crush and mix, fenugreek, alfalfa paste, myrtle beans and leaves, white henbane and sweet sumac, one ounce of each, and poley and gall oak, ten ounces of each. Put the mixture in a pot and pour an amount of water five times greater than that of the mixture. Leave it on gentle heat until it has become like honey. Dry in the shade and make big tablets. When needed, crush the tablets adding fresh myrtle water and apply over the hair then wash after midday."* (24)

1-5: Increasing hair density: for example Albucasis sets forth a lotion as follows: *"Soak some frostwort in gall oak juice for one day. Then grind using a pestle and mortar adding some myrtle oil. Grind one more time adding the gall oak juice until thick like honey. Mix with crushed, sifted coriander forming half of the mixture. Then add myrtle oil or valerian oil."*(24)

1-6: Hair lengthening: for example Albucasis sets forth a mask as follows: *"Gently knead sugar cane ashes in myrtle oil and apply over the hair. You may add some frostwort; it makes the recipe more effective."*(24)

1-7: Preventing casual hair loss&Curing alopecia: for example Albucasis sets forth a suspension as follows: *"Crush dry club moss and knead in water, then bandage the head up with the mixture."*(24)

1-8: Growing the eyebrows and beard hair: for example Albucasis sets forth a mask as follows: *"Knead some civet and sweet annie ashes in old oil and rub the body parts where hair is little every night."*(24)

1-9: Preventing and curing baldness: for example Albucasis sets forth a mask as follows: *"Together crush and mix equal amounts of maidenhair, myrtle leaves, pine tree bark, rockrose and myrrh adding old drink and radish. Apply over the hair at night and wash it in the morning."*(24)

1-10: Curing Herpes: for example Albucasis sets forth tablets for external use as follows: *"Soak qaimuliya (kimolia) clay (the baby mud) in gall oak juice or mulber-*

ry jam. Sprinkle with little white henbane powder. Knead the mixture and make in the shape of big tablets then dry in the shade. When you need to use it, soak in water then apply over the hair and leave it to dry then wash the head. Do this once every five days." (24)

1-11: Cooling the head: for example Albucasis sets forth a lotion as follows:*"Together mix, crush and sift myrtle leaves, apple leaves, dry white willow leaves, red flower leaves, and cypress leaves, one item of each, sweet sumac, pomegranate blossoms, black catnip and gall oak, 'ramek' (kind of perfume substance), half an item of each. Apply over the hair and leave it for a while. Now wash with water after you have boiled myrtle, flower, and sweet violet in it. Finally, anoint with flower ointment or myrtle ointment."*(24)

1-13: Eyelashes and eyelids hair growing: for example Albucasis sets forth medical kohl eyeliner as follows: *"Together crush three ounces of vitriol, two pennyweights of burnt copper, twenty pennyweights of date, and four pennyweights of Indian nard. Smear the eyelids with the mixture."* (24)

1-14: Eyebrows hair growing: for example Albucasis sets forth a mask as follows: *"Together crush two ounces of teucrium with two ounces of frostwort. Knead in grape juice and rub on the eyebrows in the evening then wash them the next morning. Repeat several times."* (24)

2- Skin care recipes:

2-1: Cleansing & exfoliating the skin recipes:

Albucasis mentions three degrees of peeling recipes as follows:

2-1-1: Soft peeling recipe: *"like bitter or sweet almond and muskmelon seeds."*(24)

2-1-2: Moderate peeling as vaporizing recipe: *"Crush one item of terebinth (pistachio tree) and sixth an item of alum, knead the mixture in honey then cook in chamomile and sweet clover. Fumigate the face with the mixture vapour then wrap it in a cloth. Put the cloth on the blackheads that you already fumigated with the mixture vapour. Repeat several times."*(24)

2-1-3: Hard peeling recipe: He also mentions stronger and more effective ingredients such as: *"white vine-plant, black vine-plant, mustard seeds, and saffron. You may use these ingredients separately or together."*(24)

2-2: Treating freckles & skin color problems:

Albucasis classifies freckles(24) according to how old they are, recent or old and what colour they are: dark red, bright red and yellow. Such classifications help give a better diagnosis and choose the type of treatment required; and he also mentions formulas used to treat various types of freckles which depend on face whitening and purification as follows:

2-2-1: Ointments: Albucasis sets forth four recipes used to treat freckles:

"First recipe: *mix radish juice with yellow wax and use ;*(24) ***Second recipe:*** *make hyssop ointment and use to cure freckles;*(24) ***Third recipe:*** *mix almond oil with bitter honey and use;* (24) ***Fourth recipe:*** *mix bitter almond oil with orris oil, wax, and flower oil and use.*(24)*"*

2-2-2: Local bandages: They are combinations used locally to cure freckles; Albucasis sets forth four recipes of these bandages some of them:

- *"Bandage for new freckles: Crush some cumin adding water and bandage."*(24)
- *"Bandage for old freckles: Crush some luffa with honey and bandage."*(24)

2-2-3: Overlays *'Lutukhat'*: They are pharmaceutical combinations used locally to cure freckles and provide skincare; Albucasis sets forth two types of overlays as follows:

2-2-3-1: Powder for local use: Albucasis sets forth four recipes for freckles and face skin's moisture content. We shall mention one of them here. *"Together crush a handful of lily and two handfuls of white hellebore. Knead the mixture in barley water or yogurt, and then apply it; you should not leave the mixture on for a long time as this causes skin ulcer."* (24)

2-2-3-2: Tablets for local use: these tablets are to crush before used. This method preserves the mixture's active ingredients by means of prescribing low dosages. Albucasis mentions one *lutukh* recipe for freckles and blackheads. *"Together crush and mix orris roots, barley flour, and broad beans, two ounces*

of each, half an ounce of aldrani salt (marble), and lynx, and burnt horn, four pennyweights of each. Make in the shape of tablets, rub on the skin, and wash away after three hours." (24)

2-2-3-3: Masks: it is a pharmaceutical mixture used locally as a facial mask. Albucasis sets forth two recipes for removing scars that face freckles cause. We shall mention one of them. *"Knead chickpea flour, broad beans flour, barley flour, starch, and tragacanth and radish seeds in milk. Rub on the face and wash with hot water which has been boiled along with bran and sweet violet for ten days."* (24)

2-3: Treating vitiligo: Albucasis mentions four recipes for treating vitiligo. The pharmaceutical mixtures are used locally after the patient has undergone a medical treatment which depends on phlebotomy and emptying black bile, we shall mention one recipe. *"Together mix lupine flour, bitter almond, borax and radish seeds and knead in fenugreek and apply over the face after taking a hot bath or wearing hot bandages."* (24)

2-3: Protection against sun's ray & sunburns: Albucasis mentions five recipes anti solar recipes as follows:

*"**First recipe:** Together mix fox grape juice and flower oil. Rub the face with the mixture then wash with hot water.* (24) ***Second recipe:** Together mix egg white with flower oil very well. Rub the face with the mixture then wash with cold water.* (24) ***Third recipe:** Rub the face with gum or Arabic gum dissolved in water.* (24) ***Fourth recipe:** Rub the face with tragacanth gum.* (24) ***Fifth recipe:** Rub the face with starch dissolved Arabic gum."* (24)

2-4: Remove pimples & smallpox scars and other blemishes: in his encyclopedia, Albucasis lists single drugs used to cure smallpox scars left on the skin. He mentions some ingredients such as: *"bitter almond, watercress seeds, cedar, and lupine. These ingredients may be used either together or separately after being kneaded in yogurt (curdled milk)."* (24)

Albucasis also sheds light on eight recipes to heal smallpox scars and pimples. We shall mention here one very effective recipe. *"Together mix five pennyweights of peeled almond, radish seeds, watercress seeds, cactus, and birthwort, two and a half pennyweights, three pennyweights of borax and one and a half pennyweight of pepper. Rub the mixture on the skin several times."* (24)

He recommends taking baths on a regular basis; he also stresses the need for the continuity of using the drugs already mentioned in order to get rid of smallpox scars.

2-5: Treating rough scaly skin: Albucasis classifies rough skin recipes into two categories in terms of location: face skin recipes on one hand and neck and rest of the body on the other as follows:

2-5-1: Face skin recipes: Albucasis makes mention of two recipes as facial rejuvenation, (25) seems like (antioxidant), we shall mention just one. *"Melt one pound of wax and one pound of sheep's fat in flower oil. Add to the mixture four ounces of camel's brain, four ounces of almartaga (oxide of lead), and one ounce of myrrh. Add eight eggs' yolk to the mixture then rub the face and wash with hot water."* (24)

2-5-2: Neck and rest of the body recipes: Albucasis sets forth a recipe for the neck and rest of the body (skin care), *"Together crush Armenian clay, orris roots, and white hellebore a handful of each. Wash the neck and the body with the mixture. It helps get rid of neck blackness."* (24)

2-6: Moisturizing and soften (face, hands, and body): Albucasis sets moisturizing agents as single or as mixed formula ***"animal's fat, animal's brains, bone marrow, some plants** such as 'mahaleb pulps, ben pulps, almond, orris roots and others', **oils** such as 'orris oil, sweet almond oil, bitter almond oil, extra virgin black olive oil and others', **margarine, butter, animal milks, plant's mucilages** as: flax seeds and fenugreek.",* (24) includes **Foot Care Cream** for the severe dryness and the thickness of the skin's feet *"honey with botanical gum"* then he mentions some examples about the available pharmaceutical forms with as follows:

2-6-1: Moisturizing ointments: *"Crush the following ingredients until smooth like butter, one pound of marshmallow, and one pound of Lamb's brain."* (24)

2-6-2: Moisturizing lotions: *"Together mix barley water with milk then apply the lotion over your hands and feet."* (24)

2-6-3: Moisturizing bandages: *"Together crush equal amounts of gingerbread palm, storax and ammoniac gum, and then add mixture to orris oil."* (24)

2-6-4: Moisturizing creams (as cold cream): it is good for high class people as not fatty cream. *"Together mix mahaleb pulps, storax, orris oil, and behen oil."* (24)

2-7: Healing of wounds (25): Albucasis first recommended application of the sprinkling powder over the surgical wound accelerates the wound healing (26), *"it consists of aloe, dragon's blood (Calamus draco), gum Arabic tree, sarcocolla, and myrrh."* (27)

3- Aesthetic recipes:

3-1: Make-up coverage foundation: Albucasis sets forth a number of pharmaceutical recipes for beautifying and redden the face as follows:

3-1-1: For covering the green spots (skin greenness): *"Together crush radish seeds and yellow arsenic. Knead in water and apply it over the green spots on the skin."* (24)

3-1-2: For covering and treating pale yellow face: Albucasis mentions two recipes as follows:

3-1-2-1: Foundation cream: *"together mix equal amounts of saffron, madder, algae, olibanum, and myrrh with white veal and mastic tree ointment. Rub the mixture on the face and leave it for an hour to dry."* (24)

3-1-2-2: Make-up cake powder foundation: this recipe designed as tablet for preparing the make-up powder when we need it; *"Together crush bitter vetch flour, lupine flour, chickpea flour, and narcissus, seven handfuls of each, with one handful of semolina flour. Knead in egg white and make in the shape of tablets. Dry in the shade and put away. When you need to use the drug, crush some tablets adding some water, apply over the face and leave it for two hours and wash."* (24)

3-3: Eye makeup: there are several recipes:

3-3-1: Eyelid makeup: Albucasis mentions it as recipe for turning "blue eyes black": *"Dry white henbane flowers in the shade then boil in water until thick like honey. Use the mixture to smear on the eyes"*. (24)

3-3-2: Eyebrow makeup: Albucasis mentions blackening recipe for eyebrows and eyelashes by using any of the following ingredients, *"together or separately to blacken and strengthen eyebrows hair: myrtle beans, corn poppy, walnut shells, mulberry, bramble, sweet sumac, acacia, water from boiled henna, Arabic gum, vine leaves, fig leaves, cypress leaves, oak bark, gall oak, mastic tree bark, tar smoke, and pitch smoke."* (24)

3-3-3: Eyelash makeup (mascara): which is a cosmetic commonly used to enhance the eyes. It may darken, thicken, lengthen, and/or define the eyelashes. Normally in one of three forms :(28)

3-3-3-1: Eyelid glue pastes: consist of plants, mineral or animal powders mixed with ointment, honey or lipid. *"Together crush and mix some myrtle flower and myrtle beans. Melt some bear's fat in oil and crush the mixture in it again. Rub on the eyebrows for several times."* (24)

3-3-3-2: Liquid eyeliner: consists of plants, mineral or animal powders mixed with some plants' essence or juice; they are similar to suspension in terms of structure. *"Together crush two ounces of teucrium with two ounces of frostwort. Knead in grape juice and rub on the eyebrows in the evening then wash them the next morning. Repeat several times."* (24)

3-3-3-3: Powder kohl: Albucasis mentions four powder kohl recipes for blackening the eyelashes; he tried these recipes himself and they proved to be incredibly useful:

*"**First recipe:** burn cypress twigs until they turn ashes then crush and smear on the eyelashes.*(24) ***Second recipe:** burn myrobalan kernels then wrap in a cloth and soak in rosewater, dry and crush smoothly then smear on the eyelashes.* (24) ***Third recipe:** together mix antimony, burnt crushed lead, and crushed saffron, four handfuls of each. Crush the mixture one more time and smear.* (24)

***Fourth recipe:** burn jujube roots, and add strong wine; crush the burnt jujube with Indian nard which should be twice the jujube and smear."* (24)

3-4: Lipstick (Redden lips): "*Together mix ten pennyweights of chalk and red rose leaves, with five pennyweights of each Indian nard, sumac, pomegranate flower, white sandalwood, red sandalwood, with three pennyweights of each Armenian clay, kohl's pearl, camphor, clove, cubeb, and hard aloeswood, then knead them with wine to prepare the lipstick after dry them."* (24)

3-5: Whitening agents: Albucasis sets forth a number of pharmaceutical recipes used to whiten and cleanse the skin. He classifies the pharmaceutical forms as follows:

3-5-1: Lotion: *"Together crush eight pennyweights of scrap clay (used by goldsmiths to wash jewelry); eight pennyweights of green flower; Iris germanica var (florentina) and Arabic gum, twelve pennyweights of each. Knead in barley, make in the shape of tablets and dry. When you need to use the mixture, crush tablets adding rosewater and apply."* (24)

3-5-2: Mask *'Lutukhat'*: *"Soak watermelon fruits in warm husk's water (Talbena). Put the mixture in the sun then add natrun (- NaHCO3- sodium carbonate decahydrate) make sure it is fifth of the watermelon. Dry in the shade. One dried, pour some water and mix. Rub the face with the mixture then wash with cold water. This recipe is also good for the limbs."* (24)

3-5-3: Bandages: *For getting rid of face tanned complexion: "Bandage the face with savin tops and moisturizers."* (24)

3-6: Deodorants: Albucasis mentions several kinds of the aromatic deodorants (under arms, elbows, and behind the ears, etc...) as follows:

3-6-1: Perfuming hair & beard: Albucasis sets forth two recipes:

*"**Ointment:** It is a combination of fourteen different types of plants and herbs boiled in seven pounds of water and three pounds of sweet sesame oil to get the ointment essence. It can be used several times"* (24)

*"**Lotion:** This Indian recipe made from three phases; fragrant plant powders, some plant water, and finally botanical oil. It does give hair a pleasant smell"* (24)

3-6-2: Anti-perspirants recipes (to stop excessive sweating) & deodorants: they contain zinc and fragrant plants' essence. There are two types:

*"**Special for summer:** Take the zinc piece and broke it into medium pieces then heat it after that put cool it in a pure water or rose water then grind it and add rose water many times as you like it then add the camphor in order to get the perfect smell design special for using during the summer."* (24)

*"**Special for winter:** Take the zinc piece and broke it into medium pieces then heat it after that put cool it in a pure water or oregano water then grind it and add oregano water many times as you like it then add the Fragrant oil,*(29) *and musk in order to get the perfect smell design special for using during the winter."* (24)

Albucasis also mentions special recipes for controlling excessively sweaty palms such as: *"Rub the hands with alum dissolved in rose water."* (24)

3-6-3: Deodorant sticks to remove under armpit odour: *"Together knead in rosewater one pound of red flower and Indian nard, adrue, maerua crassifolia forssk, and alum, one ounce of each. Dry the tablets and store. When needed, dissolve in rosewater and apply to the armpits."* (24)

3-6-4: Deodorant cream to remove under armpit chronic odour: "*Break golden martaga (oxide of lead) into small pieces. Roast then put out using rosewater. Repeat several times. Then crush, sift and pour rosewater again. Dry and add fragrant overlay or honey wine."* (24)

3-6-5: Feminine deodorant (vaginal douche): This recipe that can be used to remove the unpleasant smell of the vagina: *"Together crush and sift alum and sukk one pennyweight of each, myrrh, and adrue and Ceylon cinnamon, half a pennyweight of each. Knead the mixture in wine and myrtle water and it will be ready to use."* (24)

3-6-5: Aftershave aromatic water: which is a liquid used mainly by men after they have finished shaving, Albucasis mentions an after shave recipe as following: *"Together knead in rosewater one pound of nutmeg fruits, and leaves, perfumed musk, and major cardamom, with half pound of camphor, Indian nard, Indian aloe tree, cubeb, and saffron, then vapour the mixture with the same amount of aloeswood, and camphor for day and night about 12-15 times as a rate, then but it in the distillation pot after adding ten pounds of pure water and same amount of perfumed rose water, tell you get the target distillation water"* (24)

3-7: Hair coloring recipes: Not only do hair dyes change hair color, but also some of them have a medical use. Albucasis classifies different hair dyes into three types in terms of composition: hair dyes, enhance the color, the covering gray hair; with several pharmaceutical forms "creams, pigments, and lotions"; and also he classifies it into two types in terms of validity: permanent and temporary. According to Albucasis, other types of hair dyes are used to darken grey hair or even blonde hair; Albucasis presents his own seventeen recipes divided into three lines:

3-7-1: The covering gray hair recipes: *"Hair blackening ointment for each pound of wild olive oil which is called (zanbouh), add quarter pound of walnut flower (the whole fruit, including the husk) and mix together. Put the mixture in the sun for twenty days. Strain the olive oil to remove the remaining walnut flower for each pound, add four pennyweights of pitch or good quality fresh ambergris."*(24)

3-7-2: Hair dyes recipes:

3-7-2-1: Black dyes: *"Dry some algae in the kiln and some Swiss chard leaves in the shade. Separately crush the algae and the Swiss chard leaves then pour Swiss chard leaves juice and myrtle leaves juice into the crushed mixture. Apply the mixture over white hair and bandage it up with Swiss chard leaves during the night."* (24)

3-7-2-2: Dye for turning blond hair into black: *"Together crush two ounces of gall oak, one ounce of alum, and one ounce of roasted copper very well then boil three pennyweights of marshmallow in water. Add to the mixture basil or vintage wine with cypress bark. Apply it over the hair and wash it for several days; it helps blacken the hair."* (24)

3-7-2-3: Henna-based dye: "*Dye hair with henna, then wash it, and then re-dye the hair with a paste mixture of henna with honey, then wash the hair firstly before you wash the hair again with bitter vetch flour extract."* (24)

3-7-3: Recipes for enhancing the hair color (hair blackening): *"Crush some frostwort using oil and sweet drink. Make sure women use the mixture after they have washed and purified their hair."* (24)

gray hair recipe is tannins and catechin content; the scientific researches guide to using the herbal preparations derived from black walnut as hair dyes and skin colorants. (30)

These days there are cosmetics companies worldwide that produce combinations of walnut and amber used in cosmetic lines so as to enhance the skin color and condition to deliver a long-lasting tanning effect, hydration, regeneration and smoothness.(31) Many dying colors are made from the different parts of the walnut such as (black dye, golden-brown dye, brown dye and yellow dye). (32) The latest invention in his recipe is the combination of the tannin as a dyer and the wild olive oil as a smoothing and conditioning agent; also nowadays the use of olive oil has become the first line in the hair treatment system.

3-8: Hair styling recipe (hair polishing): *"Together crush and sift corn poppy, frostwort, clove, nutmeg, adrue, dyer's madder, tree chaste leaves, olive tree leaves, two ounces of each, three ounces of fresh or dry fresh good quality walnut shells, three ounces of nutmeg, one ounce of Indian wormwood, and one ounce of black catnip. Mix twenty pennyweights of the sifted mixture with thirty pennyweights of marshmallow. Knead the mixture then apply it over the hair. Wash the hair with water after you have boiled some black catnip, fresh walnut shells, or myrtle. You may anoint the hair with any kind of ointment like high mallow for instance."* (24)

3-8-1: Hair straightening recipes (smoothing the hair): Albucasis points out that the most effective way to have smooth straight hair is to relax and constantly have healthy foods and drinks, and he sets forth an ointment as follows: *(Cook cucumber with peeled barley and fenugreek. Sift the mixture and add sweet violet ointment. Then apply over the hair and wash it for several times.).* (24)

3-8-2: Hair curling recipes: Albucasis makes it clear that *"the substances used in hair curling cause constipation such as carob leaves, olive, jujube, pomegranate peels, myrtle leaves, gall oak and the like. Albucasis cites four recipes for hair curling in his encyclopedia; we shall present one of them here. Burn and crush a pine nut with myrtle ointment until it becomes like honey in structure. Apply over the hair for a number of times."* (24)

3-9: Excess facial and body hair in women hirsutism management: as follows:

3-9-1: Thinning unwanted body hairs: such as hair softening recipes**,** these drugs shall make rough hair smoother. It can be used in different parts of the human body, especially after it grows again after being removed. Albucasis mentions one recipe. *"Together mix blossoms and vine ashes and rub on the skin. Rub the skin after you have washed the blossoms with barley flour, and muskmelon seeds."* (24)

3-9-2: Removing unwanted body hairs (hair removal):

3-9-2-1: Hair shaving recipes (*nawara*): Hair removing drugs prove to be both fast and effective. They are a combination of arsenic to which lime compounds of various sources and some herbal oils are added. Albucasis explains how to get rid of the arsenic smell by means of adding saffron powder. In his encyclopedia, Albucasis

mentions eight recipes for hair removing drugs. "*Together crush and sift one hundred pennyweights of yellow arsenic and two hundred pennyweights of unslaked lime. Pour into a pottery pot and put on fire to boil. Once it has boiled, take it off the fire and leave it to cool down. Strain the water and fill in bottles. You may add flower ointment to the water and boil again."* (24)

3-9-2-2: Depilatory and hair growth preventing recipes: Less unwanted body hair, or hair growth hindering:

3-9-2-2-1: Less unwanted body hair growth recipes: Albucasis mentions several recipes for slowing down unwanted hair growth according to the target area as follows**:**

A: Less unwanted armpit hair growth: Albucasis mentions a recipe as paste, rubbing the armpit with mixture several times after hair has been removed helps stop hair growth completely; we shall mention here one of his recipes. *"Crush red arsenic and knead in white henbane juice. Rub on the skin for several times; it proves to be so useful."* (24)

B: Less unwanted pubic hair: Albucasis sets forth one recipe for removing pubic hair. *"Crush Isfīdāj ceruse of white lead and senna adding henbane water. You may cook blossoms in vinegar and rub the skin. This slows down hair growth or it might even stop it completely."* (24)

3-9-2-2-2: Permanent depilatory hair growth hindering recipes: to stop hair growth completely. Albucasis sets forth the following recipe: *"Together mix ant egg, henbane seeds, psyllium mucins seeds, alum, and poppy seed. Rub on the skin after you have removed the hair with sublimated vinegar."* (24)

4- Dentistry cosmetic recipes:

Albucasis described methods for strengthening the gums as well as the method of tooth bleaching using tooth whiteners,(4) also detailed procedures still used by today's dental hygienists to remove calculus deposits from teeth(33) as follows:

4-1: Tooth brushing: Albucasis also classifies types of *miswak* according to the person's mood:

4-1-1: First type: *"Quick-tempered: it should be made of palm leaves, miswak (arak) or carob after being immersed in rosewater or vinegar."* (24)

4-1-2: Second type: *"Relaxed: it should be made of olive sticks, cypress sticks, or thyme after being immersed in liquid in which thyme or pennyroyal had already been boiled."* (24)

4-2: Teeth whitening: (34) Albucasis mentions five recipes for teeth whitening, we shall mention one here: *"Together crush borax and civet* (35) *and salt one pennyweight of each with half a pennyweight of saffron. Chew the mixture; it both cleanses and whitens the teeth."* (24)

4-3: Treating tooth decay: Albucasis recommends *"Eating a lot of celery in order to protect against tooth decay."* (24)

4-4: Gum tautening: Albucasis mentions two kinds of it:

4-4-1: Chewable tablets: Albucasis mentions mastication tablet recipe: *"Together crush and sift two pennyweights of green apple, two pennyweights of adrue; Chinese cinnamon orris roots, white olibanum, celery seeds, and Arabic gum, one pennyweight of each; and half a pennyweight of sukk, make in the shape of chick-peas then chew and swallow."* (24)

4-4-1: Teeth Powders: Albucasis sets forth one recipe: *"Together crush and sift five pennyweights of red sandalwood, five pennyweights of clove; red flower, sweet sumac, pomegranate blossoms, terebinth, three pennyweights of each; and washed almartaga (oxide of lead) and chinese cinnamon, two pennyweights of each. Knead the mixture in safflower starch, make in the shape of tablets, and dry in the shade. Crush and sift then apply it on the surface of the teeth."* (24)

4-5: Freshen breath:(36) Albucasis recommends a number of combinations used to get nice breath such as: *"musk, aloeswood, clove, nutmeg, cubeb, sukk, cinnamon, Chinese cinnamon, clove cinnamon, major 'kakelah' (cardamom) minor 'kakelah' (cardamom), you can use these drugs as single or as mixed formula."* (24)

4-6: Filling the mouth with nice smells and removing the smell garlic and onion: *"Together crush and sift clove, 'kakelah' (cardamom), cubeb, black catnip, ginger,*

saffron, 'ramek', peeled mahaleb, mastic tree, alum, nutmeg, sukk, one pennyweight of each; and three pennyweights of Indian aloeswood. Knead the mixture, make in the shape of tablets then dry in the shade." (24)

5- Female care recipes:

5-1: Techniques for taking care breasts: Albucasis gives some advices to maintain firm breasts which are as follows**:** *"not to sleep on the breasts, not to rub the breasts, avoid much dancing, and avoid jump from high places. This shall help keep a firm structure."* (24)

5-2: Recipes for tautening breast: Albucasis recommends several recipes for this such as, *"Boil some flax using a cloth soaked in vinegar, wrap the cloth and keep it for three days. This recipe is made three times a month."* (24)

5-3: Breast reduction (25) **recipes:** Albucasis mentions a recipe as following: *"Mix some clay with green gall oak powder. Knead the mixture in honey and rub on the breast. Leave it for one day then wash it with cold water. Repeat this several times during the month."* (24)

5-4: Recipes for external genitalia(25) **for female (vulva):** as follows:

5-4-1: Techniques for feminine care: Albucasis gives some advices to maintain the vulva and vaginal tissues as healthy lifestyle guidelines by the following: *"**hot foods:** such as "Al- Farouk" antidote recipe, **drinks:** honey juice taken with internal hot aromatic oil, **hot external fragrant oils:** behen oil, valerian oil and the like."* (24)

5-4-2: Feminine care and vaginal hygiene recipes: Albucasis mentions some recipes to treating the vulva and vaginal tissues disorders such as (*vaginal odours, wounds and excessive vaginal wetness*) these recipes used in two pharmaceutical forms (*vaginal douche 'murowkh', pessary vaginal suppository 'farzaja'*) to achieve the following:

5-4-2-1: Feminine Deodorant (vaginal douche): This recipe that can be used to remove the unpleasant smell of the vagina: *"Together crush and sift alum and sukk one pennyweight of each, myrrh, and adrue and Ceylon cinnamon, half a pennyweight of each. Knead the mixture in wine and myrtle water and it will be ready to use."* (24)

5-4-2-2: Excessive vaginal wetness recipes: *"Together crush two pennyweights of green gall oak, one pennyweight of antimony, and two pennyweights of sorrel, add oak water, pomegranate blossoms water or rosewater."* (24)

5-4-2-3: Cure vulva and vagina wounds recipes: *"Crush and sift red sheaf* (37) *then sprinkle over the wounds, leave it for a while then wash with water. Then crush and sift 'golden martaga (oxide of lead) then sprinkle over the wounds, leave it without washing, then apply a concentrated nawra (which is combination of arsenic and lime compounds and some herbal oils) on the vaginal wounds until they recovery."* (24)

5-4-2-4: Narrowing the vagina recipes: *"Together mix some alum, adrue, Indian nard, myrtle, clove, and nutmeg. Knead the mixture in juice and use it."* (24)

5-4-3: Female libido enhancer recipes for sexual frigidity management: *"Together mix two pennyweights of alpine valerian with one pennyweight of alum, then knead the mixture in syrup and use it as female pessary."* (24)

These are the second part of the 19th treatise from Albucasis book *'al-tasrif'*, it is the important text book of the cosmetics recipes and techniques, also Albucasis sets forth a hygiene recipes in the first part of the same treatise about the aromatherapy such as **Soap** which is called ***'Ashnan'***, (24) and **Mouth Wash**, (24) also he mentions several recipes of the **Aromatic Herbal Extract**(24) for external application.

Besides all these achievements, Albucasis was considered one of the early leading "plastic surgeon" as he performed many plastic surgery procedures. In the 11th chapter of volume 30 of his book, he put many principles in that surgical field. He used ink to mark the incisions in his patients preoperatively which become now as a routine standard procedure. In chapter 26, he explained the differences between primary and secondary wound closure and also the importance of wound debridement before closure. (38)

In his book, he described the surgical options to treat Gynecomastica(39) as he recommended removal of the glandular tissue by a C-shaped incision. For large breasts with excess skin that the edges join each other, then remove the skin and glandular tissue in between and suture the edges of defect". This technique is still considered for such a condition nowadays. (38) The aesthetic surgical techniques for the treatment of gynecomastia, the breast

reduction for men, the surgical procedures remained unchanged for many centuries. (26)

Albucasis also gave the earliest description of the modern operation for varicose veins; (40) and he had a special interest in eyelid surgery. (39) He gave sensible suggestions on the use of fine instruments, of which he had a wide variety. He described surgical management of different pathologies such as entropion, ectropion, trichiasis and symblepharon. (38)

Also Albucasis invents new techniques in **Cosmetic Surgery** in the 30th treatise, (22) related to cleft lip(25) repair with flaps, (25) also he treats the cuts and wounds of the mouth and lips, (39) and he was the first who use silk for cosmetic surgery and cotton as a surgical dressing, (10) and he used ink to mark the incisions on his patients' skin, now a standard procedure worldwide. (10)

The Results and the Discussion:

The study of the commandments which given by Albucasis can be inferred and discuss the following results:

First: Albucasis was a distinguished figure especially when it comes to the making of various types of pharmaceutical forms related to cosmetic items.

Second: Albucasis is considered the true founder of cosmetology. His highly sophisticated taste and talent in making recipes is evident in each and every product he mentions in his encyclopedia.

Third: Albucasis mentions clearly major spectrum of cosmetics tools and drugs; attitudes about cosmetics did not undergo another shift until one thousand years later, when the physician and cosmetologist Albucasis believed that cosmetics constituted a legitimate branch of medicine.

Forth: Albucasis was pharmaceutical technician and has a wide knowledge in the cosmetology field cause he introduced unique compositions and easy way to preparing it.

Fifth: Albucasis is considered to be the most effective inventor in this field and maybe he was the first who was talking about the following items:

A- Solid lipstick: (4) which were perfumed stocks rolled and pressed in special molds.

B- The cosmetic dentistry field he described methods for strengthening the gums and introduced the method of tooth bleaching using tooth whiteners, (41) also detailed procedures still used by today's dental hygienists to remove calculus deposits from teeth.(10)

C- Hair dyes for changing human hair color to blond or black hair, and hair care for correcting kinky or curly hair.

D- Hand cream and lotion, and suntan lotion: he described their ingredients and benefits in depth.

E- Bad breath resulting from eating garlic or onions: he recommended a refreshing toothpaste made from cinnamon, nutmeg, cardamom and coriander leaves, as a perfect remedy.

F- Topical cream: for the relief and treatment of common colds, he invented special recipe which was prepared from camphor, musk and honey, similar to the modern Vicks Vapour Rub.

G- Treatment the androgenic alopecia: Albucasis mentions the causal treatment of the hair loss and he has a new invention by using the ***steroids*** (42) ***(beta-sitosterol)*** *and* ***tannins*** (43) in his recipe for strengthening hair as ointment from *al-Tasrif* as follows:

Green myrtle *(Myrtus communis)* leaves: contain *tannins* (*gallotannins, condensed tannins*). (44)

Poley *(Teucrium polium)*: contains *flavonoids* including *apigenin-7-o-glucoside, luteolin-7-oglucoside, acacetine, apigenin,. eupatorin, luteolin, salvigenin.* (44)

Dry olive *(Olea europaea)*: leaves contain *flavonoids* including *luteolin-7-o-glucoside, apigenine-7-o-glucoside*. (44)

Oak gall *(Quercus infectoria)*: contains *tannins* (60 to 70%) including *gallotannins*, particularly *hexa-* and *phenol carboxylic acids* such as *gallic acid* (3%), *ellagic acid* (2%).(44)

Sweet sumac *(Rhus aromatica)*: contains *tannins, fatty acids*. (44)

Pomegranate blossoms *(Punica granatum)*: contain *tannins* (25 to 28%) and *gallo tannins* including *punicalin (granatine D), punicalagin (granatine C), granatine A, granatine B*. (44)

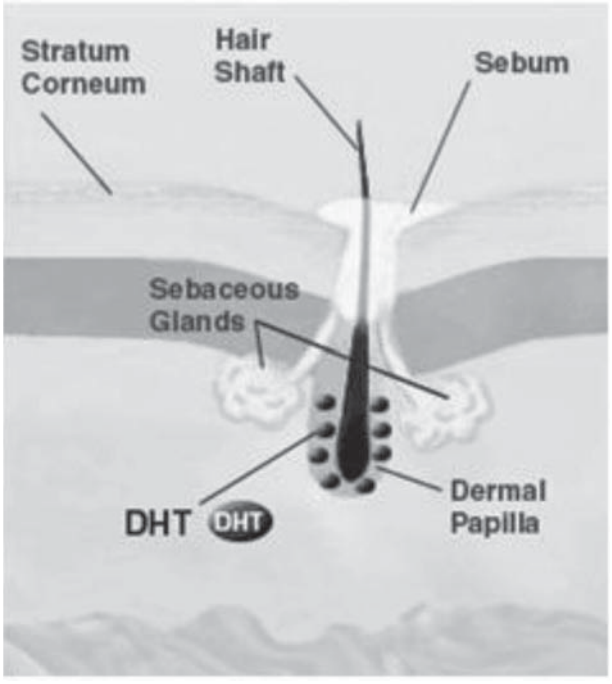
Dry white willow *(Salix species)* leaves: contain *tannins* (8-20%), *flavonoids*. (44)

Indian nard *(Nardostachys jatamansi)*: contains *volatile oil* (0.3 to 0.4%) including *valeranone (jatamansone), beta-maaliene, betaionone, aristelonone, nardol, valerenal.* (44)

Green henna *(Lawsonia inermis)*: contains *naphthalene derivatives (1,4-naphthaquinones)* in particular *lawsone* (2-hydroxy-l,4-naphthaquinone), and *tannins*. (44)

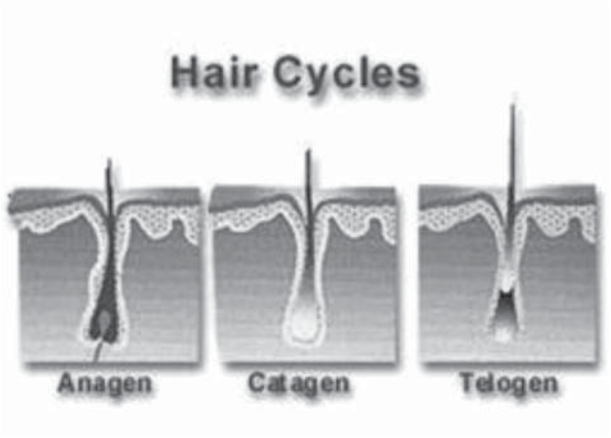
Green olive oil *(Olea europaea)*: contains chief *fatty acids* such as *oleic acid* (56-83%), *palmitic acid* (8-20%), *linoleic acid* (4-20%) and *steroids* (0.125 to 0.25%) such as *beta-sitosterol, delta7 stigmasterol, delta 5-avenasterol, stigmasterol, tocopherols* (0.02%).(44)

As we seen this recipe contains *beta-sitosterol* which works by inhibiting an enzyme 5-Alpha-Reductase(45) (**5AR**) in the body that is involved in Di-Hydro-Testosterone **DHT** metabolism, a process that converts the hormone testosterone into **DHT**. Research indicates that **DHT** is found not only within the hair follicle, but also at the root of the hair shaft (dermal papilla). **DHT** gets into the hair follicles and then binds inside them (locks into them) in places known as androgen receptor sites. The **DHT** then causes the follicles to shrink and also creates a wax-like substance around the hair roots. It is this accumulation of **DHT** inside the hair follicles which is one of the primary causes of male and female pattern hair loss.



DHT binds inside hair follicles and roots, by locking into places called androgen receptor sites. There it constricts the blood supply of oxygen and nutrients to the hair roots, causing the follicles to become smaller. It also shortens the growing phase of the hairs inside the follicles. This results in shorter, weaker, thinner hair strands, which ultimately may fall out. Sebum oils also build up, blocking the upward growth of hair shafts. (46)

H- Increase the hair density: Albucasis used many plants rich in *flavonoids* and *tanins* contents which have efficacy was evaluated by the newest clinical trials,(47) which determines:(48) hair density (total number of hairs), and number and proportion of telogen (49) hairs (hairs where growth has ceased), and number and proportion of anagen (50) hairs (hairs which are still growing), and hair growth speed of anagen hairs.(51)



I- Medical dyes of the hair: The use of walnut as dye agent, as far back as Roman times black cloth was produced by dyeing of fabric or skeins in dye baths of tannic acid and iron salts; including using black walnuts. It is mentioned in Pliny and it is evidence of it in the dye works at Pompeii. (52) Walnut was also known as a dye during the Viking Age, (53) the scientific researches guide to using the herbal preparations derived from black walnut as hair dyes and skin colorants. (30)

These days there are cosmetics companies worldwide that produce combinations of walnut and amber used in cosmetic lines so as to enhance the skin color and condition to deliver a long-lasting tanning effect, hydration, regeneration and smoothness. (31) Many dying colors are made from the different parts of the walnut such as (black dye, golden-brown dye, brown dye and yellow dye). (32) The latest invention of Albucasis in this field is the combination of the tannin as a dyer and the wild olive oil as a smoothing and conditioning agent; also nowadays the use of olive oil has become the first line in the hair treatment.

J- Solid deodorants to remove under armpit odour: perhaps the earliest antecedents of present day solid deodorants back to Albucasis.

K- Aftershave aromatic water: perhaps Albucasis the first who is talking about this formula which depends on

combination between antiseptic and refreshment and fragrant agents, which is very similar to the modern formulas; we did analytical study of the recipe components as following:

Rose water (*Rosa gallica*): contains *Volatile oil* chief components *(-)-citronellol, geraniol, nerol, phenyl ethanol*, Including as well *(-)-linalool, and citral*, *tannins*. (44)

Nutmeg (*Myristica fragrans*): contains *Volatile oil* (7-16%), *Fatty oil* (30-40%): fatty acids including among others *lauric, myristic, pentadecanoic, palmitic, heptadecanoic, stearic, oleic acid, Triterpene saponins, Sterols*: including among others *beta-sitosterol, campesterol, Monoterpene hydrocarbons* (80%) including *sabinene* (39%), *alpha-pinene* (13%), *beta-pinene* (9%) *monoterpene alcohols* (5%) including *1,8-cineole* (3.5%), *phenyl propane* derivatives (10 to 18%): including *myristicin* (2 to 5%), *elemicin* (1 to 2.5%), *Fatty oil* (30 to 40%). (44)

Cardamom (*Elettaria cardamomum*): contains *Volatile oil* chief components *cineol, alpha-terpinyl acetate, linalyl acetate, Fatty oil, Starch.* (44)

Indian nard (*Nardostachys jatamansi*): contains *Volatile oil* (0.3 to 0.4%): including *valeranone (jatamansone), nardosinone, calarene, beta-maaliene. maaliol, betaionone*, *l(10)-aristelonone-(2), nardol, valerenal*. (44)

Cubeb *(Piper cubeba)*: contains *Volatile oil* (10 to 20%) chief constituents *alpha-* and *betacubebenes* (11%), *copaene* (10%), *cubebol* (10%), *deltacadinene* (9%), *humulenes, Lignans* chief components *(-)-cubebin*, additionally *(-)-cubebinin, dihydroclusin, (-)-dihydrocubebin, hinokinin, Resins, Fatty oil* (12%).(44)

Saffron *(Crocus sativus)*: contains *Apocarotinoid glycosides*: in particular *crocin (crocetin-betadigentiobioside)*, *Picrocrocin* (*glycosidic bitter)*, *Volatile oil* (0.4 to 1.3%): components *4,5-dehydro-betacyclocitral (safranal), 4-hydroxy-beta-cyclocitral, Carotinoids: lycopene, alpha-, beta-, gamma-carotene, Fatty oil, Starch.* (44)

Camphor Tree (*Cinnamomum camphora*): contains *Camphora "D(+) -camphor ((1R,4R)-l,7,7-trimethyl-bicyclo[2.2.1]heptan-2-on"*. (44)

Also this recipe includes perfume agents such as ***Musk*** and ***Aloeswood*** to give a fragrant smell, while the astringent effect attributed to the rose water due to its tannin content, also it has lots of important naturally compounds like the vitamin **A** and **C** and it has antioxidants that help in reviving tired skin and giving it a glowing complexion, as well as being excellent for hydrating and rejuvenating the skin, and the recipe has antibacterial effect due to camphor content; the recipe is rich in volatile oils contents which has refreshment effects, and fragrant smell.

Al-Zahwari blistering a patient in the hospital at Cordoba whiles his students looking on. (from Wellcome Library, London)

Conclusion:

The commandments of Albucasis are set of rules that must be performed by cosmetologists and is currently used aggressively by pharmacists especially in the industry of cosmetics.

So Albucasis was the father of cosmetics and beauty treatment, and his cosmetics chapter was the first original contribution to cosmetology worldwide.

Apart from being a skillful surgeon, Albucasis both revived various kinds of cosmetics and developed cosmetology and its applications.

A virtual photo of full set of cosmetics prepared by Albucasis

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30- http://www.ncbi.nlm.nih.gov/pubmed/14727919
31- http://bielenda.pl/en/series/walnut-amber
32- http://plantstemcells.wikispaces.com/Walnut+%E2%80%93+Juglans+Regia
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34- Also Albucasis first taught about the use of artificial teeth, and he gives figures of several dental instruments then in use (see Teeth, their natural history: with the physiology of the human mouth, in regard to false teeth).
35- Civet is one of the few perfume materials obtained from animal source (see en.wikipedia.org/wiki/Civet)
36- Also Albucasis recommends young people to *"take fresh water baths to improve their voices and to have softening drugs and foods such as barn, starch (free of acidity), almond oil, egg, butter, flax seeds, Arabic gum, Tragacanth and orris jam"* and he mentions recipes to improve the voice (also for hoarseness, sore throat, etc.) For example, *"Using six ounces of pennyroyal juice eight pennyweights of Arabic gum powder"*, and he concludes this section with a recipe for voice loss, especially after reading and singing from an old Greek book and some wise people prescribed singers to enhance their voices and another one by *Diskoradus* for the same purpose.
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Comments on an Article of Prof. Dr. Besim Ömer Akalın Pasha on Yalova Thermal Baths

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Summary

The Thermal Springs of Yalova, once called "Pythia," are the natural outcome of an ancient earthquake that took place about 2000 B.C This thermal springs complex has survived many ancient civilizations such as the old Greek, Roman, Byzantine, Seljuk and Ottoman Empires. Thermal utilities have also been restored throughout its history by such historic dignitaries by Kings Constantine and Justinianus and Ottoman Sultans Osman, Orhan, Hamid and Abdulmecid during their reigns. Article of Dr.Besim Ömer with the name of Yalova Kaplıcaları(Thermal Hot Springs) mentions their characteristics ,composition ,historical developments and therapeutical characteristics. This is with the date 0f 1900 and it is in his book with name of Nevsali Afiyet.

Key Words: History of Medicine, Thermal Springs of Yalova, Nevsali Afiyet

Introduction:

Long time ago before Christus was born; there was a dominating and a powerful King (Tekfur) in Istanbul. He had a beautiful daughter a princess whom he adored and loved. But she an ugly, contagious and incurable disease called leprosy which she suffered badly.

Despite all the medicines and healing attempts given by spiritual leaders and medical experts, the princess was not getting any beter; therefore her father was in deep sadness every time when he saw his daughter in growing despair. One day he gathered all his aids, in despair and asked them to take her somewhere that she could be alone for a while, because he did not have any more strength to see her in that fading condition (1).

After an extensive search activity, The Yalakova (water plain) province was the most suitable place with its lavish and water rich environment on the Anatolian side so the princess was taken and left there alone with her hopeless condition. Later, the king had numerous trips by his boat to see his daughter how she was getting by with her new life, since he did not see any positive changes in her condition he left her there with her mutual fate.

One day while the princess wandering around the water plain, she climbed up on a rock to get a better view about the whole area, suddenly she saw a huge and ugly monster without any hair on his pale body neither he had any wrinkles on his face. This peculiar monster was coming every day to this hot water swamp area, bathing there, laying there and disappearing in the deep dark forest. He daily observation continued for some time in order to see how the monster was getting better and prettier as the time went by. Naturally this experience inspired her '' if this ugly monster covered with all that thick hair on his skin ail heal himself bathing in the hot waters" so I can with the God's will, she was inspired with all that positive healing effects of this water swamp source. She began the same rituals immediately, bathing, staying longer periods in the swamp water in many days (2).

Finally, the princess became very beutiful and healthy and immediately she sent a message to her father saying that she was fully recovered from the leprosy. The King was very glad with this fantastic news and he granted the messenger with a huge reward so he should not suffer all his life. The King immediately rushed to Yalakova to see this miracle with his own eyes and obviously he was not disappointed what he saw (3).

This miracle for his daughter's wellness made him so happy that, he ordered the new baths, spa centres to build

in the thermal area and these buildings became pioneers of the modern hot springs in the world.

The Thermal Springs of Yalova, once called "Pythia", are the natural outcome of an ancient carthquake that took place about 2000 B. C This thermal springs complex has survived many ancient civilizations such as the old Greek, Roman, Byzantine, Seljuk and Ottoman empires. Thermal utilities have also been restored throughout its history by such historic dignitaries as Kings , **Constantine** and **Justinianus** and **Ottoman Sultans , Osman, Orhan, Abdulhamid II** and **Abdülmecid** during their reigns**. Eleni**, the daughter of **Tekfur of İstanbul,** and her mother **Sofia,** as well as the mother of **King Constantine, Empress Helen Theodore and Sultan Abdulmecid's** mother, had all regained their complete health in **Yalova Thermal Springs**. These historic celebrities are some of those rehabilitated among thousands of others to have been recorded in written documents.

The mansion was built in 1929 to extend hospitality to his excellency **M. Kemal Ataturk,** the founder of modern Turkey. It is now a museum with contemporary paintings on the walls and valuable hand woven rugs on the flour**. The Ataturk Museum** is open every day between 10 a. m. and 6 p. m., except Mondays and Thursday, when it is closed.

On 19 August 1929. **Atatürk** liked the thermal hot springs facilities during one of his travels and he dealt personally with the region to transform it to a world famous health center and aqua town.

Atatürk stated the following related to Yalova: " Here will be the aqua town of the future." **Atatürk**, the founder of modern Turkish Republic, arranged the land he ones owned, then named "**Millet Farm**", which lies the eastern part of Yalova, so as to familiarize farmers with the modern agrotechnological methods implemented on this unique farm, to disperse high quality nursery stock, seeds, and stock animals(4).

Atatürk, who once stated "Yalova is my town" indicates how much he loved Yalova. He had a small summer house built on the farm by the seashore very close to a sycamore tree. Embraced in three sides by the premises of the institute and by the sea of Marmara in the north, The **Atatürk's** summer house, the so-called " Sliding House" is preserved as a museum.

The hill is located on the east side of the hot springs baths and rises 220 meters above sea level. Evergreen pine trees, lazy grasshoppers and the starry sky are the main attractions for visitors to this paraside. The nearby towns of Uvezpinar in the south, Gokcedere in the north and thermal hot springs toward the west can be seen easily from this panoramic view (5,6).

Tekfur's daughter, the emperor's wife **Sofia,** worshipper **Bineva Baba**, **Herakle's** sister, **Hylas** and **Ferhat** are the only sources of information fort he Termal mythologies. A worshipper called **Bineva Baba (Abapus**) conquered land from the Crusaders and introduced them to the Muslim religion with his threatening wooden sword. His grave is believed to be in this area, and it was a popular gathering spot for those who wanted their wishes fulfilled. These stories are widely explained in detail in books written by **Idris Bitlisi** and **Lutfu Pasha.**

People in old days believed that the hot springs coming from the ground had some kind of healing effect on humans. In the Christian sacred book of "**Acta Sanctrum**" it is mentioned that there were three sisters living around the hills of Thermal Bath's, named **Menedora, Metrodora and Nympyhadora**. The sisters introduced the healing effects of hot springs to the desperate patients seeking an alternative treatment. Thus, they were recognised as "Healers" in the region.

They also influenced many non-Christians to convert to Christianity. The Byzantine Emperor **Galerius Maximianu** (AC. 305-311) who did not believe in Christianity heard of the sisters' growing popularity in the region. Disliking their missionary work of spreading the Christianity, he warned them and at same time, ordered them to stop that activity immediately. Despite the warnings and orders the three sisters continued on their missionary work, until they were all executed by the local administrator who followed the order given by the Emperor. Some historians still believe that the three sisters' grave become very popular such a pilgrimage place, especially, for those new converted Christians(7,8).

The Byzantine Emperor Constantine's (AC. 312-337), by constitutionally accepting the Christianity as a main religion, contributed to increasing the importance and popularity of this establishment known as Thermal Springs. He visited the place frequently to heal his skin and stomach diseases.

The Byzantine Emperor Justinianus (AC. 527-565) renovated the Arhangelos Church which was also used as Patient Hotel. Additionally, he built a new palace and bath near the main hot water source.

Radioactive hot water increases blood circulation and consequently physical strength. Inner consumption dilutes the blood in the stomach or in the capillary veins so the blood can be carried further out to tissues, providing a richer oxygen consistency. Radioactivity stimulates the so-called lazy cells, thus increasing their energy capability. Hot spring mineral water taken internally rids the body of toxins (9).

The following diseases and disoders can be relieved with the help of hot spring water:

- Rheumatic diseases: osteoporosis, rheumatoid arthritis, ankylosis and soft tissue rheumatism (fibrositis, tendinitis, etc.).
- Digestive symptoms, liver-and stomach-related disorders.
- Metabolic diseases, obesity, gut.
- Kidney or urinal diseases
- Skin diseases
- Rehabilitative period after orthopedic operations.
- Psychological and mental disorders.
- Gynecological and disfunctional female diseases

Hot spring water cures are not advised for the following:

- All patients with hemorrhages.
- Patients with serious heart diseases
- Tuberculosis patients.
- Former heart attack patients.
- High-fevered or acutely infected patients.
- Patients who have recently undergone operations.
- Women in early or late pregnancy periods.
- Patients with liver inflammation or jaundice.
- Women during menstruation.
- Potential epilepsy candidates.
- High-fevered rheumatism patients.

Table 1: The results of water analysis done by the Chemistry Department of Istanbul University are as follows:

Water taken from	Main source
Tempature	66.2 °C
Air tempature at the source	11 °C
Color	Non-colored
Smell	Hydrogen sulphur
Taste	Sweet
Appearance	Clear
Density (4°C)	1.001306
Resistivity (18°C)	5609
Conductivity (18°C)	0.173-10 I
PH	7-8
Dry remnants of water	1.4484
Residual Sulphur	1.5224

Table 2: The amount of ions in 1 liter of water are listed below:

Potassium	K+	0.0640
Sodium	Na+	0.2314
Ammonia	NH+	0.0001
Calcium	Ca++	0.1860
Iron	Fe++	0.0003
Manganese	Mn++	0.0002
Aluminum	Al+++	0.0000
Radium	Ra++	2.5-10-12
Sulphuric	SO4-	0.7993
Nitric	NO3-	0.0000
Nitricdioxide	NO2-	0.0000
Chlorine	Cl-	0.0902
Iodine	I-	0.0000
Carbonic	HCO3-	0.4447
Phosphoric	PHO4-	0.0000
Arsenic	AsHO4-	0.0000

An Article of Prof.Dr.Besim Ömer Akalın on Yalova Thermal Baths

And Comments

The article entitled "**Yalova Hot Spring"** included in the second volume, published in 1900, of **Nevsali Afiyet,** a four-volume work written by **Prof. Dr. Besim Ömer Akalın** (1863-1940), who helped to develop modern obstetrics in Turkey, provides detailed information about this matter. **"Yalova Hot Spring**", more correctly known as "**Mountain Bath**" is located on the coast of the Marmara Sea, near to the Gulf of Izmit, one and a half hours away from the district of "Yalova", in the mountain range of "Samanlı", in the "**Bath Water"** valley, at the altitude of one hundred and twenty meters, to the north of "Kurbiler" village and to the south of "Laz köyü" village.

In order to go to the hot spring, commonly called "**Yalova Kuru"** because of being located near to "**Kuru**" village, one must pass the Sea of Marmara via Adalar and Pendik –it takes two or two and a half hours by ship – and then pass over the south-east of the Marmara Sea via the disctrict of Yalova. Today, thanks to the very good highway, journey in a Landau is very pleasant and very easy.

Although the hot spring is six kilometers away from Yalova, the best road is the Yalova road with elderberry for spring carts and horse carts. Hence it is possible to see

Yalova hot springs from a distance. After making a good way from the district of Yalova and reaching the slopy part of the road, signboards start to be seen on the hills overlooking the hot spring".

Later, **Dr. Besim Ömer** provides broad information about the bath: "Since the valley where the bath is located is between two mountain ranges and open only to the east, it lies leewardly against the winds and the temperature is at a certain level in almost every season; but according to the opinion of the physicians assigned to the bath, the best season for use is the months of June, July and August. Because of the mild wind regularly blowing from the small streams around which are hot spring waters and the sea in the valley located among the elms, oaks, myrtles, hazelnut and some sea calisi covering both faces of the mountain, the hot spring is cool even in the hottest times of the summer.

Although it often rains in the hot springs, it evaporates just after the rise of the sun. Even if there appears fog after such rain following the rise of the sun and it does not continue so long, it affects the body badly. The small creek in the middle of the valley and a small forest extending a few kilometers on both sides of it, small meadows extending along its nice roads, even wild but very bright flowers around the roads, hibiscus and elderberry are really beautiful. In this small forest, the shrieks of birds give people good rest. In fact, one finds peace and quiet in Yalova. One needs to have a rest after getting tired. In this respect, people get satisfied with Yalova, get benefited from it. Inhaling the fresh air into our lungs is good for our health. The **Yalova Baths** gives health. They strengthen the mind."

In his article, **Dr. Besim Ömer Akalın** provides some information about the historical development of Yalova Hot Springs:

"Many inscriptions made of marble were found in the Mountain Bath. There is a picture of **Asclepios** and those of three fairies dancing below it. Hence, it is stated that patients will recover with Asclepios's advice. Its previous name was **Pythia (pitupulis, pilipitya)** and the place where the hot spring is located was known as **Epe sipsi (Pelepitya**) in the Byzantine period(10).

After the foundation of the center of the empire in Byzantium upon the order of Constantine the Great, it took the name of **Pythia (Sebopolis).** The name of Karamürsel was (**Derepenon**). It was given the name of (**Heleponis**) to the dedication of Konstantin's mother. It is mentioned in the history that when the empress Helen suffered from rheumatism, she was sent with a cart to this hot spring having very much effect, two-hours away from Istanbul, famous for its grace, surrounded by small hills and located in a rather poetical valley.

Besim Ömer Akalın Pasha gives the following information about the general view of **Yalova Mountain Baths** in the early 1900s: The general view of "**Yalova Mountain Baths**: 1-Valide Bath 2-Despot Bath 3-Twenty rooms, a living-room and downstairs an apartment with a private bath open to public. 4- Chalet. 5- A hotel with numerous rooms. 6- Roman baths. 7- An apartment with ten private baths 8- A pavilion including four private houses 9- Telegraph Office.10- An apartment with six rooms open to public. 11- A bath with five basins.

Moreover, in the **Mountain Baths**, an old bath whose construction on the fifteen-centuries-old ancient bath left from the Roman times was completed.

In the meantime, one of the eleventh century AD state chroniclers (Zonaras) visiting (Suturupolis) hot springs reports, "Today Constantine moved to the city named Pythia together with the navy to enter the bath before joining a battle against Persians." It is known that in 529 AD, the wife of Justinien the First (Teodora) went to this vicinity in company with four thousand people. However, although **Yalova Baths** were destroyed in the ninth-tenth centuries due to pitched battles, the people inhabiting in the villages took refuge in the islands. Locals and then female saints living before in Yalova left Yalova.

Today we find these female saints as children's baths guardians in Armutlu (Ayos). Again, it is known that "**Yalı Ova"** and "**Yalak Abâd"** were conquered in the periods of **Sultan Osman and Sultan Orhan**. In the meantime, after the death of **Sultan Mahmud**, in the time of Sultan Abdülmecid, when Valide Sultan got ill and needed to take a bath, upon the physician's recommendation, a pavilion was constructed for her accommodation there. Valide Sultan graced the baths with her presence. The last fame of Yalova starts with Valide Sultan's coming here."

Besim Ömer Paşa reports that in the late 19th century **Yalova Mountain Baths** were composed of a Mountain Seat **named Despot Hamamı** having four rooms and three bathrooms, a pool with four rooms named Valide Bath and another apartment with five bathrooms and a hotel with numerous rooms and a third bath with five basins and a bathroom belonging to the villagers and these were damaged in time and used as a mineral water source and only th local benefited from I(11)t.

Again, with suggestions of a board of health established by **Mavroyani Pasha, Zoeros Pasha** (1842-1917) **and Faik Pasha**, Mr Mortiman, **Arif Pasha** and some other health specialists, an apartment with twenty rooms, a living room, and downstairs an apartment with perfect nine private bathrooms and also two pavilions of four rooms with private bathrooms were built and they recommended to drink the mineral water before it lost gases which it contained and hence it would be good for many chronic diseases.

In the meantime, **Akalın Pasha** also gives information about the structure of **Yalova Mountain Baths**: "A pavilion for the dynasty and another apartment with six rooms for people was constructed. This year, the old ruined Roman baths were reopened on the 29th of September after working for two years. The plan of this rebuilt bath is given below(12):

1. Very hot place and a bathroom next to it
2. Treatment house- Dry Pool
3. Cesime-i Havuz (pool)
4- 5. Bathroom
6- 7. Bathroom
8. A private room for resting
9. Otolaryngology treatment house
10. Bathroom
11. Hydrotherapy apartment
12. Resting-Room
13. Cabinet
14. A private room for resting
15. Cabins

In the meantime, to the right of it were two and in the corridor to the left were five water closets. This corridor leads to an apartment with a big pool. This marble pool was built with care and there are courses built around it and it leads to the bathrooms. Again, a door leads to the treatment house with a bathroom on both sides and a shallow pool upstairs. Later, from the other side of the bath, you enter a very hot place (halvet) generating very high temperature.

Here there is a bathroom and a shower and some illnesses are cured through sweating and there are marble sofas. Again on the right of the pool is a treatment house built especially for curing otolaryngological diseases and with perfect cells built to generate very thin water and vapor and beyond this is a resting room with a shower inside and a marble sofa.

In the place where you pass from the treatment house to the resting room was established a hydrotherapy apartment with latest system shower bathrooms. The taps of each of these were installed in a way to use hot and cold water separately and by mixing when desired. The floors of the bath and bathrooms and pools were made of Italian marble. On top of the building are seven lead-covered arches and domes and inside it are opening and closing ventilation holes to get fresh air in."(13)

Again, according to **Dr. Besim Ömer**, the water of **Yalova Mountain Baths** was analyzed and reported by **Francesco Della Suda (Faik Paşa)** (1814-1866) and Mr Friedman. Although the mineral water going to the baths came from many places in that period, only three of these sources are very old. One of these flowed to the creek because the source was ruined and another was opened for analysis. In this case, only one spring water is carried to the baths through a stone channel. This delivery route was repaired and it was prevented from mixing with rain water. However, some parts of the channel were cracked. When you enter a cave along this road, it is seen that hot water flows. The cave is very hot and sick dogs get burned here due to very high temperature and some snakes with no poison crawl around. Again, some people hang pieces of cloth for chance on the branches of trees around. The valley has a very nice view in the morning and evening and you smell scent of sulphur everywhere. In the meantime, a pavilion was built on the spring waters. Those who come here pull water with a small bucket attached on a stick directly from the springing water and fill their goblets and drink it slowly on the sofas around.

The water cools by flowing through snake-wise pipes in a stone container in the middle of which is cold water. Moreover, there are two famous spring waters known by villagers and used especially in the treatment of Autumn diseases and beyond it in the valley is another spring water. The water in the spring is clear and colorless and so is the spring. But bubbles here and there stir the sand layer.

Although the water does not taste pleasant, it is not bad at all. When it is drunk early in the morning or late in the evening, it gives a mild dryness and a burn in the throat, which results from the gases existing in its compound. The hot water drunk like tea gives a mild odor of sulphur. According to the report given as a result of the analysis, the Yalova Hot Springs include the following minerals(14):

Besim Ömer Akalın also reports that Yalova Mountain Baths are superior to some of those in Austria, Hungary, Poland and France. These words of Besim Ömer's

are very important, too: "The curing effect of a hot spring does not only come from substances which it contains. There is also another effect which science has not discovered yet." Again, the same author reports that waters of Yalova Hot Springs remain unchanged in almost every season, that is, sixty degrees.

It is known that with the little amount of sulphur it contains it will have an effect similar to that of the hot springs with sulphur and since its waters contain many kinds of gases such as nitrogen and mixes with other substances, it is used in the treatment of some lung diseases.

In using mineral and hot spring waters in treatment, the nature of waters, chemical composition, temperature degree and the way of using are important. Such methods as drinking, bathing, showering and inhaling of gases are used in treatment. Among the points to consider in using a hot spring are important the location and altitude of the hot spring and climate. In the meantime, the most important of all are the degree of water and its mineral content.

The odor and special taste of the Yalova waters are eye-catching. The temperature of waters depends on depth. That's to say, since the temperature increases by 3 degrees celcius in 100 meters, the temperature of the Yalova waters coming from a depth of 1980 meters is 60 degrees celcius. Yalova waters are a hot spring, that is, a volcano.

Dr. Besim Ömer mentions about the ways of using these waters like this: "In hot springs, one benefits from the waters in different ways. The water is used in the form of bathing, showering and drinking. Even sometimes emitted gases are inhaled. Drinking of waters is a way of treatment and it should be drunk as soon as it springs out of the source. Stomach can stand cold mineral waters more easily. The amount of water to be drunk changes depending on person, illness and staying duration(15).

Since some people come to the hot spring for a limited period of time, they take a bath once, even three times a day and drink as much as possible always with glasses in their hands. These practices may sometimes cause a person to lose strength. Some people may have kidney diseases, hemorrhoid, etc. For drinking water, small bowls should be used. It is recommended that the water should be drunk with empty stomach in the early morning and before dinner in the evening.

If a person cannot drink the hot water with empty stomach, a cup of coffee should be drunk with a piece of bread crust. The coffee should be without milk because it may cause indigestion. If stomach is full of water, nothing should be eaten. Since stomach juice becomes very juicy, indigestion can be observed. It should be started with little amounts of water and it should be increased gradually."(16)

The author also dwells upon the ways of bathing. The effect of a bath changes based on the temperature and chemical structure of water, the resting and movement habits of the patient and the illness. Bath is usually taken in cold, warm or hot. In Yalova, apart from cabinets with private bathrooms, there are also pools allowing for a few people to take a bath together. These pools are big enough to move and swim. Benefit of big pools is more than that of little bathrooms because a bath can be taken at the same degree. The water is changed after each bathing. However, hygiene is very important here(17).

Again it is also dwelled upon the showers and some principles should be taken into consideration in relation to taking a bath: 1- Composition of water 2- Degree of temperature 3- Pressure of water (slow, moderate, fast flowrate) 4- Direction water (rambling, vertical, from below or above or side) 5- Shape of water (fountain-like, spurting, rain-like, circular, broken, etc.) 6- Surface, Location (Public or local).

In the shower, whose duration is much shorter than that of a bath, water can never be absorbed by the skin. Although a shower lasts shorter than a bath, it has more effect on the organs. If a shower is taken in company with massage like in some hot springs in Europe, it is more beneficial and good for psychological diseases, blood circulation and respiration.

In some hot springs, the places filled with vapor and reserved for sweating are called 'buguluk'. In such places, a lot of attention should be paid. Through sweating: 1- Harmful substances are removed from the body. 2- Good for nervous system. Moreover, waters containing hamızı kibriti mâ and hamızı carbon nitrogen, etc. are beneficial for health: 1- A local treatment is achieved. 2- Cold gases are good for common cold. This feature also exists in European hot springs and there are special places to inhale these gases(18).

Besim Ömer Pasha mentions about using features of **Yalova Hot Springs** like this: "Waters contain sulphur, having electrical properties and are hot. They are abundant in amount. In their reports about this subject, **Colonel Zoeros Pasha**, Internal Medicine Professor of Tıbbiye-i Şahane (School of Medicine) and **Dr.Istekolis** state that the Yalova Waters can be drunk and used for bathing.

Bathing is the most effective way of use. It is good for chronic rheumatism. Internal use of the waters, that is drinking, is good for cold in the respiratory track. The Yalova Waters are good for gout, sand and stones in kidneys, chronic liver, gastro-intestinal diseases. It is used in skin diseases."

The author reports that **Yalova Hot Springs** are used for rheumatism, diabetes, bladder diseases , chronic lung diseases, nervousness, arthritis, skin diseases but it should be based upon the physician's permission. Information should be obtained from the physician about the temperature of water and bathing number and times(18).

Those who come to the hot spring should have a rest for one or two days, take a bath of 37 degrees once a day and not more than fifteen minutes, have a rest for a while before going to sleep and then move take a total of twenty baths in three weeks . In the meantime, body and feet should be kept warm, woolen clothes, vested shoes should be carried and coffee and tea should not be drunk (19).

In the meantime, a telegraph office was opened for communication and the island boats run to Yalova every day for transport. From Yalova to the Baths, landaus and phaetons carry passengers continuously on the well-constructed highroad. Starting from the bridge, it takes 5-6 hours to arrive in the baths. Since the highroad passes through uninhabited places, cavalry and infantry outposts were built. **Yalova Mountain Baths** can be used from spring to autumn(20,21).

Today, the information which **Besim Ömer Pasha** provided about **Yalova Hot Springs** is still true(22).

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Vitiligo: Types and Treatment According to the Most Renowned Arab Muslim Scientists

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Summary

Introduction: Vitiligo is one of the oldest diseases that have afflicted people. It was firstly described by old Egyptians in Ebres' papyrus more than four thousand years ago. In this presentation, focus will be on the contribution of Muslim Arab scientists to the field of Vitiligo.

Aims: The purpose of this research is to shed light on an important aspect in Islamic Arabic heritage in relation to dermatology, as regards old Muslim Arab physicians. It has been found out that Abi Al-HasanAl-Tabari (375 H.-985 A.D.), a physician of the fourth hegira century, tackled several medical issuesin his book,Hippocrates Treatments, among them is Vitiligo.Vitiligo was also mentioned in Al-Razi's, IbnSina's and Al-Zahrawi'sbooks. Because of this,we have chosen tostudy this disease as it has been the concern of old and contemporary physicians' treatments.

Methodology of research: The research type followed in this study is the historical retrieval, through going back to old medical books especially Abi Al-HasanAl-Tabari'sHippocrates Treatments, especiallythe seventh article which consists of sixty chapters, of which the tenth chapter is dedicated to talk about Vitiligo. Other Arabic medical books that handled Vitiligo were Al-Razi'sAl-Mansouriin Medicine (375 H.-985 A. D.) and Al-Zahrawi'sManaging (404 H.).

Results: 1-Muslim Arab scientists differentiated between Vitiligo and leprosy. 2- Al-Zahrawi classified Vitiligo into three types. 3- Abi Al-HasanAl-Tabari specified a complete chapter to talk about Vitiligo and its treatment.

Conclusion: Vitiligohas been known since oldest times. In this respect, Muslim scientists contributed to the field of Vitiligo with respect to diagnosing this disease relying on strong observation and the disease distinguishing features. However, up till now it has notbeen often found any effective medicationfor such a disease.

Key words: Vitiligo, HippocratesTreatments, Abu Al-HasanAl-Tabari, Arabic medicine, Islamic medicine, Al-Zahrawi.

Introduction:

Skin is the largest organ of the body and the easiest to see. It has attracted the attention of people from times of old. In this presentation, focus will be on the contribution of Muslim Arab scientists to Vitiligo.

Dermatology originated and developed as a specialty in Europe in the seventeenth century only. Vitiligo is considered one of the most important skin diseases because of its commonness. Its spread is estimated as 1% of the total world population. It is thus an old disease.

In our Arabic language, this disease is known as "al-buhak". In Latin, it is known as "Vitiligo", a word derived from the Latin root "vitiug", meaning the spot.

In the MiddleAges, people linked Vitiligo to non-purgation and sometimes compared it to leprosy. It can be said that Vitiligo is a skin disorder that results in the whitening of one of the body skin areas. This whiteness takes the form of spots that stretch circularly due to a disorder in the skin pigmentation cells and it does not affect the skin layers.

Vitiligohas been classified into four types according to the stretching and distribution of affected skin areas [2].

1- Localised focalVitiligo: It affects one non-sectional area. It might affect a dermatom or a bundled skin area. This is known as sectional Vitiligo,which is hard to treat if it afflicts old people.
2- Generalised Vitiligo: It is the most commontype. Affliction is symmetrical. The most afflicted areas are the face, the upper part of the chest, the back of hands, the armpits, and the sides. There is also a tendency to afflict those parts which have capillary follicles, like the eyes, the nose, the mouth, the penis, and the vagina.
3- Universal Vitiligo: It afflicts the skin of the whole body.
4- Arco-Facial Vitiligo: It afflicts fingerterminals and areas around the face orifices.

There is also a type of Vitiligo known as Occupational Vitiligo. The factors include chlorkinine group. This type afflicts people working with rubber and gloves industry, where anti-oxides exist.

Importance and purpose of research:

Because of the fact that Vitiligohas not been the concern of academic study of contemporary researchers in Arabic medical heritage, and because foreign books about Vitiligohave not talked about the achievements of Muslim Arab physicians in the Middle Ages, it seems important to shed light on this disease, hoping that this study will pave the way for other studies to be done in relation to old physicians.

The research aims at knowing an important aspect of Islamic Arabic heritage in relation to dermatology, as regards Arab and old Muslim physicians.

Methodology of research:

The research type followed in this study is the historical retrieval, through going back to old medical books especially Abi Al-HasanAl-Tabari's *Hippocrates Treatments*, especiallythe seventh article which consists of sixty chapters, of which the tenth chapter was dedicated to talk about Vitiligo. Other books that have been consulted were Arabic and foreign medical books that talked about Vitiligoat the time of the European revival and later.

First: Vitiligo according to old Egyptians

Old Egyptians were the first to talk about Vitiligo in Ebres' papyrus more than four thousand years ago. However, the use of khillaplant in treating Vitiligo goes back to Ibn Al-Bitar in the thirteenth century. This plant was mentioned in his book *Medical Terminology*under the name of "isterlal", which is a barbaric term meaning the "bird's leg", and is known in Egypt as the "crow's leg", "Satan's root", and "Satanic khilla". [13]

In this respect, the barbaric tribes in Morocco, known as BeniShuaib, were the first to discover the benefit of this medication in treating Vitiligo. They used to sell this medication to the diseased but they kept it a secret.[13]

Second: Vitiligo according to some of the renowned Arab physicians

Islamic medicine was in its golden age between (750 and 850 A. D). The Muslim and Arab physicians and scientists held the torches of science all through five centuries at the time when Europe was blundering in ignorance and barbarism. A lot of renowned Arab physicians excelled in different fields and touched on the subject of Vitiligo and its treatments. They used to study the history of the disease and were concerned about check-up. They were able to describe new diseases and they could establish organic diagnosis rules with respect to dermatology.

1-Vitiligo according to Abu Baker Al-Razi who died in 313 H./925 A. D.

In his book, *Al-Mansouriin Medicine*, Abu Baker Al-Razi mentioned white Vitiligo saying: "Indian dittander, common cultivated radish seeds, cretan spikenard, chalk plant, and mustard are all crushed in vinegar and the skin is rubbed while being exposed to the sun. Or onion biblous is rubbed many times a day if adequate. Or a few drams of buck-bean, a dram of turbith, a dram of hiera, quarter of a dram of colocynth are all taken four times a month. On other days, three drams of buck-bean are taken. As for black Vitiligo, clover dodder is taken several times. The skin is later rubbed usingcommon cultivated radish seeds, chalk plant, or rocket seeds mixed with vinegar. Bathing is done together with having refreshing foods." [5]

2-Vitiligo according to Abi Al-HasanAl-Tabari who died in 375 H.-985 A.D.

In his book, *HippocratesTreatments*, Abu Al-HasanAl-Tabari tackled the issue of Vitiligo in the seventh article under the tenth chapter. This disease was studied because of its importance. Abu Al-Hasan differentiated between Vitiligo and leprosy unlike the pioneers who considered both as one in treatment,especiallyin the case of white Vitiligo. But Abu Al-Hasan noted that the virtuous Jalinus

differentiated between white and black Vitiligo in look and appearance. Abu Al-Hasannoted the difference between Vitiligo and leprosy in appearanceand look. He described Vitiligo as circular. Wherever it appears, it neither extends nor spreads since the time it appears.It always gets peeled and it often has the same colour of the skin. Its colour slightly differs from that of the skin. However, leprosy extends and spreads wherever it appears and it is white, clear, and glitters most of the time. This is the difference between the two regarding appearance and look. As regards matter, the difference between the two has to do with wetness which makes leprosy white, rotten[1], degenerated[2], and mixed[3]with the flesh where it appears and supplies the organ and hair. It prevents proper nourishment of the organ, which gives the bone a new colour and nature and whitens the blood which reaches the spot. Nevertheless, Vitiligo is wet. It burns and gets like dust, between black and white in colour, which eliminates water. The blood factorises it and it runs through the veins. When the matter reaches the minute divisions, it gets out of the divisions heads and it gets located between the skin and the flesh. It becomes circular in form. It might burn and get black, which makes black Vitiligo. Both matters do not nourish the flesh and do not whiten the hair.

Abu Al-Hasan stated that treating white Vitiligo is done through considering the strength of the diseased, his age, temperament, practices, and work, in addition to considering the time of the year.If the time is

That when emptying is not appropriate, treatment has then to do with feeding only. Thisremediesthe blood. Refreshing foods are taken. When emptying is possible in time, then renesection is done if filled. Then, the spot where Vitiligo is located is to be considered. If the spot is on the chest and neck, it isthen injected with mashed chamomile, melilot, and a small quantity of colocynth. If injected twice or thrice, then a rest is taken for a few days. At this time, feeding and drinking have to do with ten drams of cooked nucleus-removed black myrobalan, seven drams of embelia, three drams of bellericmyrobalan and emblic-myrobalan, three drams of true senna, astokhodus, and centaury, lupine flour and ghaftu, Roman absinthe, and soilla, one dram and a half of Chinese maniran and clocynth, two drams of celery seeds, aniseed, resin seeds, seven drams of clover dodder. All are bundled in a cloth with one dram and a half of crushed ryond,twenty drams of nucleus-removed sectarian raisins. All are cooked and the clover dodder bundle is closed andis sinking. Then, the cooked is liquidated. The diseased is given a quantity that suits his strength.The complete drink weighs one hundred and twenty. Strengthening the diseased requires a complete drink which is one dram of gharqon, half a dram of terbid, one dram of danqeen, and three Antakiantasasej. The whole is crunched and impasted with honey. The drinker is given the choice to have the drink one hour before the cooked or get it soaked in what is cooked. The drinker has this drink twice over two months then he stops for a few daysand gets enough food so as to get back his strength. If Vitiligo diminishes, then there is no need for rubbing, as bathing and massage dissolve it. But if it does not diminish, then gargling is prescribed using lousewort and pellitory. Later, the diseased is rubbed with one portion of sulfur, half a portion of Indian salt, half a portion of African rue, two thirds of a portion of common cultivated radish seeds and chalk plant, and two portions of artanitha. All are crunched and mixed with sour wine vinegar, then rubbed over affected areas for three consecutive days in the bath. The diseased perspirates, pours hot water, rubs the areas using a rough tissue, and covers the areas till the jalnjabeel and oxymel diminish, provided this is tolerated. This is the treatment of black Vitiligo. [6]

3-Vitiligo according to IbnSina who died in 428 H./1036 A. D.

In the second article of the seventh art of the fourth chapter of*Law of Medicine*, IbnSina stated that Black Vitiligo is not problematic. The problem is with the difference between illumination which is Vitiligo and bad leprosy. One of the differences between the two is that the hair which grows in areas of illumination is black and fair but the hair is white in case of leprosy. In relation to treating Vitiligo, IbnSina states that oleander foliage is boiled together with oil till it dries up. Oil is then strained. Strained wax is added in an adequate quantity. Yellow sulfur is sprinkled. This becomes like a jelly and rubbed while being exposed to the sun. [9]

4-Vitiligo according to Al-Zahrawi who died in 402 H.

In his book, *Managing Inability of Composing*, Al-Zahrawi wrote that Vitiligo is of three types, the dust-coloured, the black, and the white. The dust-coloured is of two types,

1. rotten: covered with greenness, p. 680 [3]
2. degenerated: having bad taste, p. 581 [3]
3. mixed with: mingled with, p. 713 [3]

the first is accompanied with itching and covered with date palm like date palm spelt wheat. The second is smooth and even above the skin surface. It is the result of a bilious matter and bitter blood. The black is of two types as well. It either starts from its own or it is transformed from the dust-coloured type. It results from black blood that is small in quantity and decomposed.The white is of two types. It results from thick and salty phlegm or from thick, sticky and non-salty phlegm. Thedust-coloured leads to speedy recovery, but the black one is difficult to recover. The difference between white Vitiligo and leprosy is that white Vitiligo results from decomposed blood that nourishes the visible part of the body skin, without decomposing the blood inside. Leprosy has to do with decomposed blood on which the visible and inside skin get nourished. Dust-colouredVitiligo, which leads to speedy recovery, is easy to manage. It generates new blood through having cold and refreshing foods and abstaining from foods generating acrid like garlic, onion, radish, and the like. Treating black Vitiligo is through emptying the black using gharqon and through abstaining from foods generating the black such as beef, goat meat, rabbit meat, lentils, oak, pear, and the like. Fattening the body, constant bathing, and taking light white drinks are of help. White Vitiligo is treated the same way leprosy is treated, but it is half the suffering. If it is accompanied with strong itching, red flare, fat and rosy body, then renesection is good, so that the phlegm does not burn and does not lead to leprosy. [7]

Third: Vitiligo in the seventeenth century

Several theories were established to explain such a disease. But there is no specific and known reason behind this disease. However, it is agreeable that the cells carrying the melanin pigmentation lose both the pigmentation and the ability to formit. Among the most important theories are the following: [11]

The neurological theory: The disease happens as a result of neurological shocks and psychological heavy crises.

The silent glands theory:Vitiligo happens more than expected with those suffering from over-secretion thyroid and those suffering from Adison disease.

Self-immunity theory: Anti-melanin organisms were isolated from the plasma of Vitiligo-diseased people and from those suffering from other diseases. Large areas of the body and torso might be affected and the spots are surrounded with dark-coloured corona. Hair colour changes in the plasma spot gradually till it gets white.

Treatment: Melanin tablets are to be taken together with sun exposure, using cortisone compositions locally, and using cortisone through injection to lead to speedy spread

Fourth: Vitiligo in the contemporary ages

Vitiligo has acquired a bad reputation over the past few centuries because of its similarity to other dangerous diseases. Because of the fact that medicine did not reach an advanced state like that in our present time, it was natural that diseases got mixed together and both people and specialists were confusedas to their nature and reality. The studies done showed that Vitiligo is an immunity disease (a disorder in the body immunity) which is non-infectious. It is transformed through heredity in about one third of the cases, and it happens for unknown reasons in the rest of cases.Vitiligo is a pathological independent unit and is similar, as regards lack of pigmentation, to other diseases like white bran, the many-coloued, khutham, and inflammatory membranes.

Albinism [2] is a disease similar to Vitiligo with respect to affecting the skin with white spots, but it differs as regards timing of spots appearance. In Albinism, spots appear since birth unlike Vitiligo which appears though life time. The disease reaches its climax in children and the youth, but it might affect people of all ages without differentiating between women and men.Vitiligo spreads in many areas, most of which are the skin around the mouth, the ear, the penis, the eye, the breast, the armpit, and the buttocks. [12]

Reasons for Vitiligo and its mechanism are still unknown up till our present age. A few theories explain its reasons whether psychological or hereditary. Thirty five per cent of the diseased have a family history of Vitiligo. The other theory is that of immunity. This theory assumes that Vitiligo has self-immunity, as Vitiligo is usually accompanied with immunity diseases like thyroid inflammation, baneful anemia, blood sugar, andtetter, in addition to the presence of qualitative opposites in the plasmas of Vitiligo-diseased people.

The neurological theory assumes that a matter is rejected in the skin terminals, which chills the blackish cells. This is assured in that the spots are located along the nerves courses in some cases of Vitiligo.

There is also the theory of destroying the self-blackishcells because of natural lack of immunity. [10]

Results and discussion:

1- Muslim Arab scientists differentiated between Vitiligo and leprosy, unlike their predecessors who combined both diseases in one. Abu Al-Hasan differentiated between both diseases with respect to look, appearance, and treatment. IbnSina differentiated between the two with respect to the colour of growing hair. Al-Zahrawi differentiated between the two in relation to blood decomposition in the body skin, and he combined between the treatment of white Vitiligo and leprosy. However, he noted that treating white Vitiligo is easier and it is half the suffering.

2- Al-Zahrawi classified Vitiligo into three types, but IbnSina, Al-Tabari and Al-Razi did not classify Vitiligo into types. Al-Tabari mentioned that Jalinus differentiated between black and white Vitiligo.

3- Al-Tabari elaborated on describing Vitiligo and its treatment. He assigned a complete chapter, which is the tenth one in his seventh article in his book *HippocratesTreatments*.

Conclusion:

Vitiligohas been known since times of old. The cultures that tackled such a disease were many. Besides, Muslim scientists contributed to the diagnosis and treatment of such a disease.

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Clinical Presumption of Etiopathogenesis of ZiqunNafasShobi (BronchialAsthma) with Reference to Unani System of Medicine

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Summary

Asthma accounts for millions of missed school days and working days each year; India has an estimated 15-20 million asthmatics. It is also a common reason for emergency room visits and hospitalization. Various etiological factors have been described, someone related to demography and others are related to Sex, Age, Diet, Air pollution, socioeconomic status, Temperament and Smoke. Some authors have emphasis on congenital and hereditary etiology also. Ziqun-Nafa Shobi in present era resembles Bronchial Asthma in clinical features. That is the chronic inflammatory disorder of the airways. In which many cellular elements play a role. The chronic inflammation causes an associated increase in airway hyper responsiveness that leads to recurrent episodes of wheezing, breathlessness, chest tightness and coughing, particularly at night or in the early morning. These episodes are usually associated with widespread but variable airflow obstruction that is often reversible either spontaneously or with treatment.

Key Words: ZiqunNafasShobi,Wheeizing,Temperament

Introduction:

Ziqun-Nafas Shobi is a disease of respiratory tract described in detail in Unani text. Different Unani authors like Ibne Sina, Razes, Ismail Jurjani, Ali bin Abbas Majoosi etc described Ziqun Nafa Shobi in their compilation, giving the emphasis to etiological factors.(1,2,3)

Avicenna (980-1037A.D.) Physician and noble scholar of Unani Tib, described extensively about Ziqun Nafas Shobi with reference of its etiology, types and other alike diseases. (4) Ismail Jurjani (Death 1140 A.D.) proposed broad classification of Ziqun Nafas Shobi and classified it into ten types. (5)

As we know, various etiological factors have been described, someone related to demography and others are related to Sex, Age, Diet, Temperament and Smoke. Some authors have emphasis on congenital and hereditary etiology also.

In present era ZiqunNafasShobi resembles Bronchial Asthma in clinical features. That is the chronic inflammatory disorder of the airways. In which many cellular elements play a role. The chronic inflammation causes an associated increase in airway hyper responsiveness that leads to recurrent episodes of wheezing, breathlessness, chest tightness and coughing, particularly at night or in the early morning. These episodes are usually associated with widespread but variable airflow obstruction that is often reversible either spontaneously or with treatment. Age, Heredity, Air pollution, Smoking (active or passive), Respiratory Infection, Allergens, Socio Economic Status, Poor Personal hygiene, Weather changes are common factors supposed to be involved in the etiology of Bronchial asthma. Asthma accounts for millions of missed school days and work days each year; it is also a common reason for emergency room visits and hospitalization.

Definitions:

There are a lot of definitions given by Atibba(Unani physican) which are based on clinical findings and such type of definitions are very helpful to understand the diseases clinically, that's why it feels necessary to describe these definition for better understanding and to rule out proper diagnosis, among them some excellent definitions are selected here for discussion, as per the Unani scholar, Ribu or Dama is the disease of lung in which a person is forced to have rapid respiration in spite of being at rest. It means the interval between two breaths is

small. This condition is caused by inadequate supply of Naseem. It is compensated by prolong breathing (Azm). When prolong breathing fails to satisfy the need of Naseem, it is compensated by increasing respiratory rate or rapid respiration (Surat). When Azm and Surat fails to fulfill the requirement of Naseem, the body compensates it by decreasing the gap between two successive breaths (Tavatur). (6, 7)

According to Unani Scholar there are various terms described as Bohar, Ribu, Intasabun-nafas and Ziqun Nafas . These terminologies are also based on clinical spectrum of diseases and these terms can be easily understood by lay man as well as by the physician. Explanation of these terms is very important to communicate the disease between physician and the patient. All these respiratory conditions are caused by narrowing of respiratory airways when the narrowing is in moveable air ways then the condition produced is known as Ribu or Bohar. When the narrowing occurs in the tracheal tree the condition produced is known as Intasabunnafas.(8,9,10) It is the disease, characterized by difficulty in breathing due to the spasm in respiratory air ways.(11) Ribu is defined as a disease of lung in which the patient is forced to have rapid and continuous breathing inspite of being at rest. This condition is also known as Ziqn nafas or Bohar.(12,13)

However in Zakhira – Khuarzum Shahi, Ziqun Nafas or Ribu is described as a disease in which the patient cannot respire comfortably in spite of being at rest. The respiration of patient is rapid and repeated like that of a person running very past. This type of respiration is known as Nafas Tavatur. The cause of this respiration is described as the obstruction of air passages; the disease is troublesome for adult and badly affects the old persons. Old people hit the worst due to very low innate heat; they are not able to ripen the matter of the disease. And due to the weakness of respiratory organs of old persons, they are unable to expel the matter from trachea, in the lying position the condition of the patient is more troublesome than in sitting position, as the Mawad spreading though out the lung spaces and hinders air flow. Following reasons have been attributed to difficult expulsion of Mawad from the lungs.

- ❖ Excessive quantity of Mawad
- ❖ Khilt Galeez wa Luzuj (Thick and sticky matter)
- ❖ Khilt Raqeeq

Author describes cough, as tools of Qwatedafia to expel out the Raqeeq and Galeez Mawad from the lungs.

Etiology of Ziqun-Nafas Shobi:

In this disease difficulty in breathing occurs due to the spasm of narrow air passages. It is of two types;

(a) Khushk Dama (Dry Asthma)
(b) Martoob Dama (Wet Asthma)

In khuskh dama spasm occurs in narrow air passages, which result in dyspnoea. In Martoob dama there is collection of phlegm in air passages beside their spasm. (14)

According to the author of Majmaul Behren, there are two main causes of Ribu first congenital and second is production of Galeez Balghum in the lungs. This Balghum may produced in chest, descend in lungs from the nearby organs or from the head, or produce with in the lungs. In this disease the alveolar sac enlarges or air spaces are created by rupture of alveolar walls. It may decrease the functioning of lung tissues and further embrace pulmonary ventilation, and result in cardiomegaly, depositions of fat in liver and kidney; at last it may cause ascitis.(7)

Ismail Jurjani described the main cause of Ribu is accumulation of fluid in the lungs. This fluid is not expelled from the lungs due to three reasons

- ❖ It may be excess in quantity
- ❖ It may be Galeez or Luzuj (viscid or mucilaginous)
- ❖ It may be Raqeeq (watery)

In spite of that he further describes cough as tools of QuwwateDafia of lungs to expel out the raqeeq and ghaleez mawad. Accumulation of mawad results in feebleness of inate heat and QuwwateDafia of lungs. Cough expels out the air from lungs but the mawad retain in air ways due to the feebleness of Kuwwat-e-dafia of lungs. (5)

According to Abu Marwan Abdul Malik Ibne- Zohar Ziqun Nafas is caused by accumulation of fluids in bronchioles. This matter descends from head. (15) Ziqun Nafas Shobi is caused by viscid fluid which sticks in trachea and results in difficulty in breathing. (16)

As described by Avicenna in AlQanoon the viscid fluid responsible for Ziqun nafas Shobi sometimes produced due to the coldness of lungs. Sometimes, It may be produced due to the fluid in stomach which descends in stomach from head or produced with in the stomach, sometimes these fluids may produced with in the lungs or nearby organs. Ajmal Khan in Al Haziq described two types of Ziqun Nafas Shobi. According to him “It is a disease which when affects a person is very difficult to get rid off because it is difficult to treat spasm of narrow air

passages that results in dyspnoea. This usually occurs in episodes of breathlessness."

It has two types Khushk (Dry) and Martoob (Wet).In dry type there is spasm in air ways, in wet type there is collection of phlegm in the air wary beside their spasm leading to dysponea.(11)According to Auther of Tarjuma-Kabeer, Ziqun-Nafas (Bohar) is of four type Bohare Nazli,Bohare Qalbi,Bohare Yubsi,Bohare Warmi.

According to WHO the strongest risk factors for developing asthma are exposure, especially in infancy, to indoor allergens (such as domestic mites in bedding, carpets and stuffed furniture, cats and cockroaches) and a family history of asthma or allergy. A study in the South Atlantic Island of Tristan da Cunha, where one in three of the 300 inhabitants have asthma, found children with asthmatic parents were much more likely to develop the condition.

Exposure to tobacco smoke and exposure to chemical irritants in the workplace are additional risk factors. Other risk factors include certain drugs (aspirin and other non-steroid anti-inflammatory drugs), low birth weight and respiratory infection. The weather (cold air), extreme emotional expression and physical exercise can exacerbate asthma.

Prevalence:

Ziqun Nafas Shobi can occur at any age. However, in half the cases the onset is before 10 years of age. Asthma affects about 3% of the population in most countries. The highest prevalence (about 30%) was found in New Zealand. The prevalence in a number of countries falls in the range of 10%–17%.The prevalence of asthma has increased in most of countries science 1970. Levels may have plateau in developed countries but as prevalence is associated with urbanization and a western life style, the problem worldwide is likely to increase over the next two decades.

About 300 million people worldwide have Ziqun Nafas Shobi and by 2025 it has been estimated that a further 100 million will be affected. Ziqun Nafas Shobi accounts for one in every 250 deaths worldwide and 1% of all disability adjusted life years. In overall health terms, chronic symptoms of Ziqun Nafas Shobi account for 8% of self reported poor health in 18-64 year olds and 3.5% days of limited activity, putting Ziqun Nafas Shobi above diabetes but below arthritis as a chronic health problem.

Preventive Steps:

Medication is not the only way to control asthma. It is also important to avoid asthma triggers stimuli that irritate and inflame the airways. Each person must learn what triggers he or she should avoid. World Health Organisation recognizes asthma as a disease of major public health importance and plays a unique role in the co-ordination of international efforts against the disease. According to who, international action is needed to increase public awareness of the disease to make sure patients and health professionals recognize the disease and are aware of the severity of associated problems. There should be organize and co-ordinate global epidemiological surveillance to monitor global and regional trends in asthma. This is the need of time to develop and implement an optimal strategy for its management and prevention (many studies have shown that this will result in the control of asthma in most patients); and stimulate research into the causes of asthma to develop new control strategies and treatment techniques. It is found to be necessary to o educate physicians and other health care professionals about the relevance of allergic rhinitis to bronchial asthma; and o educate the public about the potentially fatal risks of allergy (anaphylaxis) and asthma, especially in children, and to encourage greater dialogue with their physicians. Better education and increased dialogue could avoid approximately 25,000 childhood deaths due to asthma each year

Conclusion:

As per above depiction it could be mentioned that by understanding Etiopatogenesis, it is effortless to find out the risk factors of ZiqunNafas Shobi. It is the first step to control ZiqunNafas Shobi. By appropriate methods and with the help of research and technology we should detect the causative agent. Besides this, we should also assist the temperament of a person and its association with ZiqunNafasShobi. This will lead to the correct diagnosis of the disease. With the help of educational and awareness programme, we not only prevent Asthma but also control it in better way. For the prevention of asthma (primary, secondary, tertiary) it is necessary to provide asthma training for health professional such as, Nurses, respiratory therapist, physicians, assistants. They will serve as asthma educators. Identify best practices that prevent the development of asthma on work places is the key to counteract the occupational Asthma. As the asth-

ma is more prevalent among young age group, prevention strategies should be initiated right from the beginning of the primary school.

In Unani System of medicine there are various remedies having effective role in the prevention and treatment of ZNS for example Adrak, Honey, Asl-e-usoos, Parshianwasan, Sapistan, Barg-e-Adoosa, Khayarshamber etc. This is the need of hours to rule out evidenced based efficacy of these medicines to control and to prevent ZiqunnafasShobi at its earlist.In spite of that there are enormous Unani diets as well as medicine by which Qwat-e-MudabiraBadan could be enhances to fight pathogens and infective organism and with the help of Dalak and Riyazat, lung function can be restored. Thus Unani system has incredible role in preventing and controlling ZiqunNafasShobi.

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An Unpublished Persian manuscript Qarabadin Masumi A Review

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Summary

Unani Tib as the active representative of a great historical medical traditions remains an important subject for medical historians as well as contemporary practitioners. It is well known fact that a vast literature of Unani system of medicine is lying unexplored in the form of manuscripts which were written and transcribed through various eras and years in India and abroad in different languages, many of which are still unpublished. These Mss besides representing the achievements of the past Unani scholars, they primarily reflect the urge of man to lead a higher life. It is a source of great inspiration to those of us living in modern times that even when the facilities have not been generous, life was still lived with full cure and prevention. One of the most important unpublished Unani manuscripts is *Qarabadeen Masumi* which was written by Masum ibn Kareemuddin Shirazi in 1637 AD on Unani pharmacy. Full attention was given on pharmacy besides therapeutics, in every era of Unani Medicine right from *Kitab* al-*Hashaush* of Dioscorides (50-100 AD) to the recent period, and huge literature has been written on this subject, especially in Persian language. Due to unawareness of the language, these Mss are rarely studied. Different copies of *Qarabadeen Masumi* are preserved in various libraries of the country. This manuscript is about Unani pharmacopoeia in which different Unani compounds are mentioned for various diseases comprehensively with their method of preparation. The Qarabadin Masumi has been originally written in Persian language and has a historical value. It contains one *Muqaddama* (preface), seven *Maqala* (discourse) and a *Khatma* (Conclusion). A discussion about its contents and some useful formulations is presented in the paper in detail.

Key Words: *Qarabadeen, Manuscripts, Unani Literature, Medical History*

Introduction of Unani Tibb:

Unani system of Medicine is reported to owe its origination to Hermes (Idris A. S.), Aesculapius, Pythagoras etc. It derived its basics from the great Greek physicians of yore like Hippocrates (462-370 B.C.), Dioscorides (50-100 AD) and Galen (131-210 AD) etc, who stabilized its foundation. The theoretical frame work of Unani medicine is based on the teachings of Hippocrates. When the Greeks dwindled into non-entity, it was picked up by the great Muslim scholars from the 8th to 13th centuries A.D. Greek Medicine withdrew from the region of its birth but evolved steadily and gradually in western Asia, on which Arab physicians constructed an imposing edifice. They got all Greek medical literatures translated. It was added, strengthened and enriched by them with their own profound wisdom, keen observation and experiments and passed it on to the west when the Europe was passing through dark ages. Their names were Latinized, and their medical treatises were imported into Europe and translated into Latin, to serve as texts and reference manuals in the medical schools. The books like *Al-Havi* by Al-Razi (Rhazes) 850-930 AD, *Kamil al Sana'h* by *Ali ibn Abbas al-Majusi* (Haly Abbas) 930-994 AD, *Al-Tasreef* by *Abu al-Qasim al-Zahravi* (Abulcasis) 936–1013 AD, *Al-Qanoon* by *Ibn Sina* (Avicenna) 980-1037 AD, etc. among so many treasures authored by Arab scholars, were translated into Latin and other European languages and taught in European universities which has greatly influenced western medical thoughts. No doubt that the works of that century are far greater than that of many centuries. Unani Tibb enriched itself by imbibing new medicines, techniques and treatments from the various cultures and medical systems with which it came into contact.

Development in India: Unani Medicine first expanded and then shrank into the Indian subcontinent. It transmitted in India through Arabic and Persian sources. India became the centre for rebirth of Greco-Arab Medicine. At present Unani System in India is preserved in its classical form, overhauled and revamped drastically on scientific lines and patronized by

the state. A self reliant and self propelling system in the domain of Unani Medicine is evolving. Now it stages a comeback in the region of its birth, expands extensively in its present habitat and wins acceptance in western countries.

Principles of Unani Medicine:

The Unani medicine is based on the principles of Hippocrates that is the humoral theory which presupposes the presence of four humors in the body: *Dam* (blood), *Balgham* (phlegm), *Safra* (yellow bile) and *Sauda* (black bile). The *Mizaj* of a person is expressed by the terms sanguine, phlegmatic, choleric and melancholic, according to the preponderance of the one of the four humors. Every person is supposed to have the unique humoral constitution which represents his/her healthy state. The balance of four fluids in the body is believed to determine our emotional and physical state.

The essential working principles of the body, according to Unani, can be classified into seven main groups:

1. *Arkan:* Constituents comprising earth, water, air and fire as different states of matter and the building blocks of everything in the universe
2. *Mizaj:* the bodily constitution (physico-chemical aspects)
3. *Akhlat:* the structural components (bodily humors)
4. *A'ada:* the fully developed mature organs (anatomy)
5. *Ruh:* the vital or life-force (mental or psychic energy)
6. *Quwa:* The bodily power or Faculties (physical energy)
7. *Af'al:* the corporeal function (physiological and biochemical processes)

To maintain the correct humoral balance, there is a power of self-preservation or adjustment called Quwwat-e-Mudabbira (vis medicatrix naturae) in the body. Disease is the consequence of humoral imbalance in the body and of the failure of one or more parts of the body to get rid of pathogenic waste from the body.

Diagnosis: The distinctive feature of the Unani system is its emphasis on the diagnostic importance of Nabz (the pulse), examination of Baul (urine) and Baraz (stool).

Treatment: In the Unani system, four lines of treatment are employed:

1. *Ilaj bi al-Tadbeer* (Regimental therapy)
2. *Ilaj bi al-Ghiza* (Diet therapy)
3. *Ilaj bi al-Dawa* (Pharmacotherapy)
4. *Ilaj bi al-Yad,* (Surgery)

Pharmacotherapy: It is very important part of Unani management which deals with the use of naturally occurring drugs derived from plant, animal and mineral sources. They are symbolic of life and are generally free from side effects.

Unani Manuscripts:

Unani Tib has a vast reservoir of manuscripts which were written and transcribed through various eras and years in India and abroad in different languages. Many of the glorious creations of these manuscripts have already been lost through the passage of times, human vandalism and neglect, therefore it is imperative that we consolidate our efforts and consult together to conserve the material remains of our cultural heritage. Though a large section of people are aesthetically aware of the value and utility of the manuscripts and books written by earliest physician but unfortunately lesser number of serious scholars are taking interest in studies of these manuscript due to ignorance of the manuscript language, therefore gradually these books are dwindling.

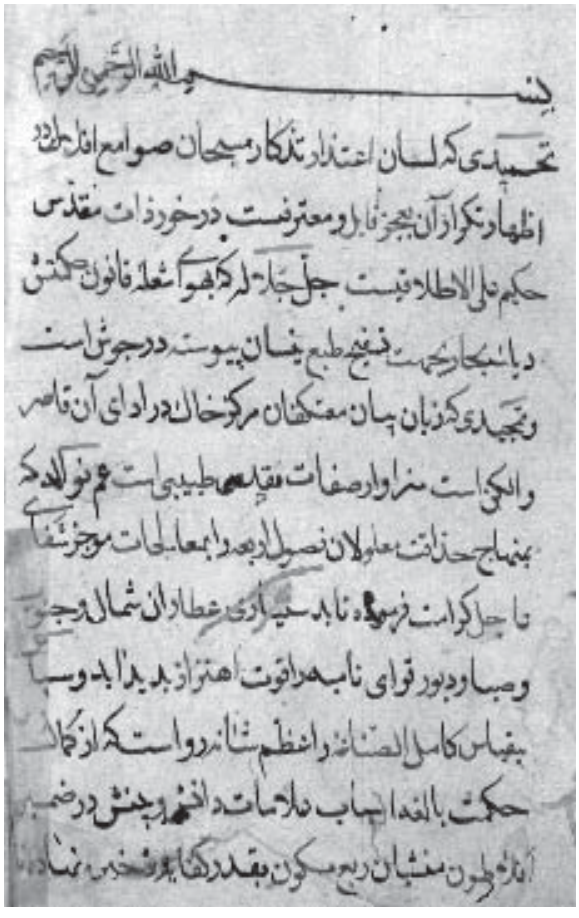
Qarabadin Masumi:

Qarabadin is a Unani word used for a standard book in which guidelines for preparation of different compounds and principles of pharmacy have been written along with uses in various diseases and with doses. These guidelines are preserved in the form of manuscripts for centuries. These formularies are gifted to the medical world by Unani Scholars and Arab physicians. Many Qarabadins has been written time to time in Unani Medicine. First time in history *Qarabadeen* of Sabur ibn Sahl (d. 869 AD) was accorded as official pharmacopoeia and was placed in the government hospital of Baghdad for reference until it was superseded by *Al-Aqrābādhīn* al-Kabir of Ibn Tilmidh (1073-1165 AD) later in the first half of twelfth century.

Under study manuscript *Qarabadeen Masumi* is one of the most important Unani pharmacopoeia in which different Unani compounds are mentioned for various diseases along with their method of preparation and uses. The Qarabadin Masumi has been originally written in Persian language and the manuscript has been unpublished so far which has a historical value. Therefore this book has been rarely studied by recent physicians and very little reference of this book has been given in the study of various Unani formularies.

This treatise was written around 1637 AD in Persian language by Masum ibn Kareemuddin al-Tabeeb al-Shostri al-Sheerazi (d. 1691 AD). It was the period when Persian was a predominant and official language, therefore all academic works were carried out in this language. Masum al-Sheerazi was a learned physician and a prolific writer with a number of works to his credit. He was born in Shoster (Iran) and came to India in the period of Mughal Empire, when migration of physicians from the cities of Persia and central Asia like Sheeraz, Herat, Samarqand, Bukhara etc to India started. They include many learned physicians like Mir Nizamuddin Ali Khaleefa, Mohammad Ibn Yousuf Al-Harwi, Yousuf Ibn Mohammad Ibn Yousuf Al-Harwi (Moulana Yousufi), Hakim Abul Buqa, Khwaja Khawand Mahmud. Ancestors of Shareef family also belonged to this soil of learning. He was associated with court of Prince Mohammad

Azam Shah. Unfortunately details of other aspects of life of Masum ibn Kareemuddin al-Sheerazi could not be found.



The Faculty and the NCIM Committee

First page of Qarabadin Masumi:

Different copies of Qarabadeen Masumi are preserved in various libraries of the country, for example, two copies of manuscripts are preserved in A. P. Government Oriental Manuscript Library and Research Institute, Hyderabad, each in IAMMS, Aligarh, National Institute of Indian Medical Heritage, Hyderabad, Government Nizamia Tibbia College, Hyderabad and Salar Jung Museum Library, Hyderabad.

Weights and measures described in Unani classics and their metric equivalents adopted by the Unani Pharmacopoeia Committee:

1 Chawal = 15 mg, 1 Ratti = 125 mg, 1 Dang = 500 mg, 1 Masha = 1 g, 1 Dirham = 3.5 g

1 Misqal = 4.5 g, 1 Tola = 12 g, 1 Dam = 21 g, 1 Chhatak = 60 g, 1 Pao = 240 g,

1 Ser = 960 g, 1 Man Tabrizi = 2.90 kg, 1 Oqia = 32 g, 1 Astar = 1 Kg, 1 Surkh = 125 mg

1 Ratal Tibbi = 420 g, 1 Qeerat = 250 mg

In case of liquid the metric equivalents would be the corresponding liter and milliliter.

Content of the Book

Qarabadeen Masumi contains one *Muqaddama* (preface), seven *Maqala* (discourse) and a *Khatma* (Conclusion).

Muqaddama is composed of twelve Faidah (benefit): Faidah 1 is about the needs for use of compound drugs and the method of formulation.

Faidah 2 is about purification of mineral stones. Faidah 3 is about burning and calcinations of minerals, stones and metals, roasting of different seeds and Scammony.

Faidah 4 is about purification of metals. Faidah 5 is about the dissolution of gold and purification of mercury. Faidah 6 is about obtaining the honey from Baladur (Semicarpus anacrdium) and collecting smoke from Kundur. Faidah 7 is about knowledge on the substitute of the drugs. Faidah 8 is about the measurements of drugs. Faidah 9 is about commentary of Unani books written in Arabic languages. Faidah 10 is about emergency use of drugs and to know about the period of efficacy of the drugs. Faidah 11 is about exploration of Tiryaq Faruq and its use. Faidah 12 is about the knowledge of the temperament of compound drugs.

Maqalas are seven:

Maqala one contains 6 Bab (Chapters): Chapter one is about Tiryaq. Chapter two is about Mufarrih. Chapter three consists of five Fasl (Sub Chapter) is about the kind of Majun which contains the opium as one of its ingredient, the Majun which are most beneficial and used multipurpose, aphrodisiac Majun and Labub, laxative and purgative Majun, and popular and frequently used Majun.

Chapter four contains three Fasl (Sub Chapter) is about Jawarish Mushil (Purgative), Jawarish Mubahhi (aphrodisiac), and Jawarish Muqawwi, Mumsik (Tonic). Chapter) five is on Itrifal. Chapter) six is about Ayaraj.

Maqala two comprises six Bab (Chapters): Chapter one is about Sharbat (Syrup). Chapter two is about Lauq (Linctus). Chapter three is about Murabba (Fruit preserve). Chapter four is about Rubb. Chapter five is about Sikanjabeen (Oxymel). Chapter six is about Halwa and Musammin (Fattening formulations).

Maqala Three comprises nine Bab (Chapters): Chapter one is about Habub (Pills). Chapter two is about Qurs (Tablets). Chapter three is about Banadiq (large tablets). Chapter four is about Safoof (Powder). Chapter five is about Sanun (Tooth powder). Chapter six is about Zarur (Dusting powder). Chapter Seven is about Nafukh (insufflations). Chapter Eight is about Bakhoor (steam inhalation).

Chapter Nine is about Shamum (Smelling of drugs).

Maqala Four comprises eight Bab (Chapters): Chapter one is about Maa'e like Aabkama, Ma' al-'Asal etc (Liquid drugs). Chapter two is about Tabukh (Decoction). Chapter three is about Naqu' (Infusion). Chapter four is about Natool (Drug for Irrigation). Chapter five is about Gharghara (Drug for Gargle)

Chapter six is about Mazmaza (Drug for Rinsing). Chapter Seven is about Qatoor (ear or eye drop). Chapter Eight is about Sa'ut (nasal drop)

Maqala Five comprises seven Bab (Chapter): Chapter one is about Zimad (Paste). Chapter two is about Tila, Qairuti (Liniment).

Chapter three is about Ghasul. Chapter four is about Khidhab (Hair dye). Chapter five is about Saboogh (Colour). Chapter six is about Duhn (Oil). Chapter Seven is about Marham (ointments).

Maqala six, comprises five Bab (Chapters), is about the formulations used in eye diseases like Kuhl, Zaroor, Barood, Shiyaf and Azmida for eye diseases.

Maqala Seven comprises four Bab (Chapters): Chapter one is about Muqi Advia (emetics drugs). Chapter two consists of different kinds of Huqna (Enema). Chapter three is about different kinds of Shiyaf (Suppository).

Chapter four is about Firzaja and Hamul (Pessary).

Khatma, comprises two Fasl (Subchapter), is about Fad Zahr and antidotes, its preparation, dose, investigation and method of uses.

Clarification of various Unani terms used in the contents:

Aabkama: A liquid preparation in which salt, vinegar, ginger, black pepper and water are mixed and kept for some time till it turns sour. The strained liquid is then obtained.

Barud (eye dusting powder): A micro-fine powder obtained by grinding drugs having cold temperament.

Duhn (Oil): A combustible liquid which can not be mixed with water.

Firzaja (Pessary): A drug of particular shape prepared with the transformation of paste into small suppositories. The paste is obtained after mixing of powdered drugs with water. These are kept in the orifices of the body for therapeutic purposes.

Ghasul: The washing of the affected part/ organ with a liquid preparation of the drug.

Halwa: A semisolid preparation obtained by mixing drugs in a base of sugar, purified honey or jaggery.

Hamul (Pessary): A piece of cloth soaked or dipped in a mix of certain drugs, honey, oil or fat for vaginal or rectal use.

Huqna (enema): It is a method of evacuation of waste products from the intestines by the administration of drugs through anal canal. Apart from this it is also used to get rid of pain of intestinal and renal colic. Huqna is also used in the cases when the patient is unable to take the drugs or diets through the mouth.

Itrifal: A semisolid preparation, whose main ingredients are Amla (Phyllanthus emblica) Halayla (Terminalia chebula) and Balayla (Terminalia bellirica).

Jawarish: A semisolid preparation made by mixing coarse powder of drugs to a base of purified honey, sugar or jaggery. It is particularly used for GIT.

Khidhab (hair dye): A liquid/ semi liquid preparation used for dyeing the hair.

Kuhl (Coryllium): A micro-fine powder of drugs for ophthalmic use.

Lauq (linctus): A semisolid preparation used in the diseases of lungs and pharynx. The half grounded drugs are soaked in water overnight and boiled the next day till the quantity of water is reduced to half. The decoction is then strained and mixed along with some other powdered drugs in a base of sugar.

Marham (Ointment): A semi solid preparation which is prepared by mixing the drugs in wax or fat. It is used in skin diseases and other ulcerative diseases.

Majun (confection): A semisolid medicinal preparation obtained by mixing powdered drugs in a Qiwam (base) made of purified honey, sugar or jaggery.

Ma al-Asal (honey water): Pure honey is mixed with water/ rose water or some other liquid and boiled. It is then filtered and used. Sometimes few drugs are also added to it. It is used in brain and nervine disorders.

Mufarrih: A type of Ma'jun having aromatic drugs as its main ingredients. It is mainly used as an exhilarant and mood elevator.

Murabba: A confection of fruits prepared from boiled and pierced fruits mixed in sugar syrup of certain consistency.

Nafukh (insufflation): Finely powdered drug that is blown with the help of a tube in nose, throat or any other opening of the body.

Naqu (infusion): A liquid preparation obtained by soaking the crushed/ whole drugs overnight in water or suitable liquid, the mixture is rubbed, strained and used afterwards.

Natul (Irrigation): The pouring of medicated water slowly over an affected part from a distance.

Rubb (dry extract): A semisolid preparation obtained by squeezing the juice of fresh plants or fruits and mixed with a base of sugar later on dried on heat or in sun.

Sa'oot (nasal drop): A liquid preparation which is used as nasal drop.

Shamum: Smelling of the drugs which may be in dry or liquid form so that volatile substances reach the nasal cavity and respiratory tubes.

Shiyaf (Suppository): A preparation made from a thick paste of finely powdered drugs and particularly used in eye diseases.

Sharbat (syrup): A liquid preparation obtained by mixing fresh fruit juice or decoction of drugs with a base of sugar.

Sikanjabeen: A liquid preparation made with vinegar and honey in the early times but later honey was substituted with sugar. It is of many types.

Tabukh, Joshanda (decoction): The preparation in which the crushed drugs are soaked overnight in water or suitable liquid. In the morning it is boiled, strained and the strained liquid is orally used.

Tila (liniment): A kind of medicated oil or a thin medicinal preparation used externally for application.

Tiryaq: A potent antidote compound which is useful in the treatment of snakebite, scorpion sting and rabid dog bite. It also neutralizes toxic effects of many other poisons, strengthens spirit and protects innate heat.

Zamad (Paste): A thick paste prepared by mixing powdered drugs in a suitable oil or water. It is used for local application.

Zarur (dusting powder): A fine powder of drugs that is used for dusting wounds, ulcers or skin eruptions.

In Muqaddama of Qarabadeen Masumi, the author has mentioned in detail the substitute of the drugs as per their actions in case of non availability of the prescribed dugs and written very elaborately in alphabetical manner for easy understanding. Different measures and scales of drugs are also mentioned very comprehensively. There is explanation and meaning of different names of the Unani compounds and terminologies used in various diseases along with duration and time lines of the compounds. He has mentioned different signs and changes within the drugs by which we can know that a particular compound /drug had been expired and it is no more effective. Various processes for purification of different drugs are also explained.

Some of the formulations mentioned in Qarabadeen Masumi:

The author has written very effective prescription for a variety of diseases including some exceptional, rare and common diseases such as erectile dysfunction, hepatitis, gastric ulcer and many more of which modern medicine

has no effective cure. Few of these formulations are mentioned here:

1. Mufarreh Jalinus:

It s a formulation which is much efficient in erectile dysfunction, it hardens the penis, acts as a tonic to brain, nerves and prostate glands, augments the libido and increases the value of a man in the heart of an woman. Ingredients:

1. Marwareed Nasufta (Pearl Unpierced) 4 gm
2. Busud (Coral) 4 gm
3. Aneesun (Pimpinella anisum) 4 gm
4. Behman safeid (Centaurea behen) 4 gm
5. Bekh Kakanj (Physalis alkakenji) root 2 gm
6. Bekh Lublab (root of Field bean) 2 gm (Field bean)
7. Kazmazaj (French Tamarisk Gall) 3 gm
8. Mastagi (Pistacia lentiscus) 3 gm
9. So'd Kufi (Cyperus rotundus) 3 gm
10. Saleekha (Cinnamomum cassia Blume.) 3 gm
11. Darchini (Cinnamomum zeylanicum Blunc.) 3 gm
12. Fuqah Izkhar (Bud of Andropogon schoenanthus Linn.) 3 gm
13. Kateera (Sterculia urens Roxb.) 2 gm
14. Samagh Arabi (Acacia arabica) 2 gm
15. Pure honey, 3 times equal to all drugs

All above drugs are pounded and powdered then mixed in a Qiwam (base) made of pure honey and Mufarreh is obtained.

2. Jawarish Saqanqur:

A novel herbal composition is effective against lost libido and sexual urge. It stimulates Nu'ooz (Penile erection) in aged persons. Ingredients:

1. Surra Saqanqur (Ban Ruhu), a type of desert fish, ½ Misqal
2. Ilak Rumi (Pistacia lentiscus, Linn.) ½ Misqal
3. Qust Shirin (Sweet Costus) ½ Misqal
4. Hundaquqi, Biskhopra (Trianthema portulacastrum Linn) 2.5 Misqal
5. Shaqaqul Misri (Pustinaca secacul root) 2.5 Misqal
6. Tukhm Shalgham (Bressica rapa seed) 2.5 Misqal
7. Tukhm Piyaz (Allium cepa seed) 2.5 Misqal
8. Tukhm Kirisna 2.5 Misqal
9. Khusia al-Salab (Orchis latifolia root) 2.5 Misqal
10. Filfil safaid (Piper nigrum peeled) 1 Misqal
11. Kunjud muqashar (Sesamum indicum peeled) 1 Misqal
12. Dar filfil (Piper longum) 1 Misqal
13. Zanjabeel (Zingiber officinalis rhizome) 1 Misqal
14. Zafran (Saffron) 1 Misqal
15. Maghz sar kanjashak 5 Misqal
16. Maghz Funduq, Hazel (Corylus avellana) 10 Misqal
17. Zakar Gao Khushk (dried penis of bull) 10 Misqal
18. Honey 3 times equal to all drugs

All above drugs are pounded and powdered then mixed in a Qiwam (base) made of pure honey and Jawarish Saqanqur is obtained.

3. Qurs Ziabetes is effective against diabetes. Ingredients:

1. Habb al-Aas (Myrtus communis) 2 Diram
2. Tukhm Humaz, Chuka (Rumex vesicaricus) 1 Diram
3. Samagh arabi (Acacia arabica) 2 Diram
4. Nashashta (starch) 1 Diram

All these drugs are pounded; finely powdered and filtered then tablets are made by mixing with Luab Bazr Qatuna (Mucilage)

4. Another formulation for diabetes:

1. Tabasheer, (Bambusa arundinacea Retz.)10 Diram
2. Rubb al-Soos (Glycyrrhiza glabra Linn) root extract 10 Diram
3. Tukhm Kahu (Lactuca sativa Linn.) 2 Diram
4. Tukhm Khurfa (Portulaca oleracea, Linn.)15 Diram
5. Gul Surkh (red rose)10 Diram
6. Kashneez Khushk (dry coriander)10 Diram
7. Aqaqia (Acacia arabica) 3 Diram
8. Sandal safaid (Santalum album) 3 Diram
9. Gil Armani (Armanina bole) 3 Diram
10. Gulnar Farsi (flower of pomegranate) 3 Diram

11. Kahruba (Vateria indica) 5 Diram
12. Sazanj maghsul 10 Diram
13. Gil makhtum (Bole Armaniac) 10 Diram
14. Shibb yamani (alum) 2 Diram

All these drugs are pounded and finely powdered then tablets are made by mixing with Luab Bazr Qatuna.

5. Qurs Bawaseer: Tablet that is effective against pile, Ingredients:

1. Marjan (Pearl) 10 Diram
2. Kahruba (Vateria indica) 10 Diram
3. Dogh sokhta 10 Diram
4. Gil Armani (Armanina bole) 10 Diram
5. Halaila siah (Terminalia chebula) 5 Diram, roasted in olive oil
6. Balaila Balayla (Terminalia bellirica) 5 Diram
7. Tukhm gandana (Allium ampeloprasum) 3 Diram
8. Muqil, Gogul (Commiphora mukul) 10 Diram

Muqil is dissolved in Aab Gandana (juice of Allium ampeloprasum) and made an adhesive. Crude drugs are ground into fine powder and passed through mesh Sieve. The powder is mixed with above adhesive. Thus, by prolonged mixing of the two, a lubdi (mass) is made. This lubdi is rolled into sticks of required size and thickness and cut into pieces with a knife. These cut pieces are flattened by pressing with finger to make Qurs/ tablet. Then they are dried in the shade.

6. Safoof Kabid: Powder of drugs that is effective against liver disorders, ulcer, pre ascetic state, it acts as a tonic to the stomach and laxative. Ingredients:

1. Gul surkh (red rose) 10 Diram
2. Zarishk (Berberis aristata DC.) 5 Diram
3. Bahi dana (Cydonia quincy seed) 5 Diram
4. Sunbul al-Teeb (Nardostachys jatamansi DC.)1 Diram
5. Mastagi (Pistacia terebinthus Linn.) 1 Diram
6. Usra Ghafis Ghafis (Gentiana olivierii Griscb.) 1 Diram
7. Afsanteen (Artemisia absinthium Linn.)1 Diram
8. Revand cheeni (Rheum officianale Baillon) 1 Diram
9. Fuqah Izkhar (Andropogon shoenanthus Linn.) 2 Diram
10. Rubb al-Soos (Glycyrrhiza glabra Linn.) 2 Diram

All these drugs are pounded and powdered finely and preserved. Dose: 2 Diram with Sikanjabeen.

7. Drugs for jaundice:

1. Aab Murawwaq of Kasni and Mako (Cichorium intybus Linn. And Solanum nigrum Linn.)
2. Gul Neelofar (Nymphaea alba Linn.)
3. Tukhm-e-Khayarain (Cucumis sativus Linn.) Seed
4. Tukhm Kharbaza (Cucumis melo Linn.) Seed
5. Badian and Bekh Badian (Foeniculum vulgare Mill.)
6. Aalu Bukhara (Prunus communis Huds.)
7. Tukhm Kasni (Cichorium intybus Linn.)

In this process the juice of the fresh herb of Kasni and Mako is poured in a tin-coated vessel and heated over low fire till a green froth appears in the surface. The juice is then slowly sieved through a piece of fine cloth leaving behind the forth on the surface of the cloth. The watery juice thus obtained is called Aab Murawwaq.

All these drugs are boiled in water and filtered. Decoction is used with Sharbat Bazoori

8. Powder that causes fat loss and makes slim, ingredients:

1. Luk maghsul (Cateria lacca) 2 dirham
2. Nankhwah Nankhwah (Trachyspermum ammi Linn.) 4 dirham
3. Suddab (Ruta grveolens Linn.) 4 dirham
4. Zeera kirmani (Cuminum cyminum Linn.) 4 dirham
5. Marzanjosh (Origanum vulgare Linn.)1 dirham
6. Borah Armani (Arminina Bole)1 dirham

All these drugs are pounded and powdered finely and given with Gul Qand two times a day

9. Safoof Hajrul Yahood causes expulsion of stones from kidney and bladder after breaking down the stone. Ingredients:

1. Maghz tukhm khiarain (Cucumis sativus Linn.) Seed 5 diram
2. Maghz tukhm kaddu (Lagenaria siceraria Mol.) Kernel 5 diram
3. Maghz tukhm kharbaza (Cucumis melo Linn.) Seed 5 diram
4. Khisk murabba 4 diram
5. Hajrul yahood (Fossil Encrinite, Silicate of Lime, Lapis Judaicus) 3 diram
6. Habb-ul-Qilt (Curcuma zetoaria Rosc.) 3 diram
7. Tukhm Sasalius (Ferula foetida Regel.) 1 diram
8. Fitra asaliun, (Apium graveolens Linn.) 1 diram
9. Samagh Arabi (Acacia arabica Willd.) 1 misqal
10. Kateera (Sterculia urens Roxb.) 1 misqal

All these drugs are pounded and powdered finely and given with honey water

10. Tila (Liniment) which increases the pleasure of coitus, ingredients:

1. Aqar Qarha (Anacyclus pyrethrum D.C.)
2. Kababa cheeni (Piper cubeba Linn.)
3. Darcheeni (Cinnamomum zeylanicum Blunc.)
4. Zanjabeel (Zingiber officinalis Boscoe.)

All these drugs are pounded and powdered finely and mixed with honey then it is applied over penis before coitus and it gives immense pleasure

11. Tila (Liniment) which increases the length of the penis, ingredients

1. Kharateen (earthworm)
2. Alaq (Leech)

Both are cleaned and dried, then pounded and powdered finely and mixed with Roghan Kunjud (sesame oil). It is applied regularly over the penis to find the result.

There are many other interesting and wonderful formulations that can be accessed through deep study of this book.

A detailed description has been made about various kinds of Majun and its usefulness.

12. Some kinds of Majun are exceptionally mentioned in this book. One of them is Majun Buqrat. Ingredients of Majun Buqrat:

1. Gentiana rumi (Gentiana lutea Linn. Rhizome)
2. Habbul Ghar (Laurus nobilis, Fruit)
3. Zarawand taveel (Aristolchia longa Linn.)
4. Nar mushk (Mesua ferrea Linn.)
5. Tukhm faranj mushk (Ocimum basilicum Linn.)
6. Anisoon (Pimpinella anisum Linn.)
7. Jund bedastar Castorium (Castor Beavor)
8. Habb balsan, uood balsan (Commiphora opobalsamum Linn.) Fruit
9. Saleekha (Cinnamomum cassia Blume.)
10. Asaroon (Asarum europaeum Linn., Rhizome)
11. Mastagi Rumi (Pistacia lentiscus Linn.)
12. Mur makki (Commiphora myrrha Eng. Gum Resin)
13. Waj Turki (Acorus calamus Linn., Rhizome)
14. Darunaj Aqrabi (Doronicum hookeri Hook.)
15. Zarnabad (Curcuma zedoaria Rosc.)
16. Tukhm karafs (Apium gravelens Linn.)
17. Tukhm jarjeer (Eruca sativa Mill.)
18. Tukhm piaz (Allium cepa Linn.)
19. Tukhm Gandana (Allium ampeloprasum/ Allium dscalonicum, Linn.)
20. Sibr zard (Aloe barbadensis Mill.)
21. Turbud safed (Ipomea turpethum Br.)
22. Jauzbua (Myristica fragrans Houtt.)
23. Rewand Chini (Rheum officianale Baillon.)
24. Qeranfal (Myrtus caryophyllus, Linn.)
25. Bisbasa (Myristica fragrans Houtt.)
26. Zafran (Crocus sativus Linn.)
27. Darcheeni (Cinnamomum zeylanicum Blunc.)

All drugs are powdered and parched in bitter almond oil. Honey three times of the total weight of the all ingredients is taken and added 250 mg of citric acid and 250 mg alum, after dissolving them in hot water, heat the

whole mass to boiling to get the consistency of three tar, and add all the powdered drugs and mix thoroughly. Discontinue heating and allow the content to cool down to room temperature. Pack in clean dry containers to protect from light and moisture.

Medical uses: it is used in multiple diseases like loss of memory, melancholia, vitiligo, stomach pain, psoriasis, elephantiasis, dribbling of urine, chronic cough, chronic fever, dysuria, jaundice, splenic obstruction, poisoning, heart weakness, loss of libido, enteric worms, kidney and bladder calculus, amenorrhea, chronic pain, and useful in all diseases of phlegm and black bile.

Formulations for ear drop, nasal drop, for rinsing, hair dye and Coryllium are also described in details.

Conclusion:

Looking into the contents of the chapters of this book in details, it gives us distinct characteristics of the treatise that many beneficial prescriptions and compound drugs have been written by the author. Traditionally all the Unani compounds mentioned in most of the Qarabadins, like Itrifal, Jawarish, Majun, Habub, Aqras, oils, ointments, Kuhl etc have found place in this manuscript, but some distinctive formulations and prescriptions which are tried and tested by the author personally also has been added in this book. These are of great importance.

In view of the importance, utility and world wide interest in Unani pharmacopoeia, this Persian treasure ‘Qarabadin Masumi’ is going to be translated into English language and published for global dissemination and for the benefits of researches, students, scholars, patients and physicians worldwide for public benefit. By this the scientific and medial masterpieces of Indian physicians will also come into light. The drugs mentioned in different formulations also required to be subjected for scientific research and clinical trial to find out the prescribed results.

It should be hoped that publishing of this work would serve a meaningful resource for the physicians, researchers and scholars, and would be welcomed among the community of Unani Medicine.

Risk Analysis and Problems of Air Pollution in Indian Scenario

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Summary

Air is one of the most important among the essentials of life. This fact has been accepted by all, whether Unani Scholars, Environmental scientist or Community Physician. The idea of including the principles of pathology by ancient Unani Scholar was not appreciated by moderns. Now, again a field in the name of 'Environmental Pathology' has been established by the west which is the need of current millennium. A man generally consumes approximately 1.5 kg of food and fluid each per day while breathes 14 kg of air/day. Life is impossible without air and RUH is created through air. It is the air, which maintains the averages heat of RUH as well as purifies it. These basic functions continued throughout life it's firstly by inspiration and secondly by expiration. Air also helps in maintenance of body heat. These are beneficial functions. Air also helps in harmful action as it conveys disease agent, dust and smoke, toxic gases and chemical vapours. Ibn Abbas Majoosi suggests a new concept of balanced air he stated that it should be neither to hot and nor to cold. Ibn Sina further elaborates that good air should not contain foreign matter e.g vapours and smoke. In view of Maseehi pure air could not be found in atmosphere, however it is the mixture of vapours/fumes of different properties.

Key words: Environmental pathology, Chemical vapours, smoke

Risk Analysis and Problems of Air Pollution in Indian Scenario:

Introduction:

Air is one of the most important among the essentials of life. This fact has been accepted by all, whether Unani Scholars, Environmental scientist or Community Physician. The idea of including the principles of pathology by ancient Unani Scholar was not appreciated by moderns. Now, again a field in the name of 'Environmental Pathology' has been established by the west which is the need of current millennium. A man generally consumes approximately 1.5 kg of food and fluid each per day while breathes 14 kg of air/day. Life is impossible without air and Rooh is created through air. It is the air, which maintains the averages heat of Rooh as well as purifies it. These basic functions continued throughout life it's firstly by inspiration and secondly by expiration. Air also helps in maintenance of body heat. These are beneficial functions. Air also helps in harmful action as it conveys disease agent, dust and smoke, toxic gases and chemical vapours. Ibn Abbas Majoosi suggests a new concept of balanced air he stated that it should be neither to hot and nor to cold. (1) Ibn Sina further elaborates that good air should not contain foreign matter e.g vapours and smoke. (2) In view of Maseehi pure air could not be found in atmosphere, however it is the mixture of vapours/fumes of different properties.(3)

According to Burhanuddin Nafeesi air is required for two purposes

1- Balancing of rooh

2- Purification of rooh (4)

Factors Effecting Atmosphere

There are various factors, which affect the atmosphere. Unani Scholars also mentioned its details and classify the types of changes as follows-

- Normal changes: meteorological condition.
- Abnormal harmless changes: - which includes geographical condition.
- Abnormal harmful changes: - which includes pollution and may occur as epidemic, pandemic, sporadic and endemic etc.

Meteorogical Conditions

There are four seasons

(1) Spring: Its temperament is like that of blood, that's why it is considered as best season specifically for children. This season is prone to epistaxis, malena, hoemoptesis, paralysis, arthritis etc.

(2) Summer: Its temperament is hot and dry. This season is prone to conjunctivitis, erysipelas, measles, purples, ascitis & humma matbaqa (high fever) etc.

(3) Rainy: Its temperament is hot and moist. It is worst season because of temperature variation and weak body resistance due to just passing of summer. This season is prone to scabies, ulcer, eczema, arthritis, sciatica, tonsillitis, worms etc.

(4) Winter: Its temperament is cold and dry and sometimes moist. This season is prone to common cold, coryza, pleurisy, pneumonia, different aches etc. Meteorological condition also includes sunshine, atmospheric pressure, humidity, rainfall, wind and temperature. These factors also act as physical agents. (5)

Temperature:

On the basis of temperature & qualities there are four types of wind.

Hot Wind: This removes moisture from the body, so increases thirst and upset digestion.

Cold Wind: It improves digestion. It results in more urination and less defecation.

Moist Wind: - It causes skin moist, dilate skin pores and infect body matters.

Dry Wind: - It weakens the body and makes skin dry. (6)

High Temperature:

It induces two types of effect one is Local affects which cause prickly heat, sunburn and dermatitis while General affects leads to heat stroke, heat exhaustion and heat cramps.

Cold/Low Temperature:

Local affects Frostbite, immersion foot and trench foot.

General affects Joint and muscle pain, digestive disturbance, respiratory disturbance as cold, bronchitis, pneumonia, peripheral vasoconstriction, anoxia and death.

Wind:

There are four types of winds-

- **Southern Wind:** It is hot & dry. It delays healing and causes scabies and ulcer.
- **Northern Wind**: It is cold and dry. Such air causes constipation an chest diseases.
- **Eastern Wind:** It is ideal having moist temperament and familiar with the name **'Purva'.** It aggravates pain and also delays healing.
- **Western Winds (Pachhua):** These are dry and opposite of 'Purva'. Wind overall decreases the temperature and in cold it further lower the temperature.

South Western winds bring the monsoon while North Eastern winds are not responsible for rain. (7)

Humidity:

It makes warm climate warmer and cold climate further cold.

Atmospheric pressure:

It is high in deep down positions like divers, which causes embolism or even death. It is low at high altitude, so risky for patients of asthma and anaemia.

Geogrophical Conditions:

These are as follows:

Equator: The areas, which are away from equators, are comparatively cool because of curved sunrays.

Distance from Sea: There is less temperature variation at seashore rather than for inside areas.

Sea Level: The temperature is low at high sea level.

Nature of soil: If soil has more capacity to absorb water than these area are cooler to other areas. The soil may be rocky, sandy, loamy & clayey.

Terrain (Plain/Hilly): If mountains are in parallel direction to monsoon, then there will be no rain and if perpendicular to direction to monsoon winds then monsoon occurs.

The other factors are cyclone, presence of jungle and gulfs atmosphere.

Effects of Biological Agents:

Bacteria and viruses also pollute the air and spread through air. Mostly the communicable spread occurs through air. Specifically such mode is responsible for wound infection with tetanus bacilli. It may lead to inhalation of tubercle bacilli, measles and chickenpox virus.

Air Pollution:

Unani View:

Ancient Unani Scholars raised certain important points. The vapours of places where cane and weeds grow pollute the air as (a) Air does not dilute due to plants and remain stagnant. (b) External air and sunshine cannot reach inside which helps in purification. Likewise lakes also emit polluted vapours due to stagnant water and all around plantation. Impounding Reservoirs also pollutes the air in same way through its vapours. Ibn Zuhar elaborates that harmful air is hot and moist whenever it is not dry and still in atmosphere. (8) Ibn Rushd in this regards writes that sometimes epidemic air is due to vapour arising from water (contaminated from decaying things). (9) Ibn Nafees in this concern said that the change of air which are against Tabiat, outbreak as general calamity and causes death at mass level. (10) Ibn Hubal in his book Kital Al Mukhtarat described that Epidemic occurring due to bad air is acquition of state that is against mijaz. (11)

Others major sources in modern view:

(1) Industries: various industries like fertilizer, paper, insecticide, oil refineries, metal industries contributed to air pollution particularly cement and steel industries.

(2) Combustion: Unani scholars also mentioned smoke and dust in their literature. Combustion of oil, coal and other fuel in houses and in industries like termal power plant emits smoke, dust and sulpher dioxide.

(3) Motor Vehicle: All Vehicles emit carbon monoxide, lead, nitrogen oxide and hydrocarbon in air.

(4) Solid waste disposal: It also pollutes the air itself or by it's burning.

(5) Other Sources: Crop spray, pesticide, nuclear reactors, plants, yeast and moulds are also important sources of air pollution.

The major sources are Industries, transport and domestic fuels specifically in urban areas.

Pollutants

More than hundred pollutants emit from different sources and added in the air every day. These pollutants are of two types.

1. **Gaseous**
   - Carbon dioxide – sources is automobiles.
   - Sulpher dioxide – source is fuels.
   - Hydrogen sulphides & organic sulphides – sources are industries and sewer.
   - Oxides of Nitrogen-source are automobile & chemical industries.
   - Ozone-secondary sources of automobiles.

2. **Particulate**

- Dust - 1-100 m in size
- Fumes - < 1 m (Metals & their oxides)
- Mist - < 10 m (Vapours)
- Spray - 10-1000m
- Smoke - 0.05 – 1.0 m (Combustion)

Material & Method

A study was conducted to observe the pollution level and prevalence of respiratory disorders as a result of delayed effect of air pollution. The assessment of air quality was carried out through a NGO, Centre of Science & Environment, Delhi as follows:

Dust fall: Included suspended particle expressed in mg/cum.

Sulphur dioxide: -It is an important indicator and expressed in mg/cum.

Nitrogen dioxide: -It is also a potential hazard and measured in mg/cu mm.

There are other indicators also like smoke Index, carbon dioxide, oxidants and lead.

A study was also conducted to observe the frequency of airborne disorders as a result of delayed effect. The patients of chronic bronchitis and primary lung cancer were only selected for this purpose. The work was done

at Majeedia hospital, Hindu Rao hospital and a private hospital at South Delhi. The study of population was 100.

Result & Discussion:

The assessment of air quality shows the average level of SO_2- 23.5 mg in 1995, NO_2 -47.5 mg and SPM – 410.5 mg. The values of SO_2 and NO_2 were below the national standards but steadily increasing while the values of SPM were high as compared to national standard. The maximum level of SO_2 , NO_2 and SPM were 265.7, 324.8 and 2,340 mg/cum, which are all above the national standard values, which is 60,60 and 140 mg/cum for SO_2 , NO_2 and SPM.

The study of chronic bronchitis and primary lung cancer shows that 82 persons were suffering from chronic bronchitis and 18 from primary lung cancer of which the prevalence of chronic bronchitis was nil in 0-5 yrs age group, 15 in 5-19 yrs and 67 in 19-60 yrs and above while primary lung cancer was nil in 0-5 yrs age group, one case in 5-19 years age group and 17 in 19-60 yrs and above.

There are various effects of air pollution of men mostly related with respiratory disorders.

Carbon monoxide: CO causes death through asphyxia.

Sulphur dioxide: It is serious pollutants and causes smooth muscle spasm at low level and mucus production as well as desquamation of mucosal epithelium at higher level. It causes irritation to eyes, damage lung tissues and also causes respiratory allergy.

Ozone: It is strong irritants. It causes pulmonary edema and hemorrhage.

Nitrogen dioxide: It is also a pulmonary irritant.

The effect of particulate matter depends on size of particles.

Dust: - It causes allergy and pneumoconiosis, chronic bronchitis and lung cancer.

The worst ever air pollution episodes occurred in India in 1984 due to methyl isocyanides result in 20,000 death and other important pollution epidemics results in Belgium in 1970, USA in 1948, London & Moscow in 1952.

Preventive Measures

The WHO in 1968 listed following general principles.

Containment: - The sources of production of pollutant should be controlled.

Replacement: - Change of technique to reduce the emitting pollutants.

Dilution: - It is done by natural means like green belts between industry and residential area.

Legislation: - Enact laws for prohibition of pollution.

International Action: - Organize joint action plan through W.H.O.

Disinfections: - Mostly of air by mechanical ventilation, ultraviolet radiation chemical mist etc.

Conclusion and Advices:

Modification of Industrial process is help full to decrease pollution. More use of electricity and natural gas along with non-conventional energy also creating the problems. For reduction of the air pollution health education is mandatory with strict legal measure in big cities. Establishment of more green belt is helpful for the purposes. It is the need of time to reduce meteorological warning and cautious use of insecticide and pesticides is necessary for the control of air pollution.

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Classical Islamic Evidences Supporting the Case for Quality Improvement in Health Care

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Summary

Health care quality has been found to be low in many Islamic countries. The reasons for this are many. This paper addresses only one of these reasons, namely, the Islamic one. The paper derives evidences from the Qur'aan and Sunnah, groups all these evidences together into three broad categories and discusses their implication for quality of health care. The paper concludes that one of the reasons for the unacceptable level of health care quality in many Islamic countries is the lack of application of Islamic teachings in the areas related to health care quality. This needs to be addressed when developing strategies to improve quality of healthcare in Islamic countries.

Classical Islamic Evidences Supporting the Case for Quality Improvement in Health Care:

Introduction:

Quality improvement is defined by Batalden and Davidoff (1) as: 'the combined efforts of everyone…to make the changes that will lead to better health patient outcome (health), better system performance (care) and better professional development (learning..).' Invariably, efforts directed towards improvement in quality of health care follow those directed towards providing health care. However, the two efforts do not move at the same pace, and in many cases, the former efforts have remarkably lagged behind the latter. In tracing the history of quality improvement movement in the West, Chassin and O'Kane (2) trace it to the efforts of Florence Nightingale in the mid-1880s (in the areas of 'health' and 'care') to the work of Abraham Flexner in 1910 on medical education in the United States and Canada (in the area of 'learning') to the subsequent work in 1917 by the American College of Surgeons (in the area of hospital standardization). So that, '(b)y the mid-1900s, improving the quality of health and hospital care was an idea with a century of effort behind it.' (2)

Following the growing acceptance of the importance of patient safety, patient-centered health care and patient satisfaction, there is a global trend towards improving the quality of health care provided in all kinds of health care settings. This trend has led to hospitals (public as well as private) and laboratories to seek accreditation status from organizations such as Joint Commission International (JCI). As an example of this new trend, on 1st April 2013, the National Health System (NHS) in the UK established an organisation that is specifically tasked with improving quality across the NHS. The organisation is called 'NHS Improving Quality' (NHS IQ) (3).

Improvement in health quality is also an issue of concern in Islamic countries. In 2014, a document was published by the Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIC). The document outlines the strategic health programme of action for the Organisation of Islamic Cooperation (OIC) for the period, 2013-2014 (4). The document, drawing upon a WHO document (5), paints a bleak picture of the quality of health care in many Islamic countries, as reflected in the following quotations:

"These member countries are at different stages of implementing an essential package of health services. So far, they have not met optimal quality standards provided for in the treatment protocols and guidelines…" (page 17)

"The most important challenges in primary health care relate to quality, utilization and responsiveness to the changing disease burden and specific needs of ageing population. In some countries, many of the services are delivered through the private sector, largely unregulated." (page 18)

"Despite encouraging progress in some countries, many countries have not yet developed national accreditation programmes as a means of improving the quality of care delivered to patients" (page 18)

"Efficient systems for quality assurance and surveillance do not exist in many OIC countries and sale of counterfeit medicines is a major problem." (page 23)

As the Islamic countries are diverse, spanning Asia, Africa and middle East, the reasons for the low level of health care quality could be diverse as well. The aim of this paper is to search through Islamic sources to see if concepts of health care quality could be derived from Islamic teachings. We start off by providing some evidences from the Qur'aan and *Sunnah* and then proceed to discuss the implication of these evidences for health care quality.

Evidences from the Qur'aan and Sunnah for Health Care Quality:

There are many evidences from the Qur'aan and *Sunnah* for health care quality. Through searching, we found several evidences and we have grouped them into three categories. The categories are as follows: good knowledge.

1. Sound knowledge base (Table 1)
2. For both physician and patient, good relationship with Allah ta'ala and giving a central role to the Qur'an and Sunnah in the healing process (Table 2)
3. Physician's character and sense of responsibility and good doctor-patient relationship (Table 3)

By 'Good knowledge base,' we mean the essential knowledge that will make a positive impact on quality of care. This includes the fundamental knowledge that Allah *subhanahu wa ta'ala* is the healer, which should make the physician humble. The physician should know that the practice of medicine is a form of *ibaada* (worship). This should drive the physician to seek for excellence, as quality of reward depends on quality of practice. The physician should know that he/she is the means for cure and should be positive about the availability of cure. The physician should be aware there Islam provides various non-medical remedies to arrive at good health. Many of remedies can be found in the Quran and Sunnah. These evidences are given in Table 1.

Some of the means of achieving good quality health care come through the link that the physician and the patient have with Allah *subhanahu wa ta'ala* and in how they make use of the Qur'an and Sunnah in the healing process. These evidences and their implications are given in Table 2.

Some of the means to achieving good quality health lies within the physician. Many aspects of good quality health care stems from the physician's character, sense of responsibility and good doctor-patient relationship. These evidences and their implications are given in Table 3.

Table 1: Evidences from the Qur'an and Sunnah for health care quality: Sound knowledge base

Qur'aan/Hadith	Source	Implication for quality of health care
And when I am ill, it is He who cures me.	Qur'an, Ash-Shuara, Aayat 80	* The healer is Allah subhanahu wa ta'la. The doctor is the means through which some healing take place.
And We send down of the Qur'an that which is a healing and a mercy to those who believe (in Islamic Monotheism and act on it), and it increases the Zalimun (polytheists and wrong-doers) nothing but loss.	Qur'an, Al-Isra, Aayat 82	* The Qu'ran is a healing in all aspects * The message of the Quran cures doubts and disbelief (also known as diseases of the heart)

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Qur'aan/Hadith	Source	Implication for quality of health care
And We send down of the Qur'an that which is a healing and a mercy to those who believe (in Islamic Monotheism and act on it), and it increases the Zalimun (polytheists and wrong-doers) nothing but loss.	Qur'an, Al-Isra, Aayat 82	* The Qu'ran is a healing in all aspects * The message of the Quran cures doubts and disbelief (also known as diseases of the heart)
And if We had sent this as a Qur'an in a foreign language (other than Arabic), they would have said: "Why are not its verses explained in detail (in our language)? What! (A Book) not in Arabic and (the Messenger) an Arab?" Say: "It is for those who believe, a guide and a healing. And as for those who disbelieve, there is heaviness (deafness) in their ears, and it (the Qur'an) is blindness for them. They are those who are called from a place far away (so they neither listen nor understand)."	Qur'an, Fussilat, Aayat 44	* Practitioners have documented many cases of the Qur'an being used to cure physical diseases (see recent book by Sheikh Hassan Ramadan and, before that, by Sheikh Ibn Qayyim Al-Jauziyah)
O mankind! There has come to you a good advice from your Lord (i.e. the Qur'an, enjoining all that is good and forbidding all that is evil), and a healing for that (disease of ignorance, doubt, hypocrisy and differences) which is in your breasts, - a guidance and a mercy (explaining lawful and unlawful things) for the believers.	Qur'an, Yunus, Aayat 57	
So know (O Muhammad) that, La ilaha illallah (none has the right to be worshipped but Allah) , and ask forgiveness for your sin, and also for (the sin of) believing men and believing women. And Allah knows well your moving about, and your place of rest (in your homes).	Qur'an, Muhammad, Aayat 19	* The knowledge comes before the action
Those who believed (in the Oneness of Allah - Islamic Monotheism), and whose hearts find rest in the remembrance of Allah: verily, in the remembrance of Allah do hearts find rest.	Qur'an, Ar-Rad, Aayat 28	* Zikr causes satisfaction of the heart which has positive impact on the immune system

Table 1 (cont'd): Evidences from the Qur'an and Sunnah for health care quality: Sound knowledge base

Qur'aan/Hadith	Source	Implication for quality of health care
And We sent not before you (O Muhammad ( )) but men to whom We revealed. So ask the people of the Reminder [Scriptures - the Taurat (Torah), the Injeel (Gospel)] if you do not know.	Qur'an, Al-Anbiya, Aayat 7	* Health care providers should ask others if they do not know about the diagnosis or treatment
Then High above all be Allah, the True King. And be not in haste (O Muhammad ( )) with the Qur'an before its revelation is completed to you, and say: "My Lord! Increase me in knowledge."	Qur'an, Taha, Aayat 114	* Health care providers should strive to improve on their medical knowledge through CMEs
Narrated Abdullah ibn Amr ibn al-'As: The Apostle of Allah ( ) said: Anyone who practices medicine when he is not known as a practitioner will be held responsible. Yahya related to me from Malik from Zayd ibn Aslam that a man received a wound in the time of the Messenger of Allah( ).	Sunan Abu Dawood, Book #39, Hadith #4569	* This emphasizes the importance of thorough training including internship training and certification
The blood clotted in the wound and the man called two men from the Banu Ammar tribe. They looked at it and claimed that the Messenger of Allah( ) said to them, "Which of you is the better doctor?" They said, "Is there any good in medicine, Messenger of Allah?" Zayd claimed that the Messenger of Allah( ) said, "The one who sent down the disease sent down the remedy."	Al Muwatta, Book #50, Hadith #50.5.12	* Ranking of physicians based on expertise * Being positive about availability of remedies
Narrated Abu Huraira: The Prophet ( )said, "There is no disease that Allah has created, except that He also has created its treatment."	Sahih Al-Bukhari, Book #71, Hadith #582	* Being positive about availability of remedies
Narrated Usamah ibn Sharik: I came to the Prophet ( ) and his Companions were sitting as if they had birds on their heads. I saluted and sat down. The desert Arabs then came from here and there. They asked: Apostle of Allah, should we make use of medical treatment? He replied: Make use of medical treatment, for Allah has not made a disease without appointing a remedy for it, with the exception of one disease, namely old age.	Sunan Abu Dawood	

Table 1: Evidences from the Qur'an and Sunnah for health care quality: Sound knowledge base

Qur'aan/Hadith	Source	Implication for quality of health care
Narrated Anas bin Malik: Allah's Apostle ( ) said, "Whoever loves that he be granted more wealth and that his lease of life be prolonged then he should keep good relations with his Kith and kin."	Sahih Al-Bukhari, Book #73, Hadith #15	* Non-medical sources of good health and longevity
Narrated Abu Umaama AlBahili: Allah's Apostle ( ) said," Cure your ill ones with sadaqa (charity)"	Sahih Al Jaamih	
Narrated Abu Sa'id Al-Khudri and Abu Huraira: The Prophet ( ) said, "No fatigue, nor disease, nor sorrow, nor sadness, nor hurt, nor distress befalls a Muslim, even if it were the prick he receives from a thorn, but that Allah expiates some of his sins for that."	Sahih Al-Bukhari	* Positive effects of physical illness for the Muslim
Narrated Abu Huraira: Allah's Apostle ( ) said, "If Allah wants to do good to somebody, He afflicts him with trials."	Sahih Al-Bukhari	
Narrated Aisha: I never saw anybody suffering so much from sickness as Allah's Apostle .	Sahih Al-Bukhari	
Narrated'Abdullah: I visited the Prophet ( ) during his ailments and he was suffering from a high fever. I said, "You have a high fever. Is it because you will have a double reward for it?" He said, "Yes, for no Muslim is afflicted with any harm but that Allah will remove his sins as the leaves of a tree fall down."	Sahih Al-Bukhari	
Narrated Abdullah ibn Amr ibn al-'As: The Prophet ( ) said: Knowledge has three categories; anything else is extra; a precise verse, or an established sunnah (practice), or a firm obligatory duty.	Sahih Al-Bukhari, Book #18, Hadith #2879	* The fiqh issues related to medicine is essential knowledge for health care practitioners
Narrated Abu Hurayrah: The Apostle of Allah ( ) prohibited unclean medicine.	Sunan Abu Dawood	* Medicine should be clean and pure (evidence-based)

Table 2: Evidences from the Qur'an and Sunnah for health care quality: Good relationship with Allah (ﷻ) and making use of the Quran and Sunnah

Qur'aan/Hadith	Source	Implication for quality of health care
Narrated 'Aisha: Allah's Apostle ( ) used to treat with a Ruqya saying, "O the Lord of the people! Remove the trouble The cure is in Your Hands, and there is none except You who can remove it (the disease) . "	Sahih Al-Bukhari, Book #71, Hadith #640	* Importance of supplication in treatment
Narrated Al-Ju'aid bin 'Abdur Rahman: I saw As-Sa'ib bin Yazid when he was ninety four years old, quite strong and of straight figure. He said, "I know that I enjoyed my hearing and seeing powers only because of the invocation of Allah's Apostle . My aunt took me to him and said, 'O Allah's Apostle! My nephew is sick; will you invoke Allah for him?' So he invoked (Allah) for me."	Sahih Al-Bukhari, Book #56, Hadith #740	* Importance of supplication in treatment
Yahya related to me from Malik from Hisham ibn Urwa from Fatima bint al-Mundhir that whenever a woman who had a fever, was brought to Asma bint Abi Bakr, she made dua for her and took water and poured it inside her collar. She said, "The Messenger of Allah ( ) ordered us to cool it with water	Al Muwatta, Book #50, Hadith #50.6.15	* Supplication before treatment
Narrated 'Abdul 'Aziz: Thabit and I went to Anas bin Malik. Thabit said, "O Abu Hamza! I am sick." On that Anas said, "Shall I treat you with the Ruqya of Allah's Apostle?" Thabit said, "Yes," Anas recited, "O Allah! The Lord of the people, the Remover of trouble! (Please) cure (Heal) (this patient), for You are the Healer. None brings about healing but You; a healing that will leave behind no ailment."	Sahih Al-Bukhari, Book #71, Hadith #638	
Uthman b. Abu al-'As Al-Thaqafi reported that he nade a complaint of pain to Allah's Messenger (may peace be upon him) that he felt in his body at the time he had become Muslim. Thereupon Allah's Messenger (may peace be upon him) said: Place your hand at the place where you feel pain in your body and say bismillah (in the name of Allah) three times and seven times A'udhu billahi wa qudratihi min sharri ma ajidu wa ukhdhiru (I seek refuge with Allah and with His Power from the evil that I find and that I fear).	Sahih Al Muslim, Book #026, Hadith #5462	* To say bismillah when starting treatment * Duah is one route to treatment

Table 2: Evidences from the Qur'an and Sunnah for health care quality: Good relationship with Allah (ﷻ) and making use of the Quran and Sunnah

Qur'aan/Hadith	Source	Implication for quality of health care
Abu Sa'id reported that Gabriel came to Allah's Messenger (may peace be upon him) and said: Muhammad, have you fallen ill? Thereupon he said: Yes. He (Gabriel) said: " In the name of Allah I exercise you from everything and safeguard you from every evil that may harm you and from the eye of a jealous one. Allah would cure you and I invoke the name of Allah for you."	Sahih Al-Bukhari, Book #026, Hadith #5425	* To say bismillah when starting treatment * Duah is one route to treatment
Narrated Anas bin Malik Al-Ansari: Allah's Apostle rode a horse and fell down and the right side of his body was injured. On that day he prayed one of the prayers sitting and we also prayed behind him sitting. When the Prophet finished the prayer with Taslim, he said, "The Imam is to be followed and if he prays standing then pray standing, and bow when he bows, and raise your heads when he raises his head; prostrate when he prostrates; and if he says "Sami'a-l-lahu Liman hamida", you should say, "Rabbana wa-laka-l hamd.:	Sahih Al-Bukhari, Book #12, Hadith #699	* Prayers is applicable for the patient and the fiqh should be mastered by the physician to advise the patient according to his/her situation
Narrated Abu Huraira Allah's Apostle said, "Satan puts three knots at the back of the head of any of you if he is asleep. On every knot he reads and exhales the following words, 'The night is long, so stay asleep. 'When one wakes up and remembers Allah, one knot is undone; and when one performs ablution, the second knot is undone, and when one prays the third knot is undone and one gets up energetic with a good heart in the morning; otherwise one gets up lazy and with a mischievous heart."	Sahih Al-Bukhari, Book #21, Hadith #243	* Zikr has positive impact on phyco-social well being.
Abu Huraira said: When anyone amongst you wakes up from sleep, he must not put his hand in the utensil till he has washed it three times, for he does not know where his hand was during the night. Hadith #0541	Sahih Al-Bukhari, Book #002,	* Handwashing is encouraged in all situations

Table 3: Evidences from the Qur'an and Sunnah for health care quality: Physician's character and good patient-doctor relationship

Qur'aan/Hadith	Source	Implication for quality of health care
It is narrated on the authority of Jabir that he heard the (Holy Prophet) say: A Muslim is he from whose hand and tongue the Muslim's are safe.	Sahih Al Muslim, Book #001, Hadith #0065	* The health care practitioner should do his/her outmost to do no harm to the patient
Narrated Jabir bin 'Abdullah: The Prophet ( ) said, Enjoining, all that is good is a sadaqa."	Sahih Al-Bukhari, Book #73, Hadith #50	* An open door for doing any good deed for the patient.
Narrated Masruq: Abdullah bin 'Amr mentioned Allah's Apostle saying that he was neither a Fahish nor a Mutafahish. Abdullah bin 'Amr added, Allah's Apostle ( ) said, 'The best among you are those who have the best manners and character.'	Sahih Al-Bukhari, Book #73, Hadith #56	* Being 'best in manners and character' applies to the patient-doctor relationship and the doctor-doctor relationship
Narrated 'Aisha: Whenever Allah's Apostle ( ) paid a visit to a patient, or a patient was brought to him, he used to invoke Allah, saying, "Take away the disease, O the Lord of the people! Cure him as You are the One Who cures. There is no cure but Yours, a cure that leaves no disease."	Sahih Al-Bukhari Book #70, Hadith #579	* The one who cures is Allah subhana wa ta'ala * The first step in providing good quality care is to supplicate for the patient
Narrated Abu Musa: The Prophet ( ) said, "Free the captives, feed the hungry and pay a visit to the sick."	Sahih Al-Bukhari, Book #52, Hadith #282	* Visiting the sick is part of good quality care (relieves stress and improves immunity)

Discussion:

The definition of quality of health care provided above highlights the three components of: health, care and learning. For each of these components there are Islamic references that either directly refer to health or has implication for health. However, the Islamic approach to quality is holistic, including invocations, worship and spirituality. There are several implications for this finding. The first is that Islamic teaching do provide basis for achieving quality in health care. The concept of 'good quality work' is integrated in the Islamic teachings and 'quality of healthcare' is a component of it. The second is that, from the Islamic perspective, the poor quality of health care in many Islamic countries is unacceptable. The third is that Islamic teachings on health care quality predate the western health care quality movement by several centuries. The fourth implication, related to the previously discussed points, Muslim health care practitioners should be on the forefront of the healthcare quality movement as its rationale is compatible with Islamic teaching.

Conclusion:

The paper has shown that concepts related to health care quality could be derived from Islamic teachings. Islam in general teaches good quality in everything. Evidence of this is found in following the hadith (saying) of the Prophet Muhammad (): "Allah loves that if each of you does a job, to do it perfectly.' [Narrated by Aish][1]. Islam also gives strong importance to health, as according to the hadith of the Prophet Muhammad (), 'Whoever wakes up secure amongst his people, (physically) healthy, and has food for his day, it is as if the whole world had been gathered for him.' [Tirmidhi and Ibn Majah]. In short, Islamic gives importance to both quality and health. Hence it can be concluded that one of the reasons for the low quality of health care in some Islamic countries is the lack of application of Islamic teachings to health care. Strategies for improving health quality in Islamic countries should include the Islamic justification and possibly *fatawas* (Islamic rulings) supporting quality of health care or for failure for upholding good quality health care.

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Study of *Aqaqia (Acacia Arabica)* (Orally and Pessary) in *Nutue Rehm* (Uterine Prolapse)

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Summary

Background and Objectives:

The aim of the present study was to evaluate the efficacy and safety of aqaqia (Acacia Arabica) (orally and pessary) in the management of nutue rehm (uterine prolapse) and also to improve the quality of life of women.

Design: plain controlled randomized single blind study.

Location: Outpatient department, National Institute of Unani Medicine, Bangalore, India

Subjects: 30 patients. 20 in the test group and 10 in the control group.

Interventions: Clinically diagnosed patients (n=30) who consented for the study were given the test drug formulations i.e., orally safoof (powder) aqaqia 3gm in two divided doses orally and locally pessary of aqaqia (Acacia arabica) 6gm for 8 weeks. B complex was administered once daily and pelvic floor muscle exercise was advised to the patients of both the groups. Clinical and demographic details were recorded in specially prepared case record forms. Subjective parameters i.e. mass per vaginum, heaviness in pelvis, low backache, stress urinary incontinence, white discharge per vaginum and objective parameter i.e. half way system were assessed. Results were analyzed using appropriate statistical test.

Outcome Measures: The main outcome measure was to assess relief of symptoms.

Results: The result showed significant improvement in subjective and objective parameters in test group than compared to control group. ($p < 0.05$)

Conclusion: Aqaqia was found to be effective in reducing the prolapsed.

Key Words: uterine prolapse; pelvic floor muscle exercise; aqaqia.

Introduction:

Genital prolapse in women is not a condition to modern times, modern diet or modern living. It is a distressing weakness that has probably been with us since those very early times when human being first adopted the upright posture. [1]

The cognizance of uterovaginal prolapse to mankind is as old as their own history of civilization. Description of uterine prolapse has been mentioned in Greek, Egyptian, Arabic and Indian medicine. Eminent *Unani* philosophers like Buqrat, Jalinoos, Al Razi, Ibne Sina, Ismail Jurjani etc have mentioned about uterine prolapse in their precious compilations.

The pelvic organ prolapse is a worldwide problem that affects the quality of life of millions of women. It has been shown that, self perception of the body is significantly affected in those with symptoms[2,3] and also it can impact a woman's daily activities.[4] The uterine prolapse is a common condition, affecting up to 30% of women attending gynaecology out patient clinic and up to 50% of women over 50 years of age. The incidence of urogenital prolapse increases with advancing age, menopause and parity.[5,6] Further more it is expected that 11% of women over the age of 80 will undergo surgery for such conditions, with an additional 30% who will require a repeat surgery. The direct cost based on this data is estimated to be over one billion dollars. [3]

Uterine descent is often associated with coexistent anterior, posterior vaginal wall prolapse and/or an enterocele. The commonly associated symptoms of anterior vaginal wall prolapse are urinary frequency, incontinence, intermittent flow and poor stream. Symptoms associated with posterior vaginal wall prolapse mainly include difficulty in defecation. The sensation of mass per vaginum, urinary, bowel and/or sexual symptoms is universally described as 'prolapse symptoms'.[5]

A detail description of *nutue rehm* has been mentioned in most of the *Unani* ancient encyclopedias written by eminent physicians regarding its causes, sign and symptoms, diagnosis, prognosis and management.

In *Unani* system of medicine the concept of humoral theory was first proposed by Buqrat. He states that if *akhlaat arba i.e. four humors (Blood, Phlegm, Black bile* and *yellow bile)* are in a state of equilibrium, both quantitatively and qualitatively health is restored. Any derangement in these *akhlaat* either quantitatively or qualitatively leads to disease.[7] According to humoral concept it is *balgham ghaleez(thick phlegm)* or *balgham lazij* (viscid phlegm)which are involved and dominated in *nutue rehm*. Hence the abnormal accumulation of these *balgham* in *rehm* (uterus), causes weakness of *ribatat rehm* (uterine ligaments*)* leading to *nutue rehm*.[8, 9]

Ibn Rushd states that anatomical disorders can occur in *rehm* which causes disturbance in its function, as a result *rehm* becomes loose and displaced from its place.[10] Even in conventional medicine, cause of uterine prolapse is weakness of supports of uterus due to pregnancy, repeated child birth, menopause, advance age of women, increased intra abdominal pressure (due to chronic chest disease, constipation, heavy weight lifting etc). Hence, it correlates with concept of *nutue rehm* as proposed by *Unani* physicians.

The therapeutic options in uterine prolapse in conventional medicine include pelvic floor muscle exercise, pessary insertion and surgical interventions. The above said procedures have got their own side effects and complications. The surgical procedures cannot be availed by poor section of population and there are chances for major postoperative complications like vault prolapse and dyspareunia. Looking at the side effects of conventional therapy and complications of surgical procedures, it is need of the hour to switch to an alternative system of medicine that is safe, cost effective, non surgical and can easily be availed by everyone and has long lasting effects.

Though the treatment of this disease dates back to ancient period, but validation and documentation are extremely deficient. Keeping the above facts in view, a plain controlled randomized single blind study was conducted at National Institute of Unani Medicine hospital, Bangalore for the management of *nutue rehm*. The aim of the study was to evaluate the efficacy and safety of *aqaqia* in *nutue rehm*. In this study, patients with first and second degree uterine prolapse associated with anterior and posterior vaginal wall prolapse were included. In *Unani* system, *nutue rehm* was managed with drugs which have got *qabiz* property. *Aqaqia* was selected as research drug as it possess *qabiz*(astringent), *habis* (styptic), *mujaffif (*desiccant) *muhallil* (*anti inflammatory*_and *muqawwi* (strengthen*)* properties, to explore its efficacy on scientific parameters.[11,12] An attempt was made to scientifically validate the efficacy of the research drug by assessing the parameters like improvement of woman's quality of life with validate tool like P-QOL. The observations in both the test and control groups were analyzed and compared statistically by using student't' test, Chi-square test, Fisher exact test, Mann Whitney U test and Wilcoxon signed rank test. It is expected that *aqaqia* may be effective in the management of *nutue rehm* due to its above mentioned properties.

Methodology:

This study was plain controlled randomized single blind study carried out in OPD and IPD of the Department of Amraze Niswan wa Ilmul Qabalat of NIUM, Hospital during 2009-2010. A total number of 103 patients were screened for *nutue rehm* (uterine prolapsed) during the study period. 62 patients were subjected to preliminary investigations and out of them 18 patents were excluded, and 14 patients refused to participate in this study. Then 20 patients were randomly allocated to the test and 10 to the control group. The study was started after approval by ethical committee of the Institute. The inclusion criteria were patients with the age group of 25-65 years with first and second degree uterine prolapse associated with prolapse of anterior and posterior vaginal wall and symptoms of mass per vaginum, stress urinary incontinence (SUI), low back ache and white discharge per vaginum. The exclusion criteria were pregnant and lactating women, patients with congenital elongation of cervix, cervical fibroid polyp, and chronic inversion of uterus and carcinoma of cervix and patients with any concomitant diseases like diabetes mellitus and hypertension

The test group was given test drug formulations i.e. powder of orally *safoof aqaqia* (*Acacia arabica*) 3gm in two divided doses orally and locally pessary of *aqaqia* (*Acacia arabica*) 6gm for 8 weeks. B complex was administered once daily and pelvic floor muscle exercise was advised to the patients of both the groups. Clinical and demographic details were recorded in specially prepared case record forms. Subjective parameters i.e. mass

per vaginum, heaviness in pelvis, low backache, stress urinary incontinence, white discharge per vaginum and objective parameter i.e. half way system was assessed. Results were analyzed using appropriate statistical test.

Procedure:

Patients complaining of mass per vaginum, stress urinary incontinence, low back ache, white discharge per vaginum and heaviness in the pelvis were interrogated thoroughly for detailed history particularly about duration of symptoms. General and systemic examinations were done. Nutritional status, built of the patient, height and weight, BMI (calculated as weight in kg/ height in m^2), waist circumference (measured at the midpoint between the lower border of the rib cage and iliac crest in cm) and Assessment of *mizaj* (temperament) of every patient was done according to different parameters mentioned in classical *Unani* literature.

The patient with prolapse was examined carefully. Patient was made to cough and strain, nature and degree of prolapse was noted. The vulva was inspected to look for the evidence of any perineal laceration and gaping of introitus. SUI was observed by asking the patient to strain. Speculum examination was done to determine the vaginal prolapse, degree of uterine descent, condition of vagina and cervix. Vaginal palpation was done to note the position and mobility of uterus.

Pelvic floor muscle strength (PFMS) was noted by vaginal palpation. For this procedure gloved middle and index fingers of right hand was inserted into the vagina. Then the woman was asked to contract her pelvic floor muscles as much as possible as she could contract around the examiner's fingers. The pelvic floor muscle strength was rated as follows;

1- Absent: No detectable muscular contractibility around the examiner's fingers.
2- Weak: Contractibility detectable, but not all around the fingers.
3- Moderate: Contractibility around the fingers but no elevation of the pelvic floor.
4- Good: Powerful contractibility around the fingers and elevation of the pelvic floor

Patients, who fulfilled the inclusion criteria, were evaluated through complete history and physical examination. Pelvic examination was performed to evaluate the *nute rehm* related sign like mass per vaginum, vaginal discharge, and SUI. Direct visual assessment was done to measure the grade of mass per vaginum.

Symptoms like mass per vaginum, stress urinary incontinence, white discharge per vaginum, low backache and heaviness in pelvis were scored as follows;

Stress Urinary Incontinence:

Teleman scoring system was used to assess SUI.[13]

Score: 1- Occasional leakage (rarely).

Score: 2- Once in a while.

Score: 3- Often.

Score: 4- Most of the time.

Score: 5- All the time.

White discharge per vaginum:

According to the severity of patient's complaint, WDPV was graded as follows;

Score: 1- No discharge.

Score: 2- Mild (streak/spotting on undergarment).

Score: 3- Moderate (stain on undergarment).

Score: 4- Severe (using pads).[14]

Low Backache:

Visual Analogue Scale (VAS) for pain was used to measure the intensity of low back ache. It is a simple assessment tool consist of 10cm line '0' on one end respectively for 'no pain' and 10cm on the other end respectively for 'worst pain' ever experienced, which a patient marks to indicate the severity of her pain. Coloured VAS score for pain was used for patient's understanding. The patients selected for the study were asked to mark the severity of LBA in coloured scale.

Half way system:

The half way system was developed by Baden Walker and colleagues. In this system, the hymen is preferred as landmark (at vaginal orifice) to evaluate uterine prolapse. Here patient was made to lie in dorsal position and asked to strain and then examined the uterine descent. Sim's speculum was introduced in posterior vaginal wall and

retractor was inserted to retract the anterior vaginal wall and again uterine descent was noted. According to half way system, uterine prolapse was graded as follows;

Grade: 0- No prolapse

Grade: 1- Half way to hymen

Grade: 2- To the hymen

Grade: 3- Half way past hymen

Grade: 4- Maximum descent[15]

Written consent was taken. Baseline clinical laboratory investigations like haemoglobin percentage, total leucocytes count, differential leucocytes count, erythrocyte sedimentation rate, VDRL and Random blood sugar were done to exclude general diseases. Additional specific investigations like Ultrasonography, Pap smear were done to exclude pelvic pathology. Some investigations like blood urea, serum creatinine, SGOT, SGPT, Alkaline phosphatase were done before and after trial to assess safety of drugs.

At every follow up during two months of study period progression or regression of symptoms and signs were recorded in the case record form.

Statistical analysis of results:

Descriptive statistical analysis has been carried out in the present study. Results on continuous measurements were presented on mean ± SD (Min-Max) and results on categorical measurements were presented in number (%). Significance was assessed at 5 % level of significance. Student‘t’ test (two tailed, independent) has been used to find the significance of study parameters on continuous scale between two groups (inter group analysis) and Student‘t’ test (two tailed, dependent) was used to find the significance of study parameters on continuous scale with in each group. Mann Whitney U test (two tailed, independent) has been used to find the significance of study parameters on continuous scale between group. Wilcoxon Signed rank test has been used to find the significance of pre and post intervention of outcome variables within each group. Chi-square (χ^2) / Fisher Exact test has been used to find the significance of study parameters on categorical scale between two or more groups. Chi-square /Fisher exact test has been used to find the homogeneity of samples on categorical scale.

+ Suggestive significance (P value: 0.05<P<0.10)

* Moderately significant (P value: 0.01<P £ 0.05)

** Strongly significant (P value: P£0.01)

Statistical software:

The Statistical software namely SPSS 15.0, Stata 8.0, MedCalc 9.0.1 and Systat 11.0 were used for analysis of the data. Microsoft word and Excel have been used to generate graphs and tables.

Global outcome measures:

Subjective and objective parameters were assessed after treatment, when the p value < 0.05 : considered significant statistically.

Results:

Plain controlled randomized single blind study was carried out on 30 patients of uterine prolapse. The observations were statistically analyzed for significant difference in improvement of subjective and objective parameters. The results were tabulated in the form of various tables and figures.

Baseline Characteristics and İnvestigations: (Table 1)

The patients randomly allocated to test and control groups were assessed for various baseline characteristics and investigations. The mean±SD of the two groups were calculated and compared using unpaired student‘t’ test. It was found that all parameters were statistically not significant i.e. p>0.05. Thus the groups were homogenous.

Global Comparison of Subjective and Objective Assessment: (Table 2)

All parameters of subjective assessment were advantages for test group, while based on objective assessment of good quality of life score (0-50), 6 parameters out of 9 were advantages for test group, one parameter was not advantages for test group and remaining two parameters had similar performance in both test and control group. Over all test group was found to be advantageous in this patient population.

Subjective parameters:

The subjective parameters: WDPV, LBA and SUI of uterine prolapse were assessed by grading system; MPV

and HIP were assessed by the presence or absence. The data obtained were analyzed for rating score with mean±SD in each group, before and after treatment.

1. Mass Per Vaginum (MPV)

7(35%) in test group and 1(10%) in control group had MPV before treatment. After treatment MPV has reduced to 1(5%) in test group with p value < 0.001; considered significant statistically and remain unchanged in control group. The percentage of change was 30% in test group and none of the patient showed any percentage change in control group after treatment. (Table 3)

2. Heaviness in Pelvis (HIP)

11(55%) in test group and 8(80%) in control group had HIP before treatment. After treatment HIP has reduced to 2(10%) in test group with p value 0.036 considered significant statistically and 4(40 %) in control group with p value 0.122 considered not significant statistically. The percentage of change was 45% in test group and 40% in control group after treatment. (Table 3)

3. Stress Urinary İncontinence (SUI)

Mean and SD in test group before and after treatment was 3.90±0.55 and 1.40±0.59 respectively. In control group the mean and SD before and after treatment was 3.80±0.63 and 2.30±0.68 respectively. When mean±SD of test group after treatment, was compared to test and control group before treatment there was a significant reduction in mean and SD of test group with p<0.003. The % of improvement was 64.1% in test group and 39.5% in control group. (Table 3)

4. White Discharge Per Vaginum (WDPV)

Mean and SD in test group before and after treatment was 2.55±0.69 and 1.05±0.22 respectively. In control group the mean and SD before and after treatment was 2.60±0.84 and 1.70±0.68 respectively. When mean±SD of test group after treatment was compared to test and control group before treatment, there was a significant reduction in mean and SD of test group with p<0.013. The % of improvement was 58.8% in test group and 34.6% in control group (Table 3).

5. Low Backache (LBA)

Mean and SD in test group before and after treatment was 7.00±1.26 and 2.55±1.19 respectively. In control group the mean and SD before and after treatment was 7.1±0.99 and 5.30±2.11 respectively. When mean±SD of test group after treatment was compared to test and control group before treatment, there was a significant reduction in mean and SD of test group with p<0.001. The percentage of pain reduction in test and control group was 63.6% and 25.4% respectively. (Table 3).

Objective Parameter:

Halfway system (HWS): (Table 4)

Effect of treatment on HWS grading was assessed, 55% in test and 40% in control group had no prolapse. In test group 55% improved from 35% grade-1, 15% from grade- 2, 5% from grade 3. In control group 40% improved from 40% grade -1. Therefore it was observed from the table that, patients improved in test group were of grade- 2 and grade -3 than compared to control group, where only patients from grade 1 improved to grade 0.

Discussion:

Therapeutic Outcome:

In this study it was demonstrates that the test drug was effective in uterine prolapsed. The test drug was found to be advantageous with respect to subjective and objective parameters. *Aqaqia* possess multiple pharmacological properties like *qabiz* (astringent), *habis* (haemostatic), *mujaffif* (desiccant), *muqawwi (*general tonic), *dafae tasannuj(*antispasmodic), *muhallil* (anti inflammatory), *radae(*divergent) etc.[10,11,16,17,18] the overall response in test group was significant than compared to control group. *Aqaqia* contains tannin which has got *qabiz* (astringent) property that helps in coagulation of protein, constricts the ligaments, tone up the muscles and thus helps the uterus to revert back to its normal position.

Effect on subjective parameter

1. With respect to VAS score in LBA, the percentage of pain reduction in test and control group was 63.6% and 25.5% respectively; it was significant statistically with p value <0.001. This effect may be due to *dafaie tashannuj, muqawwi asab* property of *aqaqia*. This result is in accordance with the properties of the drug as suggested by Najmul Ghani,[11] Kirthikar[19] Ibn Baitar,[20] etc.

2. The mean and SD for WDPV in test group after treatment was (1.05±0.22). It was significantly reduced (p<0.013) than compared to mean and SD in test group (2.55±0.69) and control group (2.60±0.84) before treatment. This improvement may be due to *qabiz, habis, mujaffif, muhallil* properties of *aqaqia*. This result coincides with the findings as documented by Najmul Ghani,[11] Kabiruddin,[18] Ibn Sina,[16] Ibn Rushd,[10] Abdul Hakeem,[21] Nadkarni[17] etc.
3. The mean and SD for SUI in test group after treatment was (1.40±0.59). It was significantly reduced (p<0.003) than compared with mean and SD in test group (3.90±0.55) and control group (3.80±0.63) before treatment. This improvement may be due to *qabiz* and *muqawwi asab* property of *aqaqia* as stated by Ibn Rusd[10], Najmul Ghani[11], Ibn Sina[16], Mohammed Said[22] and Kabiruddin[18].
4. It was observed that; 1 out of 7 patients in test group were relieved from MPV with p value <0.001, considered significant statistically. This improvement may be due to pharmacological properties of *aqaqia* such as *qabiz, habis, radae, mujaffif* and *muqawwi*[10,11,16,17,18] which helps to constrict the *ribatat rehm* and tone up the muscles thus helps in reducing the prolapse.
5. In present study; 2 out of 11 patients in test group and 4 out of the 8 patients in control group were relieved from HIP. It was significant statistically (p<0.036).

Effect on objective parameter:

Half way system:

With respect to half way system, percentage change at follow up was 35% in test group and 40% in control group in grade -1. Percentage change at follow up was 15% in test group and no response in control group in grade -2. Percentage change at follow up was 5% in test group in grade-3, whereas none of the patient in control group had grade-3 prolapse.

Conclusion:

The test drug *Aqaqi*a was found to be effective in uterine prolapse as well as relieving the symptoms and signs related to uterine prolaspe than compared to the placebo. This study validated the claim of the *Unani* physicians.

The patients in both the groups did not report any adverse effects. Laboratory investigations to evaluate the safety of the test drugs were within normal range before and after treatment showing that these drugs are safe. This disease is considered as potential risk factor in old age and symptoms related to uterine prolaspe cause discomfort to women. Therefore it must be treated with due care. In conventional medicine, surgical management is only the curative treatment, which has its own hazards.

Further recommendation:

This study shows that the test drugs are effective in relieving the symptoms and signs related to uterine prolaspe. As in the present study, the effect of the test drugs was assessed only by direct visual assessment method. Computerized sonograph and MRI methods are could not be employed due to paucity of time. Therefore, further studies by using these precise methods for measuring uterine prolapse and also double blind, randomized standard controlled clinical studies involving large number of patients are recommended.

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Effect of Cupping Massage and Cupping in the Management of Arthralgia

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Introduction:

Joint pain is referred to as Arthralgia in Medical Terminology, which is main symptom of the disease Arthritis. In Classical Unani Literature *Waja ul Mafasil* is ascribed for the condition. It is an Arabic term, where *Waja* means 'pain' and *Mafasil* means 'joints'. Arthralgia is caused by inflammatory condition affecting joints and its surrounding muscle and ligaments[1].

Waja ul Mafasil in initial stage can be treated easily but if it persists for a longer period it becomes difficult to treat.[2]

Management in Regimanal Therapy

Massage

Since *wajul mafasal* (Arthralgia) is considered *Marz-e-Barid*, massage removes *burud*at and morbid material collected in joint spaces.

Hijama

Hijama (Cupping) is one of the popular therapeutic regimen in Unani system of medicine done in different types of *Waja ul Mafasil*. It is beneficial for *Waja ul Mafasil* because it is used for *Tanqiya and Imalae mawad* (diversion and evacuation of morbid matter) from affected part it relives pain, resolves inflammation, produces localized heat by increasing local blood circulation [4, 5, 6]

Medical officer, Shamim Ahmad Saeedi speciality hospital for Joints pain at Jamia Tibbiya Deoband

Jalinoos believed that *hijama* is beneficial in resolving *Ghaleez Khilt* [7]

Combined Therapy

Now a days Massage is combined with Hijama to get improved results. Roghaniyat (oils) used for the purpose are Roghane Baboona, *Roghane Surkh*, *Roghane Gule Aak*, *Roghane Malkangni, Roghane Kuchla*, *Roghane Shibit*, *Roghane Qust*[8,9,10]

Material and Method:

This study was conducted in Shamim Ahmad Saeedi speciality hospital for Joints pain at Jamia Tibbiya Deoband on 30 patients.

Since, hip and knee osteoarthritis are two most common forms of osteoarthritis affecting the general population. In view of this distribution of osteoarthritis and the ease of application of the cupping instrument, knee osteoarthritis was specifically selected for the study. Cupping massage was done with *Roghan Farfiyoon* for 3 minutes and thereafter multiple cups were placed for 10 minutes. The procedure was done on every alternate day for 28 days.

The patients were included on the basis of the clinical symptoms and signs viz. pain, swelling, restricted movement (flexion & extension), difficulty in walking and morning stiffness. The clinical signs and symptoms were recorded with scoring on the VAS on alternate visit. The initial score was compared with final score and statistically analyzed using student's paired t test to assess the efficacy of the regimen.

Patients having treatment for the same disease for less than 2 months were excluded from the study. Patients having active heart diseases, active hepatic diseases, acti-

ve renal disease, severe anaemia, and diabetes mellitus, pregnant and lactating women were also excluded from the study.

Table 1: Statistical analysis for **PAIN**

Baseline Score	Final Score
2.37±0.56	0.90±0.40
t=15.82	**p<0.001**

OBSERVATIONS AND RESULTS

Table 2: Statistical analysis for **SWELLING**

Baseline Score	Final Score
2.23±0.43	0.90±0.40
t=15.23	**p<0.001**

Table 3: Statistical analysis for **RESTRICTED MOVEMENT**

Baseline Score	Final Score
2.06±0.45	0,73±0.52
t=15.23	**p<0.001**

Table 4: Statistical analysis for **DIFFICULTY IN WALKING**

Baseline Score	Final Score
1.60±0.49	0.40±0.49
t=10.77	**p<0.001**

Table 5: Statistical analysis for **MORNING STIFFNESS**

Baseline Score	Final Score
0.83±0.69	0.20±0.41
t=6.24	**p<0.001**

Table 6: Statistical analysis for **CUMULATIVE SCORE**

Baseline Score	Final Score
9.10±1.39	3.17±1.48
t=22.62	**p<0.001**

Discussion and Conclusion:

Cupping exhibits beneficial effects in wajaul mafasil muzmin (osteoarthritis) because it removes morbid material from joint space. The morbid material is the reason for the symptoms like pain, swelling, restricted movement and morning stiffness etc. Cupping massage followed by cupping most probably dilutes the toxin and morbid material collected in the joint space and making it readily expellable due to increased blood and lymphatic circulation along the affected joint space.[3,11]

Thus with the above observations and results it is to conclude that cupping massage with Roghan Farfiyoon followed by cupping is most beneficial regimen for the management of osteoarthritis. Further it is proposed that some other oil with anti-inflammatory effect should be used for cupping massage and cupping should be applied for a longer period and more frequently for next study to establish the efficacy of cupping massage and cupping in the management of osteoarthritis.

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Makkah and Medicine in the Late Ottoman Period from a Malay Medical Treatise

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Introductıon:

Makkah is an important holy city for Muslims. It is their heartbeat for religious activity, and exerts influence over culture, education, and even politics in many Muslim nations. Despite this central role, not much is known about the scientific activities and figure of science in the holy city. Specific history text on Makkah is already very few, and those that exist, such as al-Azraqi's Akhbar Makkah gave only factual and not contextual or realities of life in his time, never mind a medical history. An unlikely source that tells the existence of a medical practitioner was the Orientalist, Snouck Hurgronje whose photos in Photographs of Mecca were reidentified 1980 as the works of al-Sayyid Abd al-Ghaffar. It was found thatAbd al-Ghaffar was not only an avid photographer, but was also medically trained in ophthalmology and dentistry. (Witkam, 2013) We also now know that several hospitals existed pre-Ottoman and during the Ottoman times. One of the earliest pre-Ottoman hospital was the one built by Imaduddin Zangi (d. 1174), whereas during the Ottoman time, hospitals such as the Sokullu Mehmet Pasha and Gulnus Sultan Hospitals operated for free for the public until the end of the Ottoman reign. (Shefer-Mossensohn, 2010) Still, Makkah's medical history remains scanty. No one wrote on the details of medical practice in Makkah, and apart from al-Antaki and Abd al-Ghaffar, no other Muslim physician was specifically known, and no text on medicine from Makkah was ever discovered.

The apparent lack of home-grown physician and medical text associated with Makkah stands in stark contrast to the city's importance and to the Islamic faith that dominates the sphere of life in the city. Islam treats medical knowledge very highly. Getting treatment, curing patients and taking care of the sick, elderly and invalid are all considered as worship, having great merit in the eye of God and not simply a moral and virtuous things to do. Medicine is thus valued at par with religious knowledge. In a Prophetic saying narrated by Abu Huraira: The Prophet said, "There is no disease that Allah has created, except that He also has created its treatment." (al-Bukhari) A prominent Muslim scholar, asy-Syafi'i, was reported to say, "Knowledge is two kinds: knowledge of the religion and knowledge of the body (medicine)." (al-Fathani, 1895) Further, Islamic Golden Age, spanning between 8th to 16th century, is a further testimony to the contribution that Islam has given to the scientific and medical world. (Hassani, Woodcock, & Saoud, 2006)

The author and the text:

In the context of apparent lack of medical writings related to Makkah, the Malay text Tayyibul Ihsan is interesting to analyse. It was written by a Malay scholar who was a qualified practitioner, and was completely written whole in Makkah. In addition, it contains some references that are specific to the practice of medicine in Makkah. The text itself was considered major and influential among the Malays at the turn of previous century and in the decades before independence. From its completion on 3rd of Dhu al-Hijjah 1312 H (corresponding to 28th May 1895 CE), it underwent three cycles of publications; firstly by Matba'ah al-Mir'iyah Kainah, Makkah in Dhu al-Hijjah 1313H (Jun 1896), then a second print by the same press in mid Safar 1332H (January 1914CE) and a third print on 16th Safar 1374H (13th October 1954CE) by Persama Press, Achen St., Penang. A photocopy version of the original text was republished by Khazanah Fathaniyyah Kuala Lumpur in 1999 and was an instant hit especially among the religious circle and scholars interested in Malay studies. Several research projects were carried out, although these mainly look at the medical-technical and linguistic aspects of the texts, (Abdul Hamid & Mohammad, 2008) (Maidin, Konsep Kesihatan dan Etnofarmakologi: Satu Kajian Falsafah Berdasarkan Beberapa Naskah Manuskrip Perubatan Tradisional Bustan al-Salatin,

Kitab Tibb dan Taiyib al-Ihsan, 1995) and less on its social and contextual history. This paper sought to re-evaluate the text, and especially would like to uncover the association and influence of Makkah to the text, and by extension to the author, and would also consider how this provides some picture to the life in Makkah at the time.

The text was written by a Malay polymath, Ahmad al-Fathani, (1856-1908). This is a very prominent Malay scholar who originally hailed from the Sultanate of Patani, in curent-day Southern Thailand. He was born on a Friday 5th Sya'ban 1272H / 10th April 1856 CE to a family that claims descendent to the Prophet s.a.w. family via Sayyidina Abbas ibn Abdul Muthalib. He moved to Makkah during his childhood. In Makkah he studied religion with numerous Malay and Arab scholars including Sheikh Ahmad bin Zaini Dahlan (d. 1304AD), Sheikh Nik Dir Patani (d. 1898AD), Sheikh Wan Ali Kutan al-Kalantani (d. 1913AD) and Sheikh Nik Mat Kecik Patani (1915AD). (al-Fatani, 2002) From Makkah, he went to Bait al-Maqdis, and met religious scholars such as Yusuf an-Nabhani. He also learnt some religious texts in Urdu and studied medicine from Sheikh Abd al-Rahman al-Kabuli, from whom he also completed the reading of Qanun Chah, (Wan Mohd Shagir, Gelaran Tertinggi Syeikh Ahmad al-Fathani, 2008)and received a certificate (ijazah) to practice. His activity while in Bait al-Maqdis was not very clear: it was not known in certain term how he met al-Kabuli, what exactly his medical training was, and what had motivated him to learn medicine. We knew that his parents were not very happy to discover, that upon his return from Bait al-Maqdis, he had pursued his medical interest instead. (Wan Mohd Shagir, Kelahiran Syeikh Ahmad al-Fathani Rahmat Bagi Umat Islam, 2008) Later, he studied in al-Azhar University in Cairo, meeting scholars such as the eminent Sheikh Mustafa 'Afifi.

Although Ahmad al-Fathani was brought to Makkah from a very young age, he travelled extensively and kept a close relationship with the Southeast Asians, both those who came to study in the Middle Eastern cities and those in the Malay Archipelago. He entertained questioned and invitations by all level of societies: while he had a collection of correspondence letters to Malay royals (notably the Sultans of Kelantan and Terengganu), (Wan Mohd Shagir, Puisi dan Pujian Penghargaan Kepada Sultan Terengganu, 2008) (Wan Mohd Shagir, Syeikh Ahmad al-Fathani, Organisasi dan Politik, 2008) it could also be found in some of his texts answers to questions posed to him by common subjects. A good example is the text Faridatul Fara'id, which contains several questions on 'Aqidah posed by people in Cambodia.

Ahmad al-Fathani's popularity among the Malays stemmed from his numerous writings covering subjects as diverse as religion (tauhid, fiqh, tasawwuf to hadith and tafsir), language and literature (Malay and Arabic), history, and medicine. He was also very influential in the intellectual discourse on Malay nationalism. (Roff, 1967)

In 1870s, Ahmad al-Fathani came into conflict (Wan Mohd Shagir, Syeikh Ahmad al-Fathani dan Media Cetak, 2008) with the Sharif of Makkah, Syarif Hussein, a conflict which had had a great impact on his later activities. The Syarif had blocked the distribution of non-Arabic materials in the holy city for no concrete reason. Unable to persuade the Syarif to change his decision, Ahmad al-Fathani went to Istanbul to seek the direct audience of the then Ottoman Caliph, Abd al-Hamid Khan. The Caliph was impressed with Ahmad al-Fathani and his visions that he entrusted Ahmad al-Fathani with establishing a publishing house, operating under a royal decree, out of Istanbul. It was called al-Maktabah al-Amiriyyah, later to be known as Maktabah Mir'iyyah. From here, Ahmad al-Fathani supervised the publication of many Malay religious texts, in addition to some Arabic and Turkish materials. Ahmad al-Fathani proceeded to established two more printing houses; one in Cairo and another Makkah (1882 CE). In Makkah, he employed many of his Malay students to the tashih of Malay texts and many of them would later returned home to open Malay printing presses, for example, Mir'iyah Kalantaniyyah in Kelantan, Mir'iyah Ahmadiyyah in Riau, and Maktabah al-Usrah in Singapore.

The city of Makkah had always received great attention by the Ottoman sultans. Western travellers noted a well-kept city with sanded streets and markets full of materials from all over the world. (Lunde, 1974) Trade and pilgrimage routes were secured with many caravanserai. By 1908, telegraph lines were constructed alongside the Hijaz Railway as far as Madina, with a planned extension to Makkah, to connect the two cities to the capital in Istanbul. (Teitelbaum, 2001) The time of Ahmad al-Fathani, thus, was an interesting epoch: while the Ottoman Empire was undergoing great modernisation project, traditional thoughts in the Empire were being challenged, external and internal threats were attempting at disintegrating the fabric of the Empire, and wars were impending or already occurring at almost every corner. Up until now, we are not informed of how these changes impact on medical life in the periphery of the Ottoman Empire such as Makkah.

Tayyibul Ihsan was not the only texts on medicine that Ahmad al-Fathani wrote. In several other texts, such as Hadiqatul Azhar and Luqtatul Ijlan, which are primarily texts on history and fiqh, respectively, there are also notes on medicine. (Che Daud, 2000) It was said that Ahmad al-Fathani had also produced a commentary of Qanun fi at-Tib of Ibn Sina, in Arabic, but this text is lost and Tayyibul Ihsan remained as the only medical text testifying the medical knowledge of Ahmad al-Fathani. There is also a collection of letters from several doctors in Egypt requesting his collaboration in researching some new medicine of the time. (Wan Mohd Shagir, Syeikh Ahmad al-Fathani dan Ilmu Perubatan, 2008)

Tayyibul Ihsan was written with the Malays in mind and as its primary concern. The author mentioned the reason for writing the text: "We were called upon to write this text because of the extreme need and difficulties of the Malays to obtain the knowledge and they frequently asked concerning it (medicine) and not one among them has the ability to investigate and verify medical text that from it they could reach to a conclusive knowledge." It should be noted, however, that the situation described by Ahmad al-Fathani is not entirely true. Maybe it applies only to the Malay circle that he was accustomed to in Makkah or those he met during his short visits to the Malay Archipelago. The truth on the ground is that quite a number of Malay medical texts had been found, (Mat Piah, 2006) (Kamaruddin, 2012) suggesting its popularity and the concern put on it by succession of home-grown Malay scholars. Malay medicine, thus, was a sound discipline built over centuries of experience, a "storehouse of perennial wisdom and a collection of empirical observations of scientific significance". (Harun, 2008) Nevertheless, the concern of Ahmad al-Fathani was what led to the text being focussed to discussion related mainly to the Malays.

The construction of medical practice of Makkah in this text relates to the way materials are explained. For example, out of the hundreds of materials used, seventeen materials were singled out to be certain to be used or available in Makkah during the time of Ahmad al-Fathani. This is because for these materials, Ahmad al-Fathani would put a note that such and such plant, for instance, 'could be bought at the pharmacies in Makkah', or 'could be found in the open-fields of Makkah.' This, however, does not in any way means that other materials, especially those that are common to Arabia could not be found in Makkah at his time.

Ahmad al-Fathani also has a habit of citing major medical textbooks for his treatments. This is quite a departure from many other Malay medical text writers. This enhances his credibility, provides clues for readers to explore suitable authoritative sources, and aids in completing the picture of a scholarly medical figure of Makkah and books that are accessible to him.

Finally, from the personal notes in Tayyibul Ihsan, his medical practice including observation, empirical evidence, testimonial, and preparation of drug (simple of compounded) could be deduced.

Materia medica of makkah:

The types of materials with specific reference to Makkah could be classififed into there types: plants, animals, and metals/minerals.

1. Plants.

a. 'Ausaj.
This is identified as boxthorn, Lycium arabicum, a native plant of Makkah, which grows wild on Makkan open fields. In the text it is used to treat leprosy and dermatophytes, and to stop production of pus in skin infections. The root is boiled and the resulting broth is drunk. In Syria, a plant of similar name is identified as Rubus sanguineus. (Alachkar, Jaddouh, Elsheikh, Bilia, & Vincieri, 2011)

b. Tarfa
Tarfa or tamarisk, Tamarix L., is not a native plant of Makkah. In the Arabian Peninsula, tamarisk is found in Yemen, Iraq and the Levant, from where it is probably imported to Makkah. (BS & Amer, 1991) In Tayyibul Ihsan, tamarisk in indicated for smallpox, a use which appears to be a common practice throughout Arabia.

c. Sanawbar
Also sanawbar or stone pine, Pinus pinea, which is mixed with honey to treat cough. Ahmad al-Fathani mentioned that the fruit (perhaps, mistaken for the big-size seed of the nut) is to be used, and this is sold by in Syrians shops in Makkah. The tree is native in the Levant and is cultivated for its edible nut (Ragonezi, et al., 2012).

d. Raswand
This is unidentifiable plant, whose resin is used to treat eye sore by applying it around the eyes, and it was sold in Meccan pharmacies. The name is probably Persian of origin. There is another plant, rawand, also

mentioned in Tayyibul Ihsan. However the spellings in Arabic are different, and as both occurred a few times in the text, it may or may not be due to printing error. Otherwise, rawand is a rhubard which was mentioned also in the Prophetic tradition.

e. Qitha/Qissa/Qussa
Also qitha, or qissa or qussa, is a type of cucumber, sold in Makkah, which is used to treat fever in babies by putting the cucumber inside the baby cot.

f. Zufa
The plant, Hyssopus officinalis, not native to Makkah, is recommended in Tayyibul Ihsan for the treatment of leprosy and tuberculosis. For leprosy, the plant is broiled and the resulting a warm infusion is drunk. For tuberculosis, it is eaten whole, perhaps in its raw form. The plant can be found in the pharmacies in Makkah, perhaps imported from Southern Europe from where it originates. The plant contains volatile oil, (Lu, Battinelli, Daniele, Melchioni, Salvatore, & Mazzanti, 2002) which is carminative, stimulative and sudorific and hence good for the treatment of pulmonary diseases.

g. Isfanakh
The spinach, Spinacia sp., from the family of Amaranthaceae, is also known as isfanakh in standard Arabic. However, according to Tayyibul Ihsan, this plant in the Makkan dialect is known as zabanakh. It is deemed useful in helping the recovey from smallpox and chronic fever.

h. Sa'tar
The plant, Thymus vulgaris, is seasonal and could be found in the common market of Makkah. It produces nice smell and used as anti-vomitus. During the time of the Prophet s.a.w., people used to fumigate their house with the sa'tar incense.

i. 'As
The plant is most likely myrtle, Myrtaceae spp. The seeds is called habb al-'as, sold in the pharmacies in Makkah to treat insomnia and headache. The nearest source of myrtle is the Saharan dessert where one species, Myrtus nivelli could be found, or the Corsica and Sardinia island, where the Meditteranean variant, Myrtus communis, is indigenous.

j. Ward
Rose is a commonly used medicinal material throughout the world. The rose water as well as the rose oil, could be prepared from boiling the flowers. These are found in the pharmacies of Makkah. As rose cannot be cultivated locally in Makkah, it would to be imported.

k. Abu shih
This plant, sold in the pharmacies in Makkah, may be referring to a wooden tree called worm wood, Artemisia spp. The plant is aromatic, has bitter taste and used all over the world for therapeutics. In the Arabian Peninsula, this plant grows perennially in semi-desert areas. A few species is used for medical treatments, including the Armenian wormwood, Artemisia vulgaris. The Bedouin used it by burning it and sniffing the smoke. Al-Kindi recommended it use in toothpaste to eliminate tooth caries and halitosis (bad breath due to poor oral hygiene). Other useful medical variants are Artemisia judaica and Artemisia maritime. The plant could also be used as a source of oil and fodder for animals.

l. 'Ar'ar
This is an unidentifiable tree, most probably a Juniperus spp, is mentioned in Tayyibul Ihsan as to be found in great numbers on the open fields of Makkah and Taif. Ahmad al-Fathani described the leaves as akin to the leaves of the casuarinas trees, Casuarinas pp., which adorned the coastal areas of the Malay Archipelago. A variety called abhal, Juniperus communis, is well-known in India and used as emmenagogue. In tayyibul Ihsan, this tree is intended for inducing menstruation, perhaps useful for conditions such as amenorrhoea. Interestingly, it is also noted, in al-Antaki's Tibyan Makhtum, quoted in Tayyibul Ihsan, for stopping bleeding.

m. Namam
Namam, a type of mint or betony, is a sweet smelling plant used for treating nasal bleed. It is sold in shops in Makkah and grows locally in Makkah's houses, perhaps having decorative values.

n. Khaulan
This is a plant of the vegetable type, probably the Nightshade, Solanaceae spp. type. It is sold in the vegetable markets of Makkah when in season; hence it appears to be a local plant. However, the type that is grown in Makkah needs to be ascertained because Solanaceae is consists of numerous varieties. Khaulan, said Ahmad al-Fathani, is also known as faulan, and is used in combination with other medicinal ingredients to treat cough Ahmad al-Fathani mentioned that he was told that the khaulan plant produces a type of fruit commonly called 'inābu tha'lab (solanum).

o. Azkhar
A treatment for piles is a type of grass called azkhar, or camel hay, Cymbopogon schoenanthus, also known as halfet Makkah. The patient is steam-bathed with a preparation of the grass in combination with

other ingredients. It has properties that affect the tone of muscles.

2. Animals.

a. Jundaba dastar
This is the testicles of beaver, which the author had mistaken for sea lions. It is used to remove dead foetus from mother's womb. It is probable that the author had never seen a beaver himself and was given an impression of a dog-like creature living in the sea. The testicles have been described as poisonous.

b. Qirmiz
Qirmiz, or kermes, the insect Coccus illicis, native of Italy and Greece which was used to treat fever and a source of red dye.

c. Hajal
Also hajal, or hijla (pl. hijlan) which is a type of mountain quail, and has pigeon-like features, whose gallbladder is used to treat fever. It is sold in Makkah.

d. Badazhar haiwani
A badezhar haiwani is a stone retrieved from animals, and could be purchased in jewellery shops in Makkah. Some of the more popular are stones from camel and badezhar haiwani could be distinguished from badezhar ma'dani, i.e. stone from minerals. Ahmad al-Fathani noted that he had purchased some of the latter type, perhaps out of curiosity or to aid him in distinguishing the animal-sourced than the mineral-type stones.

e. Camel bone
The camel undoubtedly is an easy source of medical materials. Its bone would be cut into cubes, and put into fire until it turns black. It is used to treat snake bites. Thse who had used it explained that the cube is to be put on the bite mak whereupon it will produce suction, and remained in place and will not falls off until all the poison has been sucked out. The bones could be purchased from shops in Makkah.

f. Khunfusa
This is referring to a type of dung beetle, which Ahmad al-Fathani said to be found commonly underneath the carpets in Makkah homes. It is mixed with other ingredients to treat nyctalopia.

3. Metals/minerals.

a. Natrun
This mineral is a soft powder, sodium carbonate decahydrate, used to treat amnesia. Natrun was mined from Pharaoh's time from Wadi Natrun, southwest of Cairo. The powder is sold in the pharmacies of Makkah.

This list of 17 materials includes only those which were specifically mentioned in relation to Makkah. There are other materials which are common to Arabian Peninsula but were not mentioned in specific relation to Makkah, but could be assumed to also be available in the city. Examples would be the black seed, raisin and dates of all types, and olive oil. Looking at the list, however, it is amazing to see certain materials such as natrun and janduba dastar which are exotic items and must have been procured from abroad. The nearest source of natrun is Egypt, whereas the nearest sources of beaver are the Balkan and Northern Russia regions. These imported materials, point to the cosmopolitan nature of Makkan market. Its trade network must have reached as far as Europe, Northern and Eastern coast of Africa, Central Asia, Persia, India and Southeast Asia and beyond.

Reference medıcal texts:

Tayyibul Ihsan also contains references to many major medical textbook of the Islamic world. The list of texts, their authors, frequency of citations and treatments are given in Table 1.

In addition to this list are some other texts which are not in common list of medical textbooks of the Islamic civilisation. These include Kitab Ali Lam Ra, ascribed to one al-Azraqi, and three texts associated with Dawud al-Antaki namely kitab Tibyan Makhtum, Zuhatul Bahjah, and Dhail at-Tadhkirah, and Muhktaşar Ash-Sha'rānī li Tadhkirah as-Suwaidī fī Maḥāl Mutafarriqah.

Ahmad al-Fathani, by the time Tayyibul Ihsan was completed, had spent many years abroad, and gained years of experience in publication of books in Istanbul and in Cairo. He must have come across some of these selected, choice references as well as the rarer ones during one of those years abroad and while travelling. From the list, it apparent that the medical books in his collection also includes the general as well as the specialised ones such as Minhaj ad-Dukkan which deals with the science of pharmacology. It also ranges from those that rely he-

Table 1: The name of reference texts, their authors, frequency of citation and type of treatment

Title	Author	Frequency of citation	Type of treatment
Mukhtasar Tazkirat al-Suwaidi	Abdul Wahhab bin Ahmad asy-Sya'rani	45 times	Over 30 problems
Tazkirat Ulil Albab	Dawud al-Antaki	Over 30 times	Various
Al-Nuzhah Mubahijah	Dawud al-Antaki	7 times	Various
At-Tasrif	Shihabuddin al-Qalyubi	Over 30 times	Various
Ar-Rahmah fit Tibb	Ibrahim al-Sabiri	Over 10 times	Various
Tashilul Manafi'	Ibrahim al-Azraqi	Over 20 times	Various
Al-Mujiz	Ala'addin Abu al-Hasan al-Nafis	1 time	Toothache
Kamilus Sina'ah	Ali al-Abbas al-Majusi	1 time	Sinusitis
Minhaj ad-Dukkan	Abu Muna al-Kuhin al-Isra'ili	1 time	Node enlargement
Qanun Chah	Mahmud al-Chagmini	1 time	Fever
Tibb an-Nabawi	Az-Zahabi	1 time	Diarrhoea

avily on empirical science and those that is essentially a collection of medical knowledge sourced from the Prophetic tradition such as the Tibb an-Nabawi of az-Zahabi. It could only be imagined how his personal library would be like, and perhaps that was representative of a library of a scholarly men in Makkah at that time.

Medical Practice:

Finally, Ahmad al-Fathani's text provided a glimpse of how doctors at that time practice medicine. In brief, the medical philosophy practice by Ahmad al-Fathani was Galenic in character with the use of humoral theory to explain illnesses and to prescribe medicine. Illness in Galenic medicine is thought to be problems arising from imbalance of bodily fluids, which would in turn be influenced by non-natural and natural factors. Six major non-natural factors in this text include season, body movement, food, sleep-wake cycle, excretion, sexual activity and emotion. The effect of season for example occupies a portion of his chapter on the causes of diseases. Here the traditional Arabic division of seasons into four was used. In other manuscripts on Malay medicine, however, some Malay doctors had amended this division to better suit the Malay Archipelago's climate. (Maidin, Konsep Kesihatan dan Etnofarmakologi: Satu Kajian Falsafah Berdasarkan Beberapa Naskah Manuskrip Perubatan Tradisional (Bustan al-Salatin, Kitab Tibb dan Taiyib al-Ihsan), 1995) Two or three seasons are used, instead of four, to correspond to the two major monsoon seasons and the intermediary seasons in between the two.

Ahmad al-Fathani also appeared to ascribe to the idea of dividing diseases (nosology), medical materials and food to the qualities of cold, warm, dry and wet. For example, in explaining a use of camphor, he wrote, "And camphor treats eye problems by applying it to the eyes like a mascara or to be dropped in the eye .... and (camphor) is for eye problem of warm quality because the camphor is cold material of the third or fourth degree.."

He put great emphasis on the checking of pulses and urine in diagnosing diseases. This was explained in brief at the beginning of the text. Ahmad al-Fathani appeared to understand more of the techniques, for he mentioned that details of the techniques exist but because Tayyibul Ihsan is intended as a summary (mukhtasar) text, he opted to exclude them.

In ascertaining the efficacy of his treatments, Ahmad al-Fathani experimented some of the medicines himself. For example, when he was told by a fellow Malay man of a new concontions made up of black seed (Nigella sativa), nutmeg (Myristica sp.), honey, vinegar and egg yolk to treat chronic cough, Ahmad al-Fathani tested the mixture himself, noting that "...I have tried the medicine and I found great benefits from it to treat the phlegm and reduce the cough."

Ahmad al-Fathani inserted the individual testimonies in Tayyibul Ihsan, in line with the Islamic medical practise that looks at reports from pious and sincere people as a source of knowledge. He quoted for example the report by another Malay 'alim, Zainuddin as-Sumbawi, "And, I was told by al-'Alim Tuan Zayn ad-Dīn Sumbāwā rahimahullah Ta'alā that he was afflicted with urinary stone so he took a hot infusion of sempang (Caesalpinia sappan) and gandrung (Andropogon sorghum) for several months until he was totally cured."

We could already see that Ahmad al-Fathani had not restricted his circle only to religious scholars and men. Ladies also had access to him. In tayyibul Ihsan, a lady from Penang had communicated with him of the effectiveness of the leaves of kecubung (Datura metel), which when mixed with camphor, eaten and rubbed to the neck, will cure cough.

His travelling experiences and the cosmopolitan characters of Makkah also left it marks in the way Ahmad al-Fathani mixed his medical ingredients. Various weighing unit was mentioned. Some of the like qararit, was an Egyptian measurement. In some examples, the use of different units and materials of a similar name may create a problem in the future when verification of the effects of each treatment is needed. Ratl for example is a measuring unit used in Syria and Egypt, but the exact amount differs in both places; 449.28 gram in Egypt and 3.202 kg in Syria. Asfidhaj, used to treat testicular hernia, is a term in Unani medicine that refers to white lead. However, the same word is used in Egypt to refer to a plant, Brassica oleracea. A possibility, however, is that these unit and name carry different meaning for Makkah. Hence, there is a need to scour through Makkan literature and medical manuscript to ascertain this.

Conclusıon:

Tayyibul Ihsan written at the end of the Ottoman rule in Makkah, contains some information that shed some lights on the city's medical history. It provides definitive evidence of the material medica that were available there, either those that were sourced locally or deduced to have come from abroad. It also provides a glimpse of the reference materials available in the city, and describes the cosmopolitan nature of Makkah. A more satisfactory medical history of Makkah would certainly need to be constructed from more documented evidences.

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Seasonal Changes and Human Health: An Unani Perspective

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Summary

Influence of seasonal variations on human health has been a subject of considerable interest in epidemiological studies and observed for centuries. The Unani scholars have given a vivid description about seasonal changes, diseases peculiar to each season and guidelines of maintaining the health in a positive and individualized manner in different seasons under the heading of Tadabir-i-mausam. At every season, the air changes to a new temperament. The effect of the changing seasons are not due to the season itself, but to the quality which is changed along with them, for this exerts a marked effect upon the states of the body. As the seasonal changes produce their own characteristic diseases, it is necessary that peoples should be well acquainted with the prevailing environmental conditions and the necessary measures required to meets them.

Introduction:

Unani system of medicine describes all the factors affecting health and disease, of whom those affecting all human beings perpetually are called essential factors (Asbab-e-Sitta-Zaruria).Prevention of disease and promotion of health throughmodification in theseessential factorsis a distinguishing feature of Unani medicine. These essential factors are six in number and are remarkable in providing such six categories that includes a very large no. of factors, which may outwardly be quite distant to each other. One of the six factors is atmospheric air, which is an elementary constituent of our physical body and vital forces. It is an active agent which restores the balance of the vital force to normal.Man remains healthy as long as the inspired air is well balanced, pure and free from admixture with substances injurious to the vital force. It is used for the prevention of diseases by chiefly taking into account the seasonal variations. Airis subjected to three types of variations namely a) Normal b) abnormal but harmless c) abnormal and harmful. Normal variations are the seasonal changes because air undergoes a characteristic change of the temperament during each season. As the seasonal changes produce their own characteristic diseases, thus, it is necessary that peoples should be well acquainted with the prevailing environmental conditions and the necessary measures required for preservation of health and prevention of disease [1, 2, 3, 4].

Spring: it is normally the best season as its temperament according to some scholars is *Haar-Ratab* (Hot and Moist), while according to some scholar is *Moatadil* (Moderate); which is suited to the temperament of vital force and blood. This season is especially good for children and adolescents. Although spring is evenly balanced, it tends to readily changes and inclines towards the tenuity and enervating character of hot air and also towards moisture. It renders the skin rosy by drawing blood towards surface but it does not produce dispersion as excessive heat does. During this season chronic diseases are activated by the movement and flow of dormant humours. Persons, who are fond of excessive eating but of sedentary habits develop excessive humours during winter and in spring, are predisposed to diseases caused by liquefaction and agitation of humours. Patients already suffering from the diseases especially phthisis gets worse. In persons of phlegmatic constitution, this season brings movement of the serous humours and there is tendency to

apoplexy, paralysis and joints pain. Factors which aid the appearance of disease in this season are Excessive physical and mental activity and consumption of hot dishes. [5]

Summer: Its temperament is *Haar-Yabis* (Hot and Dry). This season disperses humours and vital forces and thus enfeebles the faculties and their functions. Blood and phlegm both decreases in this season, but bile increase. Towards the end of summer, black bile predominates. Old persons and those resembling them look strong and healthy in summer. This season turns the complexion yellow as the blood brought to surface is dispersed soon. [6]

Autumn: Temperament of this season is *Barid-Yabis* (Cold and Dry). This season brings many diseases for these reasons; a) Exposure to the wide fluctuation of heat and cold. b) Debility from the preceding summer carried on to this season. c) Vitiation of humours by excessive consumption of fruits. Blood is scanty during autumn because this season is contrary in temperament to the blood; hence it fails to replace the blood dissipated during summer. The burnt humours produced during summer are cooled during autumn and becomes sauda. The earlier part of autumn is somewhat beneficial for elderly persons but towards the end it becomes highly injurious for them. [7]

Winter: Temperament of this season is *Barid-Ratab* (cold and moist). Winter aids digestion because the cold weather embraces the innate heat and fosters it and makes it more concentrated and less prone to dispersion. This season is troublesome for old and debilitated persons, but it is beneficial for the young and healthy. It is the most effective season for reducing bile because it is cold and has shorter days and longer nights. Since winter has a greater tendency to stagnate morbid matter, there is a greater need of liquefying and resolving foods. [8]

Preventive Approach in Different Season:

Spring:

- Ensure abundant intake of fluids.
- Too much food should not be taken at a time.
- Avoid hot and moist foods.
- Moderate exercise should be done
- Venesection
- If purgation or Venesection is required then it should be done early in the season.
- Decoction of Tukhm khatmi, Barg Kunjud, Kateera and Saboose Gandum should be used for washing the scalp.
- One should wear cotton and light coloured clothes during this season.
- Massage of body with Roghan Banafsha should be done in this season.
- Decoction of Satar, Marzanjosh and Sikanjabeen should be used for gargles in this season.[1,2,9,10]

Table 1: Specific diseases of each season as mentioned in Unani literature [1, 2, 5, 6, 8]

Spring	Summer	Autumn	Winter
Melancholia	Fevers	Scabies	Pneumonia
Epistaxis	Earache	Ringworm	Pleurisy
Bloody diarrhea	Conjunctivitis	Quartan fevers	Coryza
Haemoptysis	Meningitis	Sciatica	Cough
Bronchial asthma	Chicken pox	Backache	Tonsillitis
Pimples	Measles	Colitis	Epilepsy
Cough	Diphtheria	Splenic disorders	Chronic headache
Paralysis	Loose motions	Pruritis	Hoarseness of Voice
Arthritis	General wasting	Dysuria	chest pain
Carbuncles	Erysipelas	Eczema	Pulmonary infections
Boils and Abscess	Small pox	Impetigo	Rhinitis
Throat affections	Bilious fevers	Apoplexy	Arthralgia
Inflammations	common cold	Pustules	

Summer:

- Take sufficient rest and avoid excessive physical activity.
- Stay in cold places.
- Use cold, light and easily digestible foods like Cucumber, watermelon, citrus fruits, plums, pomegranate etc.
- Avoid hot and dry foods.
- Avoid spicy foods.
- Avoid purgation and Venesection in this season.
- Emesis is advisable for evacuation of morbid matter in this season.
- One should wear Katan clothes in this season to cool the body.
- Avoid excessive coitus in this season.
- Body massage with Roghan banafsha, Roghan kadu or Roghan Neelofar should be done.
- Avoid prolong stay in Hamam during this season. [1,2,9,10,11]

Autumn:

- Avoid desiccant agents.
- Avoid excessive coitus.
- Avoid cold shower baths.
- Avoid drinking much cold water.
- Avoid sleeping in a cold place.
- Avoid retiring to sleep on a full stomach.
- Protect oneself from midday heat and the early morning cold breeze.
- Tepid water should be used for bathing.
- Fruits are to avoided or at least taken only in small quantity. [1,2,9,10,11]

Winter:

- Do plenty of physical work.
- Diet should be heavier than summer.
- Avoids cold foods.
- Use hot foods like meat and meat products in this season.
- Walnut and Fig should be used daily in this season.
- Avoid purgation, Venesection and emesis for evacuation of matter in this season.
- Body massage with Haar oil should be done.
- Ibn Zohar has advocated the use of Tiryaq farooq during winter season.
- Application of Clove paste on forehead is advisable for prevention of cold and coryza.[1,2,9,10,11,12]

Conclusion:

Every season produces diseases peculiar to them. The description of seasonal diseases by Unani scholars may vary in different countries depending on the topography of that country. But, it is proved from modern epidemiology that most of the diseases show seasonal variations. Thus, further epidemiological studies should be carried out to know much about diseases specific to each season. Because, the appropriate knowledge to physicians as well as common peoples about their country's climate will be helpful in the prevention of diseases and promotion of health by an appropriate mode of life and the regimental measures appropriate to that climate and country

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An Exploratory Study of Islamic Solutions to the Menace of Ebola Virus Dısease

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Summary

One of the serious and confirmed epidemic diseases all over the world is batting with nowadays is Ebola. This is because the rate at which this disease is killing people has been on the increase. The concern of this paper however, is to provide the spiritual approach to curb the disease. Thus the paper examines the genesis, the causes and the effects of this disease as well as the place of Islam in fighting the scourge. The method of approach is purely from written sources which comprise of documents, monographs, manuscripts, books, journals as well as internet sources and the Holy Qur'an. The study described Islam as a safeguard against Ebola Virus. It is also, noted that obedience to the tenets of Islam would offer protection from Ebola as they take care of the causative factors. As confirmed by medical experts, the disease was first discovered in monkeys and contacted by those who eat monkeys and other bush meats. It's also revealed that, in Islam eating of monkeys had already been discouraged. It's recommended that, every body should continue to uphold this verdict as it also serves as a preventative measure. The paper concluded that within the teachings of Islam is panacea to the Ebola epidemic.

Introduction:

As the Ebola outbreak threatens the entire world with an increasing death toll, health authorities and immigration departments are now collaboratively working to track health of passengers traveling across the globe[1]. Without effective vaccine to provide protection against the virus, without definitive treatment to recover from acquired infection and without a clear understanding of modes of transmission of the virus,[2] taking necessary precautions is currently the only strongest way to prevent Ebola.

Also, the news over the past couple of months in Nigeria has all been about the Ebola Virus and the epidemic in West Africa that has seen 1-2 cases already found in Nigeria[3]. Ebola is one of the scarier diseases in the world for 3 main reasons.

1. it's highly contagious,
2. It kills within 2-14 days of infection,
3. It has no cure[4].

As a result, Saudi Arabia is blocking *Hajj* pilgrims from three West African countries suffering large Ebola virus outbreaks from making the iconic Muslim visit to Mecca, while a Saudi man is being tested for the hemorrhagic fever after traveling to Sierra Leone. The Saudi Ministry of Health (MOH) announced that it would block any Hajj or *Umrah* visas for anyone traveling from Sierra Leone, Guinea and Liberia. "We have communicated the instructions to the officials of all ports of entry. We have trained our personnel on how to identify and deal with Ebola cases and control virus infection, should it happen" [5] Meanwhile a Saudi man who traveled to Sierra Leone on business is being tested for the virus in the city of Jeddah. Sierra Leone has seen 576 confirmed cases of Ebola and 211 deaths since the virus first broke out in West Africa in late March. At least 826 people have been killed and 1,440 infected with Ebola across Sierra Leone, Liberia and Guinea in the worst Ebola outbreak in history[6].

Nigeria has now joined the league of West African Nations with the deadly Ebola outbreak. Guinea, Sierra Leone and Liberia were reported as taking the lead. The Nigeria Ebola case was first reported with the arrival of a Liberian, Mr. Patrick Sawyer with the disease in Lagos and subsequently died at a Lagos hospital[7].

The outbreak was a largely local issue until it first spread from those countries three weeks ago when a Li-

berian-American man fell ill and died in Nigeria while on business. A Nigerian doctor who treated him also fell ill and died[8]. Two American aid workers have also fallen ill and are now being treated with experimental medication at a state-of-the-art facility in Atlanta, Georgia. A man was admitted to Mount Sinai hospital in New York City with symptoms similar to those of Ebola and is now being tested for the virus[9].

However, different tiers of Government in the World over have therefore adopted a multi-sectorian approach to combat the growth of this Ebola virus. Committees have been established at National, State and Local government levels to use all their available resources and strength to fight this plague. These include faith-based organizations, which play very significant roles in influencing the people's behaviour. It is necessary, therefore, to examine the Islamic position towards this epidemic.

What is Ebola?

Ebola is a rare severe disease, often fatal, is a human disease caused by Ebola virus[10]. Historically, in 1976, Ebola (named after the Ebola River in Zaire) first emerged simultaneously at both Sudan and Zaire now DRC when a dead monkey that was infested was carried by a man near a river called Ebola in Zaire hence the virus was named after the river Ebola[11]. The first outbreak of Ebola (Ebola-Sudan) infected over 284 people, with a mortality rate of 53%. A few months later, the second Ebola virus emerged from Yambuku, Zaire, Ebola-Zaire (EBOZ). EBOZ, with the highest mortality rate of any of the Ebola viruses (88%), infected 318 people[12]. Despite the tremendous effort of experienced and dedicated researchers, Ebola's natural reservoir was never identified. The third strain of Ebola, Ebola Reston (EBOR), was first identified in 1989 when infected monkeys were imported into Reston, Virginia, from Mindanao in the Philippines[13]. Fortunately, the few people who were infected with EBOR (seroconverted) never developed Ebola hemorrhagic fever (EHF). The last known strain of Ebola, Ebola Cote d'Ivoire (EBO-CI) was discovered in 1994 when a female ethologist performing a necropsy on a dead chimpanzee from the Tai Forest, Cote d'Ivoire, accidentally infected herself during the necropsy[14].

The virus that doesn't have any cure yet is spreading in West Africa seriously and it's very deadly. It has almost 50-70% mortality rate and is recognized by excessive fever, after 2 to 3 weeks of contracting it, sore throat, muscle pain, headaches vomiting etc it can also lead to bleeding in several parts of the body. The suspected reservoirs for Ebola are fruit bats[15].

It is also, transmitted through direct contact with blood or other bodily fluids (e.g. saliva, urine, vomit) from infected people, dead or alive. This includes unprotected sexual contact with patients up to three months after they have recovered. One can also catch the disease from direct contact with blood and other bodily fluids from infected wild animals, dead or alive, such as monkeys, forest antelopes and bats[16]. After two days and up to 21 days following exposure to the virus, the disease may start suddenly with fever, muscle aches, weakness, headache and sore throat[17]. The next stage of the disease is characterised by vomiting, diarrhoea, rash and malfunction of the liver and kidneys. Some patients also have profuse internal and external bleeding and multi-organ failure[18].

Preventive methods:

Currently there is no vaccine available for humans. But the infection can be controlled through the use of recommended protective measures such as:

Avoid traveling to affected countries:

Avoid areas of known outbreaks. Before traveling to any Country, find out about the current epidemics by checking the Centers for Disease Control and Prevention website. According to Dr Ratan Kumar Vaish[19], senior consultant, department of medicine, Rockland Group of Hospitals, Delhi-NCR people with low immunity and those suffering from diabetes, kidney disease, HIV infection and malnutrition should be extra cautious about their decision to travel to Ebola prevalent areas. He recommends some preventive measures for people who cannot avoid traveling.

If one is taking medication for any infectious diseases and if one is currently suffering from viral flu, he/her should avoid traveling before complete recovery. When one is suffering from an infection ones immunity weakens. This could be a good opportunity for the virus to attack people. Older people, young peers and pregnant women should not travel at all. They have a high risk of acquiring infection. Those who are traveling should be extra careful about their diet. Eat a balanced diet[20].

Knowledge all about the virus:

Education and information is the best way to save oneself from unnecessary dangers. Whenever there is any disease outbreak, one should make sure that he/she is not remain ignorant and use all their resources to read and understand about it and is not spread false facts about it. Know the symptoms, modes of transmission and preventive measures to avert the disease[21].

Practice good hygiene:

Viruses like Ebola thrive in conditions where there is lack of hygiene. Skin and eyes are the suggested routes for viral entry and also food and water serve as a source of entry[22]. So, practice the normal hygiene like washing hands before eating and disinfecting surfaces. Using of hand sanitizer with at least 60% alcohol as often as possible when water is not available[23].

Avoid consuming under-cooked bush meat:

It is believed that the virus seems to have transferred to humans through animals[24]. All the animal products one consumes should be washed strictly and cooked completely. So, one should avoid eating undercooked meat at all costs. Also one should not eat any kind of wild game or bush meat as main carrier of this virus are bush meats.

Avoid contact with blood and body fluids:

Avoid any contact with infected people as Ebola virus spreads through all body fluids including blood, semen, saliva, sweat, urine, fecal matter and vomit of infected individuals[25].

Wearing of protective clothing:

Health care workers are advised to wear masks, gloves, and goggles whenever they come into contact with people who may have Ebola. Keeping infected people isolated from others and disposing off needles and sterilizing other instruments are recommended[26].

Treating Injuries:

Any sort of cuts and bleeding injuries should not be exposed and should be kept covered. These should be treated immediately as the virus can enter the body through the open wounds[27].

Avoiding crowded areas:

It's pretty simple; the more one come in contact with (knowingly or unknowingly), the higher one risk of coming in contact with an infected person[28]. No one says that, one should not leave his/her house, but it is of saver side if one can avoid crowded places like markets, airports, public transportation etc. Those who have returned from their trip to places where Ebola is prevalent should also be equally careful. If symptoms like fever, body ache, sore throat set in within a few days after traveling; one should seek medical opinion from a qualified doctor only and not take any of these symptoms lightly.

If anybody must travel to an area with known Ebola cases, he/she must make sure to do the following:

Practice careful hygiene. Avoid contact with blood and body fluids.

Do not handle items that may have come in contact with an infected person's blood or body fluids.

Avoid funeral or burial rituals that require handling the body of someone who has died from Ebola.

Avoid contact with bats and nonhuman primates or blood, fluids, and raw meat prepared from these animals.

Avoid hospitals where Ebola patients are being treated[29].

After you return, monitor your health for 21 days and seek medical care immediately if you develop symptoms of Ebola[30].

In addition, the Centers for Disease Control and Prevention (CDC) recommend the following precautionary measures for travelers. The best of all preventive measures is to avoid non-essential traveling to afflicted areas. In any case, avoid handling items that have been contaminated, especially blood or body fluids. Avoid contact with other people and avoid visiting hospitals where treatment for Ebola is being given. Use masks and other protective stuff like gloves and eye protection if needed. Be careful about ones health for at least 21 days after suspected exposure to the virus. If one develops any symptoms within this period, visit a specialist[31].

Wash hands frequently: As with other infectious diseases, one of the most important preventive measures is frequent hand-washing with soap and water[32].

Avoid bush meat: In developing countries, avoid buying or eating the wild animals, including nonhuman primates, sold in local markets[33].

Avoid contact with infected people: In particular, one should avoid contact with the person's body fluids and tissues, including blood, semen, vaginal secretions and saliva. People with Ebola are most contagious in the later stages of the disease[34].

Follow infection control procedures: If one is a health care worker, wear protective clothing, such as gloves, masks, gowns and eye shields. Keep infected people isolated from others. Dispose of needles and sterilize other instruments[35].

Don't handle remains: The bodies of people who have died of Ebola disease are still contagious. Specially organized and trained teams should bury the remains, using appropriate safety equipment[36].

Even if some one is living in, or has traveled to affected areas, the risk of infection with Ebola virus is extremely low, unless you have been directly exposed to bodily fluids of a dead or living infected person or animal. Contact with bodily fluids includes unprotected sexual contact with patients up to three months after they have recovered. Casual contact in public places with people that do not appear to be sick does not transmit Ebola. One cannot contract Ebola virus by handling money, groceries or swimming in a pool. Mosquitoes do not transmit the Ebola virus. Ebola virus does not transmit through the air as influenza does[37].

Ebola virus is easily killed by soap, bleach, sunlight, and high temperature or drying[38]. Machine washing clothes that have been contaminated with fluids will destroy Ebola virus. Ebola virus survives only a short time on surfaces that are in the sun or have dried. It can survive for a longer time on clothes or materials which have been stained with blood or other bodily fluids[39]. There is a risk of transmission of Ebola through contact with utensils or contaminated material in healthcare settings if the correct infection control procedures are not properly carried out[40].

Islamic View Point on Ebola Epidemics:

The Ebola pandemic which is today creating havoc to the entire human race, irrespective of colour, culture, religion, nationality or status does not come as a surprise in Islam, because the Holy prophet of Islam has warned people over one thousand five hundred years ago saying:

If unlawful *fahishah* (bad deeds or speech) become common in any group or nation, Allah will punish them with epidemics and diseases which were not known to their forefathers and earlier generations[41].

One of such diseases is Ebola which can be contacted through different sources as highlighted above. The above *Hadith* shows that Ebola pandemic was not in existence in the olden days. It came into being as a result of human engagement in unlawful acts. Ebola was first emerged simultaneously at both Sudan and Zaire In 1976, while in a few months later, the second Ebola virus emerged from Yambuku, Zaire, Ebola-Zaire.

Also, at a superficial glance, this *hadith* seems to almost perfectly predict Ebola pandemic; for this reason, the *hadith* has been used by a number of Muslim writers to argue that Ebola is a curse from Allah[42]. This is, however, only part of a larger *hadith*.

'Abd Allah bin 'Umar said: The Messenger of Allah (SAW) came to us saying, 'O Muhajirun (the exiles from Mecca)! There are five things when you are tested by them, and I seek refuge by Allah that you should experience them.

1. Whenever *fahishah* have appeared amongst any nation, which the people of that nation commit openly, an epidemic or diseases that they have never encountered before became widespread amongst them
2. Cheating in weighing (dishonest behaviour in any money transactions) will result in a crisis of poverty and tyranny.
3. Unwillingness to pay *Zakat* (alms) will result in an extended dry season, without rain so much so that if it were not for cattle, it would not rain at all.
4. Damaging the bond between Allah and the Prophet Muhammad (SAW) will result in the appearance of an enemy.
5. Leaders refusing to base laws on the revelations of Allah will cause enemies within their own ranks.

Therefore, Ebola Pandemic has become one of such disease and abominations. It does not matter who caused it or how and where it comes from it is as even, if one sees a snake in once room you kill it first before looking for the source or if you see a fire in your house the next thing to do, is to put the fire off first before looking for the source.

Though, some Islamic scholars argued that, if one understands *fahishah* to mean male-male sexual intercourse, and argue that this is the cause of Ebola pandemic, why

have Ebola pandemic hit those parts of the world where the laws are often strictestly followed.

They argued that illness and disease seem to have both positive and negative functions in early Islamic texts. They are presented in the following ways:

A. As a Punishment from Allah

When, for example, some of the people of Egypt mocked Prophet Musa (A.S), they told him: "Whatever be the signs that you bring to us to work your witchcraft, we shall never believe in you" And then Allah, the Qur'an says, "sent (plagues) on them: wholesale death, locusts, lice, frogs, and blood signs openly self-explained: but they were steeped in arrogance, (and were) a people given to sin" (Qur'an,7: 134). Hadrat `A'ishah (R.A) asked the Prophet of Allah (SAW) about the plague and he replied, "That was a means of punishment which Allah used to send upon whomsoever He wished" [43]. In another *Hadith*, he said: Narrated 'Aisha: (the wife of the Prophet) that she asked Allah's Apostle about plague, and Allah's Apostle informed her saying, "plague was a punishment which Allah used to send on whom He wished, but Allah made it a blessing for the believers. None (among the believers) remains patient in a land in which plague has broken out and considers that nothing will befall him except what Allah has ordained for him, but that Allah will grant him a reward similar to that of a martyr" [44].

B. As a Means of Cleansing from Sin

Hadrat A'ishah (R.A) reported that the Prophet (SAW) said, "When a believer suffers from illness, Allah purifies him just as the impurities of iron are cleansed in a furnace"[45]. The Prophet (SAW) was also quoted as saying, "If a Muslim is afflicted in his (or her) body, what he (or she) did when he (or she) was in good health will be recorded for him (or her) as long as he (or she) is ill. If Allah restores his (or her) health and cleanses him (or her from sin), and if Allah causes the person to die, he (or she) will be forgiven." In yet another *hadith*, narrated in the Muwatta of Imam Malik, we learn of the Prophet's response to one person who had died. A man said, "He was fortunate," as he had died without being tried by illness. The Messenger of Allah (SAW), said, "Alas for you, if you only knew that if Allah had tried him with illness, He would have wiped out his wrong actions"[46]

C. As a Means of Preparing the Sick for Blessings from Allah

There is a *hadith* narrated by Abdullah bin Jabir (R.A) that states: I visited the Prophet during his illness and touched him while he was having a fever. I said to him: "You have a high fever, is it because you will get a double reward?" He said: "Yes. No Muslim is afflicted with any harm, but that his sins will be annulled as the leaves of the tree fall down" [47].

Therefore, if there are different possible reasons as to why Allah allows illness to exist, is it acceptable for Muslims to judge that there is a particular reason for this illness in this particular case?

One challenge in responding to Ebola epidemic from an Islamic perspective is the belief of some Muslims that sickness and disease are a curse from Allah. The belief that disease and sickness are a curse from Allah can be understood to arise from specific interpretations of a number of verses from the Qur'an. Interpretation of the Qur'an is indeed a difficult task due to the highly specific and nuanced character of Arabic language. Thus, different interpretations of Qur'anic verses can arise due to different translations or understandings of specific words. For instance, in the two versions of the same verse below (Qur'an,30 :41) use different English words in translation from Arabic. The consequence of this is to give two different interpretations of the same verse: "Corruption has appeared in the land and the sea on account of what the hands of men have wrought…." (Qur'an, 30:41)

"Evil has spread in the land and on the sea because of what humankind has done." (Qur'an, 30:41)

In a similar way, different Qur'anic verses can use differing words to describe sickness. For example, in Qur'an Chapter, 21 verse 83, the Prophet Ayub prayed *'innimassanniya al-dhurr'* which translates to 'true distress has seized me'. However in Qur'an Chapter, 38 verse 41, Al-Anbiya is quoted as stating "*inni massaniyaal-syaithan bi nushb wa adzab*, which translates as 'the evil one has afflicted me with stress and suffering'. Thus the use of different key terms to describe illness can lead to different interpretations of the Qur'an, and in this way, some Muslims view illness as merely being seized by distress, while others view sickness as being influenced by Satan. However, when understood in the context of the Qur'an in full with references to other versus, it can be argued that

Islam does not in fact promote a view of illnesses like Ebola epidemic as a curse of God or punishment for wrong doing. For example, prophets are surely dearest to Allah, and yet the Prophet Ayub (PBU) suffered from serious sickness for many years, and the Prophet Mohammad himself (SAW) also suffered from illnesses. Indeed all human beings at one time or another face illness. Furthermore, in the Qur'an it is stated *'Wa ma yazhlimu rabbuka ahadan'* , which translates as 'your God will not be cruel to anyone'. While there may be instances where disease can be spread as a result of deviating from the way of life prescribed by the Qur'an and prophetic traditions as in the case of Ebola epidemic it remains the duty of Muslims to respond in a compassionate way to those affected.

In another event 'A prostitute …was forgiven because of a dog she passed at a well, panting through intense thirst that was almost killing it. She took off her (leather) sock, tied it to her scarf and drew some water for it. She was forgiven her sins (for doing that)[48]. Is it possible that a cure has not been found for Ebola epidemic precisely because they are a punishment from Allah or a warning to people about their disobedience to the will of Allah?

i If this is the case, how do we explain that there is no cure for cancer? Also, would it not be going against the will of Allah to seek a cure for Ebola epidemic?

ii How does the ability of wealthy nations or individuals to afford treatment for a particular disease

iii or, in the case of Ebola epidemic, to fund treatment for others- fit in with the idea that Ebola epidemic is a punishment from Allah?

iv Can this *hadith* be used to make excuses for commercial sex work today, or can it be used to show that everyone can receive Allah's mercy?

Today Ebola epidemic is not limit on those who cause it, as a result of their disobedience to the will of Allah, that is the reason why Almighty Allah warned in the Holy Qur'an that:

And fear the *fitnah* (affliction and trial) which affects not in particular (only) those of you who do wrong (but it may afflict all the good and the bad people and know that Allah is severe in punishment.

Hence, it is important that everybody must work together to fight this pandemic. Although, there is no permanent cure yet, but what we have at present are palliative and preventives measures. In this regard the Holy Qur'an: chapter (4: 125) says: **"**…But take every precaution for your selves"_

If the Islamic approaches to Ebola epidemic preventions are employed in dealing with the situation, a lot will be done in the area of behavioral change as Allah Says in the Holy Qur'an:

Verily! Allah will not change the condition of a people as long as they do not change their state by themselves (Q, 13:11)

The Islamic Solutions:

Islam as a divine religion has proffered solution to all universal challenges, currently a particular disease is spreading like wildfire, it's called EVD, Ebola virus disease is a human disease caused by Ebola virus. For instance, Islam as a religion intends to create a community that is healthy and immune against infectious diseases, and the healthy individual (in body and mind) who is capable of understanding and applying Allah's message and carrying it away to the entire world because of these, the following are what Islam says:

1. Acquiring scientific knowledge about Ebola Virus Disease.

Eliminating or reducing risk of infection requires learning about and understanding the scientific facts about Ebola Virus prevention and risk avoidance and treatment.

Islam lays emphasis on the importance of education in the Holy Qur'an and in the numbers of *Hadith* of the prophet Muhammed (SAW) [49], Even, the first revelation to the prophet stresses the importance of education as thus: "Read in the name of your Lord who creates" (Q, 96:1) The Qur'an warns Muslims about things they ought not do, not things they ought not know. "And do not reach conclusions about that which you have no knowledge about" (Q, 17 : 36).

In addition, the prophet enjoined believers to search for the knowledge at all course. This is evident in one of his tradition where he says: "The search for knowledge is incumbent upon Muslims male and female" [50]. This does not specify what kind of knowledge, all that He says is that knowledge is compulsory. In another tradition of the Holy prophet, He declares: "Acquire knowledge even if it be in China" [51]

More also, science came up to support Allah's guidance in the Holy Qur'an, which is the absolute truth. With the above Qur'anic and *Hadith* references on the position of Islam on education, Muslims should therefore seek the scientific knowledge about Ebola in order to prevent it in one's community. Certainly correct knowledge empow-

ers individuals and communities to avoid known risk factors for acquiring Ebola infection.

2. Promoting and using Islamic teaching and practices which support Ebola virus preventions and control.

There are many Islamic teachings in the Holy Qur'an and *ahadith* of Prophet Muhammed (SAW) which are to create a community that is healthy and immune against infectious diseases, and the healthy individual (in body and mind) who is capable of understanding and applying Allah's message and carrying it away to the entire world. As a result, the following has been itemized as the teachings of Islam which support Ebola virus preventions and controls.

I. CLEANLINESS, PURIFICATION AND ABLUTION

1. Body: Islam recommends bathing for twenty-three reasons. Seven of them are compulsory and sixteen are preferable[52].
2. Hands: Prophet Mohammed (SAW) says: "Wash thy hands before and after eating" [53], and "Wash thy hands after awakening. No one knows where his hands lay during his sleep." [54]
3. Islam recommends cleanliness and elegance in clothing "Ameliorate thy clothing and thy mount". [55]
4. Food and drink: Orders for protecting food from dust and insects, the prophet says "Cover thy vessels and drinks" [56]
5. Residence: "Clean thy courtyards and thy residence" as well as cleanliness of streets: "It is charitable to remove harms from the road." [57]
6. Water sources such as wells, rivers and shores. Therefore, urinating and defecating are forbidden in any of them "Avoid three evils; defecation in water sources, shades and in the road[58].

II. ISLAM'S INSTRUCTION IN EPIDEMIC DISEASES CONTROL

Having mentioned the role of cleanliness in preventing diseases, now the following are Islam's instructions to combat epidemics.

1. Isolation: Prophet Mohammed (SAW) says in this respect "Infectious cases should not contact the healthy" [59]
2. Quarantine: on cases such as lepers "Leave a space of a spear or two between ye and the leper" [60]
3. Islam also laid basic rules for dealing with an epidemic such as Cholera, plague and smallpox "Narrated 'Abdullah bin 'Amir bin Rabi'a: 'Umar bin Al-Khattab left for Sham, and when he reached a place called Sargh, he came to know that there was an outbreak of an epidemic (of plague) in Sham. Then 'AbdurRahman bin 'Auf told him that Allah's Apostle said, "If you hear the news of an outbreak of an epidemic (plague) in a certain place, do not enter that place: and if the epidemic falls in a place while you are present in it, do not leave that place to escape from the epidemic." So 'Umar returned from Sargh[61].
4. Islam encourages every means of protection from infectious diseases such as immunization. When the prophet (SAW) was once asked whether such protective measures prevent God's fate, he (SAW) said that it is part of Allah's will[62].

III. NUTRITION IN ISLAM

Islam concerned itself with three aspects of the Muslim's food:

a. Forbidding the harmful food
b. Acquainting the Muslim with the beneficial food.
c. Rectifying his eating habits.

A. Forbidden Items:

Allah announces: "Forbidden to ye are: dead meat, blood, the flesh of swine, and that which has been invoked in the name of other than God. That which hath been killed by strangling or by a violent blow or by a headlong fall, or gored to death; that which hath been partly eaten by a wild animal, unless you are able to slaughter it in due form"( )

Likewise, all birds, like eagle, vultures and wild falcons having a claw and talon, are *haraam* to eat. And all such birds whose gliding are more than flapping the wings, and have talons, are also *haraam* to eat. Those whose flapping of the wings while flying, is more than gliding, are *halal* to eat[63]. Thus, one can identify *halal* birds from *haraam* ones by observing how they fly. And if the style of any bird's flight cannot be determined, that bird will be considered *halal* for eating, if it has a crop or a gizzard or a spur on the back of its feet. In the absence of all these, the bird will be *haraam*. As an obligatory precaution, one should refrain from eating the meat of all types of crows. Other birds like the hens, the pigeons, the sparrows including the ostrich and the peacock are *halal* to eat, but it is

Makrooh to kill birds like swallows and hoopoes. And the animals which fly, but are not classified as winged birds, like the bats, are *haraam*; similarly, the bees, the mosquitoes, and other flying insects are, as an obligatory precaution, *haraam*[64]. It is *haraam* to eat an absolutely harmful thing, or anything which may cause death. (Qur'an, 2: 173, 5:3 and 16:115)

He has forbidden you only the Maitah (dead animals), and blood, and the flesh of swine, and that which is slaughtered as a sacrifice for other than Allah. But if one is forced by necessity without willful disobedience nor transgressing due limits, then there is no sin on him. Truly, Allah is Oft-Forgiving, Most Merciful).(Qur'an, 2: 173)

Forbidden to you (for food) are: Al-Maytah (the dead animals), blood, the flesh of swine, and that which has been slaughtered as a sacrifice for other than Allah, and that which has been killed by strangling, or by a violent blow, or by a headlong fall, or by the goring of horns -and that which has been (partly) eaten by a wild animal -unless you are able to slaughter it (before its death) - and that which is sacrificed (slaughtered) on An-Nusub (stone altars). (Forbidden) also is to make decisions with Al-Azlam (arrows) (all) that is Fisq (disobedience and sin). This day, those who disbelieved have given up all hope of your religion; so fear them not, but fear Me. This day, I have perfected your religion for you, completed My favor upon you, and have chosen for you Islam as your religion. But as for him who is forced by severe hunger, with no inclination to sin (such can eat these above mentioned animals), then surely, Allah is Oft-Forgiving, Most Merciful). (Qur'an, 5: 3)

He has only forbidden dead flesh, blood, the flesh of swine, and any animal which is slaughtered as a sacrifice for other than Allah. But if one is forced by necessity, without willful disobedience, nor transgressing, then, Allah is Pardoning, Most Merciful). (Qur'an, 16: 115)

Also, it is not permitted to eat the meat of animals that possess canine teeth or fangs, such animals are dogs, rabbits, elephants and monkeys. Even, there are specific verses in the Holy Qur'an forbidding the eating of a pig. Likewise, it is not permitted to eat reptiles such as snakes and tortoises. Insects such as fleas and lice are also forbidden. However, locusts are permissible. Other animals, which fly but are not, classified, as birds such as bats, bees and other flying insects are *Haraam*. Note that in cases where one is in danger of dying through starvation, anything, including forbidden things, can be consumed to save life. However, this must be done as a last resort and only the absolute minimum must be eaten.

All animals and birds that are permissible to eat are nevertheless forbidden to a Muslim unless they have been correctly slaughtered. The correct method of slaughtering involves the simultaneous cutting of the gullet, windpipe, carotid artery and jugular vein of the animal with a sharp knife. Among the conditions for the slaughtering are:

1, there must be a normal emission of blood from the animal after the slaughter.

2, the animal must show some sign of movement after being slaughtered, especially if there was some doubt whether the animal was alive before being slaughtered.

Islam has also forbidden liquor in great as well as small quantities, the harm of which is undisputed. Moreover, its moral and spiritual harm is worse than its physical harm.

In case one try his/her best and there is any eventuality, burying such a person is to be conducted by specially trained personnel and *ghuzlu* is not to be performed.

Historic references mention that early Muslims lived longer and healthier than the Muslims of today, that some of the prophet's companions participated in contention till the age of sixty or seventy. This is actually ascribed to following the hygienic instructions of Islam and the avoidance of corruption[65]. Moreover, epidemics and diseases in the Islamic world were much less than they were in Europe at the same period. Even the plagues which exterminated quarter of the inhabitants of the European continent were nullified on the boarders of the Islamic world[66].

The followings are some Islamic daily routines which are found to be ways on preventive measures to spread of any outbreaks like Ebola:

1. Washing hands before and after meals.
2. Washing hands, sniff and blew nose three times immediately one wake up from sleeping.
3. Washing hands three times before insertion into the bathing water for *ghusul*.
4. Using sand (soap) to wash hands after using the toilet.
5. Washing private parts in odds after usage.
6. Washing all utensils and cover them overnight with lids
7. Do not sneeze or blow into the water vessels when drinking thirst.
8. Do not eat of any animal prohibited to you. e.g Monkeys, Dogs, Pigs, Snakes, Crowds, all fanged animals etc.

9. Never travel into the place of outbreak.
10. Pray and give all possible support to the infected.
11. Do not bath, urinate or pass stool into a pool of stagnant streams.
12. Do not spit and left it uncovered with dust or sand etc.

The Messenger of Allah said "Preserve the laws of Allah and He'll preserve you"!

Observations:

If it's true that Ebola is caused by the eating of bats, monkeys, Chimpanzees, bush meats, carcasses, cadavers, morts and Mammals: It was however observed in this paper that, Islam has strongly commanded Muslims since 1500 years ago as following:

- to slaughter all animals and birds, and to allow the blood to completely drain and then cook, roast or fry them properly before eating them!
- to eat carcasses, morts and cadavers!
- to wash their hands everyday 30 times each at five different intervals during the day and night times! (Qur'an: 5: 6)

O you who believe! When you stand (intend) to offer the Salah (the prayer), then wash your faces and your hands (forearms) up to the elbows, rub (by passing wet hands over) your heads, and (wash) your feet up to the ankles. If you are in a state of Janaba, purify yourselves (bathe your whole body). But if you are ill or on a journey or any of you comes from the Gha'it (toilet) or you have touched women and you find no water, then perform Tayammum with clean earth and rub therewith your faces and hands. Allah does not want to place you in difficulty, but He wants to purify you, and to complete His Favor to you that you may be thankful.)

- to wash their feets everyday 15 times each at five different intervals during the day and night times! (Qur'an: 5: 6)
- to wash and bathe their bodies whenever they meet their spouses! (Qur'an: 4: 43; 5: 6)

O you who believe! Do not approach Salah while you are in a druken state until you know what you are saying, nor while Junub (sexually impure), except while passing through, until you bathe (your entire body), and if you are ill, or on a journey, or one of you comes from the Gha'it (toilet), or from Lamastum (touching) women, but you do not find water, then perform Tayammum with clean earth, rubbing your faces and hands. Truly, Allah is Ever Oft-Pardoning, Oft-Forgiving). ((Qur'an: 4: 43)

- to at least take bath once a week regardless of the circumstances![67].
- to wash their hands before and after eating!
- to brush their teeth at least 5 times daily!
- to wash their private parts whenever they ease themselves and wash their hands immediately!
- to clean their clothes every time before going to Mosques for prayers! (Qur'an: 7: 31)

O Children of Adam! Take your adornment to every Masjid, and eat and drink, but waste not by extravagance, certainly He (Allah) likes not the wasteful)

At the end, Allah has made cleanliness as one of the obligatory conditions of good faith![68] With these favours from Allah since 1500, So, which of the favor of your lord will you deny? (Q, 55: 28, 30).

It was equally observed that, Islam has strongly commanded Muslims since 1500 years ago that:

- the covering of body and disallowed nakedness, many people say that Islam is primitive.
- no shaking of hands between opposite sex, people say Islam is too hard.
- washing of body and taking of Ablution before every *Salah* (prayer) to get rid of impurities, people say purification is only of the mind.
- not waste time to bury their dead body after he/she has been confirmed dead, and discouraged move dead persons around. People mock Islam and they say that Muslims are quick to bury.

EBOLA came knocking now and see all of them covering their bodies, staying away from unrestricted handshakes, washing their bodies never like before and burying dead persons quick at their grave yards..... Therefore, Islam is the solution to all!!!!!.

Conclusion and Recommendations:

This study has described Islam as a safeguard against Ebola Virus Disease. The paper also, noted that obedience to the tenets of Islam would offer protection from Ebola as they take care of the causative factors. As confirmed by medical experts, the disease was first discovered in mon-

keys and contacted by those who eat monkeys and other bush meats. Alas, the paper revealed that, in Islam eating of monkeys had already been discouraged (*Makruh*), according to many scholars of Islamic jurisprudence. Thus, the paper recommended that, every body should continue to uphold this verdict as it also serves as a preventative measure. Also, the culture of personal hygiene as well as proper sanitation must always be emphasized. Thus, Islam is a religion of cleanliness because; cleanliness is half of faith, as reported in a sound *Hadith*. Therefore, the recommended on Imams and *Ulama* to continue sensitizing their respective followers on the dangers of the disease and the preventative measures they are supposed to imbibe. More so, Mosques managers must maintain high level of sanitation for the teeming congregation of worshipers. Worshipers on the other hand, must cooperate in maintaining the sanitary condition of the Mosques. Most specific areas where the sanitation and or preventive measures are needed are the surroundings of the Mosques, the toilets/bathrooms and above all, funeral/ burial of dead ones must be conducted with caution. Also, symptoms of the disease include fever, sore throat, muscle pains and head-aches. Often nausea, vomiting and diarrhea follow along with severe internal and external bleeding in advanced stages of the disease. The paper therefore concluded that, it is worthy to note that the entire World is taking stringent proactive steps as well as preventive measures to curb the spread of the virus; therefore all Muslims should not be left out in taking proper measures of protecting themselves.

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"No Contagion" (la `adwa) in Islam: Between the Imperatives of Hadith and Medical Practice

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Summary

Islam authorizes all human conduct, including professional conduct, with reference to the sources of Islamic law (*usul al-fiqh*), including those *ahadith* that are taken as express *sunnah*, i.e., deduced law. It is normally expected that these sources govern the professional conduct of Muslims, e.g., physicians and public health specialists whose practice is undertaken within a setting of Islamic law.

Throughout its history, Islamic medicine (i.e., allopathic medicine practiced in a setting of Islamic culture) has been related to a concept of Prophetic Medicine (*al-Tibb al-Nabawi*) that appeals to the authority of authentic (*sahih*) and reliable (*maqbul*) *ahadith*. The collection of *Sahih Bukhari,* Book 71, for example, is understood to be the "Book of Medicine" (*Kitab al-Tibb*), providing instruction on remedies for various ailments.

One *hadith* narrates there is "no contagion" (*la `adwa*) in Islam. The question here is whether, as some contend, the *hadith* on contagion presents a manifest contradiction even though this *hadith* is said to be both authentic and reliable. In this paper alternative interpretative approaches to this *hadith* are reviewed, to show how an apparent problem can be resolved reasonably in the interest of preserving sound religious doctrine while enabling sound contemporary medical practice in its response to transmissible disease.

Keywords: *la `adwa*, contagion, *hadith*, Islam

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Introduction:

"The relevance of Qur'anic and hadith guidance on medicine and health to the modern situation has been a major pre-occupation" for scholars of religion and medicine, says Dr. Omar Hasan Kasule, Sr.[1] Indeed, Kasule observes, "some authors have prescribed preventive and curative measures from the teachings of the Qur'an and the *sunnat* of the Prophet." Thus, e.g., *Sahih Bukhari,* Book 71, is understood to be the "Book of Medicine" (*Kitab al-Tibb*) because it is devoted to instructions regarding medical practices.[2] Yet, as Dr. Husain F. Nagamia reports, "Considerable confusion exists in literature regarding the definition of "Islamic medicine," *Hadith* literature in particular being a source for what is called "Prophetic Medicine": "Prophetic Medicine" although popular amongst the masses of Muslims because of its doctrinal and theological contents was considered by most Muslim historians and physicians as distinct from scientific and analytical Islamic Medicine.'[3]

Whatever the popular image and the school of thought associated with Prophetic Medicine, "Islamic medicine" (if such a term is at all meaningful today) cannot but advance on the basis of modern scientific conceptual

categories of infection and disease as well as established modalities of treatment and disease control. This must be so even if, as Kasule opines, "Islamic Law, unlike European secular law, is based on a complete system of morality and can therefore handle all moral problems that arise in medicine from a legal perspective."[4]

In 2003, e.g., on a French website for Muslims the question was asked: "*Est-il vrai que l'Islam n'admet pas le caractèr contagieux des maladies? Si la résponse est oui, est-ce que cela implique que le musulman ne peut adopter des mesures de protections pour se mettre à l'abri des maladies déclarées contagieuses?...*" ["Is it true that Islam does not admit the contagious character of diseases? If the response is yes, does that imply that a Muslim cannot adopt measures of protection to take up shelter from diseases declared to be contagious?..."]

This sort of question points to a problem of conflicted judgment yet present, as a judgment grounded in Islamic doctrine (that concerning "Prophetic Medicine"). Furthermore, in his recent discussion of the sociological and psychological dimensions of suffering among Muslims, Abdulaziz Sachedina informs of (a) "a strong theological belief in predestination among the majority of Sunni Muslims," (b) "classical notions of resignation and submission in the face of death and suffering," (c) "the influence of superstitious beliefs about the human body and its ailments," and the fact that (d) "even today the perceived impact of hidden maleficent powers still plagues large sectors of Muslim rural populations"—all yet in tension with modern medicine's understanding of disease.[5] The point here is that such issues manifest the sort of tension extant today about *the conceptual bases* of whatever is to be construed as "Islamic" medicine. This tension is present also in the sense that medical practitioners who are confessant Muslims are expected to manifest in their professional practice a commitment to religious doctrine as well as to standards of conduct that are grounded in empirical discovery.

Sometimes one is presented with a *hadith* that is said to be authentic and reliable but is nonetheless apparently contradictory. Normally, of course, a contradiction is intolerable in conception given individual concern about a given *hadith*'s implications for practice, including professional medical practice.

In such cases scholars have a number of interpretive options: (a) to attempt to harmonize the text in question and so eliminate the contradiction; (b) to give precedence by date or by occurrence to one or another of the pair in contradiction; (c) to search for some external reason on the basis of which one of the pair may be given preference; and, finally, (d) to reject (*mardud*) both components and so reject the *hadith* despite it having been identified as authentic and reliable.[6]

Consider one *hadith*, narrated by Abu Huraira, which in one translation says, "There is no such thing as contagious disease in Islam," that is related in the same passage to what is taken to be another *hadith* that reads, "Flee from a leper as you would flee from a lion."[7] The text uses the word *`adwa* for contagion, not the word for disease (*maradh*). The contradiction here is apparent and the implication immediately evident: If it is true that there is no such thing as contagious disease in Islam, why does the *hadith* issue the imperative to flee from a leper? There is a prior problem here, of course, just as a matter of empirical evidence (as distinct from what is transmitted to us as a *hadith*): Is it really to be granted that there is "no contagion" (*la `adwa*) "in Islam" (the phrase "in Islam" itself of course already ambiguous, given an alternative rendering as "in religion")?[8] Is the choice here, in other words, between theology and medicine, thus either to "protect a *hadith* from its critics" or reject a *hadith* in favor of contagion as "a valid medical doctrine"?

Lawrence I. Conrad has written to say, "The debate over *`adwa* began in early Islamic times and is still discussed today among Muslim physicians committed both to their faith and to their professions as modern medics."[9] "Ibn-al-Khatib, a physician of Granada composed a treatise in defence of the contagion theory and said: To those who say, How can we admit the possibility of infection while the religious law denies it? We reply that the existence of contagion is established by experience, investigation, the evidence of the senses and trustworthy reports."[10] In his study of Islamic Spain, Paul Lunde writes that, "the Muslim science par excellence was the study of medicine," with "the Prophet himself [understood to have stated] that there was a remedy for every illness, and was aware that some diseases were contagious."[11] Lunde accounts for the empirical claims of "the last of the great Andalusian physicians…Ibn al-Khatib," cited above. Noteworthy, of course, is the fact that Ibn al-Khatib "ultimately fell victim to court intrigue and, after accusations of heresy were leveled against him, was summarily murdered in Fez in 776/1374," no doubt in part due to his "unabashed attack on those legal scholars who denied the principle of contagion."[12]

Anyone today having a simple sense of communicable disease understands what contagion is and of course admits to the presence of such disease as a matter of medical and public health evidence. The "*la `adwa*" *hadith* as narrated is said to be authentic (*sahih*) and reliable (*maqbul*), so that it cannot be simply dismissed or ignored as if it were defective (*mu'allal*) or weak (*da'if*). There is, of course, a tradition that has Abu Huraira denying that he had ever represented the Prophet to have denied contagion,[13] in which case the claim of contradiction would be eliminated by the "fact" of abrogation. But, this supposed resolution has not been readily adopted. As J. Stearns reports, "The debate over the existence and possible nature of contagion continued in the genre of commentaries on Prophetic Tradition from the time of Ibn Qutayba in the 3rd/9th century to that of Ibn al-Khatib and beyond, with the majority of authors arguing that contagion does not exist."[14]

Interpretive Approaches:

A. Accordingly, the first response in defense of the *hadith* here is to argue the contradiction is *merely apparent* and not real. The task, then, is to harmonize and so eliminate the apparent contradiction. How is this to be done in this case? One may take the text literally (*haqiq*), thus "contagion" meaning disease that is spread by whatever means. This may include both physical disease and psychological disease (assuming of course that the latter is indeed transmissible).[15]

B. One may also take the text to have an *implied meaning* (*mafhum*), i.e., read the text more or less figuratively (*majazi*). Thus, 'contagion' would have as its referent not actual physical disease but something analogous. Thus, for example, Shayk Ibn `Uthaymeen narrates to say: The passage 'There is no `*adwa*' is "general in meaning." This general meaning then allows for reference to both physical and psychological disease as well as to a situation of "spiritual" disease, in the latter case such as having a "bad" companion: "a bad companion is like the one who operates the bellows: Either he will burn your clothes, or you will notice a bad smell from him."[16] The instruction, then, is: If one wants neither the equivalent of burned clothes nor a bad smell from a bad companion, then one will not associate with him. That is, the badness or vice of the bad companion is transmissible, a contagion or "disease of the heart" (*amradh al qalb*), to an otherwise virtuous Muslim.

C. Aside from this, the text may also be harmonized by *interpolation*—to the words 'there is no contagion' one adds '*(without the permission of Allah)*', and thus the negation is conditional (*muqayyad*) upon what Allah wills (*dhalikumu al-qadar*) rather than the negation being absolute (*mutlaq*) in the sense that absolutely there is no contagion. This interpolation responds to the fact that, in "pre-Islamic Arabia…the Arab tribes considered that epidemics were caused by demons and other spirit beings who spread pestilence among man".[17] Further, given Islam's doctrine of the unity of Allah, "there was no place for the concession of devastating powers to minor spirits, or for a conception of disease causation that allowed for the capricious infection of one individual after another regardless of their good or evil deeds."[18] This view is put forth, e.g., by the Mufti Taqui Outmâni.[19] Thus, to say there is no contagion in Islam is to intend a theological doctrine with a view to what were "the then prevailing circumstances," viz., the teaching of the Prophet (s.a.w.) accounting for pre-Islamic beliefs in need of correction. The point of the theological doctrine is to distinguish the just sovereignty of Allah from the merely apparent caprice of so-called gods or forces associated with "pagan animism"—the latter of which "implies that crucial events in human life can be affected or directed by forces independent of and even contrary to the will of God [Allah]." Hence, in the theological contrast of pagan animism and Islam, clearly, it is indeed true to say "*la `adwa*" if 'contagion' is understood to be the effect of capricious spirits, since polytheism is already itself *shirk*. To harmonize the text in this case, then, is to overcome superstition. Further, theology and medicine thereby articulate a coherent and consistent doctrine about contagion—nothing happens causally without God's permission (*Qur'an* 64:11, *bi idhni-llah*).

D. On the other hand, the *hadith* can also be interpreted to express a *consequence* of the Islamic faith. Thus, e.g., it has been said: "…some people have such a strong faith and reliance on Allah that the strength of their faith would save them from contagious diseases, just as the natural powers that exist in the body sometimes fend off the harm of the disease."[20] The proper response of a devout Muslim to the threat or presence of contagion would then be to accept the divine will for what it may portend for a given individual or a given community. Thus, the 14th century legal scholar

and mufti of Granada, Ibn Lubb (d. 782/1381), argued in his day: "when a believer is confronted by the plague, he should not fear the possibility of infection, but should rather trust in God and consider his responsibilities as a Muslim…At the end of his first *fatwa*, Ibn Lubb argues, based on the Prophetic Tradition and episodes from early Islamic history, that the plague should be considered a blessing for the Muslim *umma*, and that, as the Prophet had stated, if a Muslim dies of the plague, he will receive the reward of martyrdom."[21]

E. More recently, M.H. Al-Khayat argues that the *hadith* in question is not to be read as a statement of negation: "This hadith implies an order of prohibition, not a negation, in the same way as the hadith stating, 'There shall be no infliction of harm on oneself or others.' Hence," Al-Khayat continues, "I believe that it is the right of everyone over a person with an infectious disease that such a person should refrain from frequenting public places, including mosques, until he or she has reached the stage when they can no longer transmit the infection to others."[22] Al-Khayat's solution, then, is to deny the presence of a contradiction by reading the *hadith* as an imperative of action, rather than take the *hadith* as a declaratory proposition that either affirms or negates a matter of fact.

F. Yet another proposed solution is to let the contradiction stand and nonetheless appeal to an overriding principle of "communal good" (*maslaha*), such that the basic principles of Islam (*maqasid al-shari'a*)—"preservation of religion, life, reason, progeny and property"—provide "jurists with a method to privilege general objectives over specific injunctions."[23] Thus, in this case one would accept the *la `adwa hadith* as authentic and reliable, but allow for relevant public health measures of response to contagion on the authority of a principle such as *maslaha mursala*.

G. Finally, we have two contemporary engagements of the question, one by the former Grand Mufti of Tunis, Muhammad al-Mukhtar al-Salami and one by Dr. Ibrahim Abdul Hamid Al Sayyad: "After reviewing all relevant Prophetic traditions," the Grand Mufti "explains that a belief in contagion is permissible as long as it is based on an understanding of contagion as a product of secondary causation and not as the result of the disease's own nature."[24] Here we have what is basically an "occasionalist" argument, according to which "God causes each and every action to occur… [No] thing possesses a nature or essence that is independent of God and which could thus cause anything on its own."[25] At best, secondary causation allows that "God gives entities a limited ability of causation," and so it would be with the transmission of disease—i.e., "diseases themselves do not function as agent of disease transmission."[26]

Dr. Al Sayyad takes a different view, to interpret the *la `adwa hadith* in terms of the purpose of human existence, which is "affliction and trial" from Allah.[27] Thus, "sickness is a trial from Allah to be enacted by his Decree," this decree "carried out by natural causes as in the case of germs. But germs entering the body are not cause enough for contracting a disease. The body possesses immune mechanisms created by Allah to control these germs. Allah's decree is enacted either by recovery through bodily resistance or by the disease winning over the body by powerful germs. So, contagion is not cause enough for human bodies to contract diseases. But it is rather one of the factors enacting Allah's will…" Accordingly, Al Sayyad adds, the Prophet's "statement of no contagion negates that mere contact is the cause of disease and would rather invite us to consider other causes."[28]

The foregoing discussion reviews several interpretive approaches to overcome the supposed contradiction of the text of *Sahih Bukhari*, thus to "save the *hadith*" as well as to grant to medicine its sound scientific doctrine of contagion. Clearly, whichever proposal one accepts depends on the interpretive stance one takes.

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13. See here *Sahih Muslim*, Vol. 4, 1390-2
14. Stearns, p. 116
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19. "S'il est établi scientifiquement au sujet de certaines maladies qu'elles sont contagieuses, cela ne contredit en aucine façon le Hadith dans lequel le Prophète Mouhammad (sallallâhou alayhi wa sallam) dit qu'il n'y a pas de contagion. En effet, dans cette dernière Tradition, ce qui est rejeé, c'est la croyance—*répandue à l'époque de la Révélation parmi les arabes païens*—soutenant que la contagion est une cause d'affection totalement indépendante, ne resultant pas de la Création divine et échappant à Sa volonté et Son contrôle: Il est éevident qu'une telle croyance relève du *koufr* (*incroyance)* et du *chirk (association à Dieu)* et ne peut qu'être dénoncée en Islam…" Source: http://www.muslimfr.com
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Ottoman Military and Non-Official Pharmacopoelas

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Summary

The first official pharmacopoeia of the Ottoman period was written in 1844 under the title of Pharmacopee Militaire Ottomanee (Pharmacopea Castrensis Otomana) by Dr. Charles Ambrosie Bernard the founder of the first school of pharmacy at that time. This pharmacopoeia was written in French based on 1841 Pharmacopoea Castrensis Austriaca. In this pharmacopoeia drug names were given in French, Turkish, Italian and Latin. Also, in this pharmacopoeia medicinal plants were given in alphabetical order, simple and mixed drugs preparing methods were mentioned and especially focused on pastes but reagents and control methods weren't mentioned. In addition, the rules were listed along with an instruction to follow these rules and Medical School professors signed the instruction. This book was specifically designed for military hospitals and pharmacies, so, it was not given much of an interest by Istanbul pharmacists.

The other codex, Düstur-ül Edviye the translation of 1866 French Codex in Turkish by Major Mr. Huseyin Sabri, was published in 1874. This book replaced the codex written by Dr. Bernard and has become a guide for Istanbul pharmacists for long time.

In this study, both pharmacopoeias will be examined and various aspects of them will be discussed.

Key Words: Pharmacopee Militaire Ottomanee, Dr. Charles Ambrosie Bernard, Düstur-ül Edviye, Major Mr. Huseyin Sabri

Introduction:

Pharmacopoeia is defined as "*official books which contains qualitative and quantitative analysis methods of active substances and excipients used in the manufacture of pharmaceutics and legal and scientific national and international rules and procedures that must be followed*" in the dictionary of Turkish Language Institution[1].

Pharmacopoeia has passed into Syriac as *Grafazin,* Ancient Greek as *Graphadion*, Arabic as *Krafazin,* Turkish as *Krabadin* or *Akrabadin*[2].

In 1914, with the leadership of *Pharm. Ethem Pertev* and *Pharm. Hasan Rauf* a Turkish Codex was prepared but this work has not been published. The reason of this had been showed as codex is far from a consistency and integrity in itself due to taken articles from various pharmacopoeias[3].

Two pharmacopoeia published during the Ottoman era are *Ottoman Military Pharmacopoeia* (Pharmacopoeia until Castrensis Otomana - Pharmacopea Ottomana Militaire) and *Düstur-ül Edviye*.

Pharmacopoeia Castrensis Otomana (Pharmacopee Militaire Ottomane):

Pharmacopoeia Castrensis Otomana (Pharmacopee Militaire Ottomane) (Fig. 1), Turkey's first printed codex, was prepared by ***Dr. Charles Ambroise Bernard*** and printed in Istanbul Beyoğlu **Henri Cayol** printing house in 1844[2,3,4,5,6,7,8]. In this pharmacopoeia, which had been written basis on 1841 ***Pharmacopoeia Castrensis Austriaca***, military needs had been taken into consideration[9,10,11].

This book, 18x23cm size, has 164 pages and the text portion is in Latin and French, was prepared to meet Ottoman military hospitals' pharmaceutical needs by quality, cheap and easy way through a "Pharmacie Centrale"[9,12]. Following the preface written in Italian, in this codex photos of drugs used in treatment also information about used parts of plants were given and the names of drugs were listed in alphabetical order in Turkish, French, Italian and Latin[2,4,8,13]. For example; Mel rosarum (Lat.) – Miele rosato (It.) – Miel Rrosat (Fr.) – Gülbalı (Tr.). There are 149 materials and 156 drugs in Bernard's Pharmacopoeia; the distribution of them is given in Table 1[14].

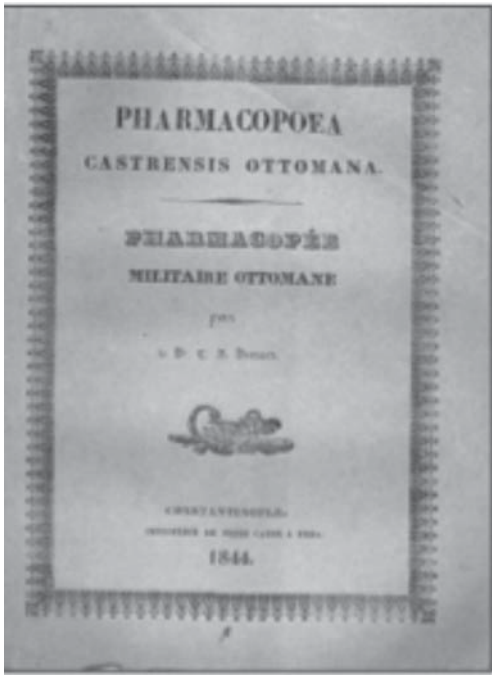

Figure 1: Pharmacopee Militaire Ottomane (7)

This codex consists of four parts in general[2,12,13]:

1- ***Drogues simples (Simple medications, p. 1-21):*** In this part of codex the drugs are also discussed systematically as pharmaceutically and pharmaceutical portions of drugs are indicated.

2- ***Médicaments préparés et composés (Prepared and compounded medications, p. 22-94):*** In this part of codex drugs' pharmaceutical names, chemical names and also synonyms were given.

3- ***Formulaire à l'usage des hôpitaux militaires (Formulary for military hospital's usage, p. 95-126):*** In this part of codex there are information about decoctions, infusions, emulsions, solutions, mixtures and elixirs, gargles, eye drops, enemas, ointments, pills etc.

4- ***Tables (Tables, p.127-139):***

a. Melting rate of drugs in 1 ounce of water table,

b. Special weights table,

c. The most necessary reagents table.

In addition, two lists have been added to the last part of the codex. One of the list shows the needed medicines for health service of an association 3500 people and average amount of them and the second list includes some medical needs that can be obtained in the neighborhood[3,4,6,8].

Table 1: The distribution of materials in Bernard's Pharmacopoeia

Type of Material	Number	Percentage
Animal drugs	14	%9
Medicinal Plants /drugs	104/111	%71.2
Minerals/Metals	23	%14.7
Various Chemical Materials	8	%5.1

Ottomanee Pharmacopee Militaire in which okka (1282 grams) and dirhams (3,207 grams) used as a weight measure[2,4] is considered the first published codex in the Ottoman period[2]. This codex had no effect on the Ottoman pharmacy except for the use of military pharmacies for a while[8]. This is also accepted by Kurt Ganzinger[10]. A copy of this codex ever been encountered in any Ottoman pharmacy or hospital so it is again proves this situation.

1. *Dr. Charles Ambroise Bernard:*

Dr. Charles Ambroise Bernard (Fig. 2) was born in 1808 in Paris, studied medicine and surgery at Josephinum Military Medical Academy in Vienna[14]. He had been brought as head

Figure 2: Dr. Charles Ambroise Bernard (6)

teacher to the ***Mekteb-i Tıbbiye-i Adliye-i Şahane*** (Ecole Imperiale de Medecine de Galata-Serai) in 1838 by Sultan II. Mahmut[3]. Dr. C. A. Bernard died in 1844 in Istanbul.

Dr. C.A. Bernard started pharmacy education in our country by opening a "Pharmacy Class" in Mekteb-i Tıbbiye-i Adliye-i Şahane[3].

In Mekteb-i Tıbbiye by Dr. C.A. Bernard's efforts dissection of the dead was started, a library was established, a herb garden was made and gardeners and experts brought from foreign countries for this garden, chemistry laboratories were established and textbooks were written[3,10]. Bernard was the founder of modern botanical education in our country and the author of the first Turkish Military Pharmacopoeia[3].

Prof.Dr. C.A. Bernard published four book including *The Plants Used in Medicine* (Element Medicine at Imperial de Botanique de Galata Serai Ei'Ecole), *Bursa Spas* (Les Bains de Brousse, the Bithnine), *Pharmacopoeia* (Pharmacopee Ottomane Militaire) and *Percussion Book* (Precis de Sound Percussion Et D'anscultation in a I'usage Laçons) in French during his time in Istanbul[14,15]. These works not only have great importance in their fields, but also they have great significance because of being first written works in Turkey in these areas.

Düstur-ül Edviye:

In the Draft Law No. (1/811) Sıhhiye ve Muvazenei Maliye Encümeni Mazbatası (Equilibrium of Health and Finance Council Mandate) from the Premiership about Düstur-ül Edviye Commission why a Turkish Düstur-ül Edviye is needed was mentioned. According to this Mandate the lack of a Turkish Düstur-ül Edviye (Drugs Act - Pharmaceutical Preparation Rules) in Ottoman period remains a challenge for people who engage in public health and the treatment and makes inspection and follow-up of pharmacies and people who trade in pharmaceuticals difficult. Again, by this time, pharmaceuticals and medical products income to customs were taken into our country in accordance with the Codex that was in force in countries of origin and after the introduction of these products to the country exposure to adulteration could not been prevented[16].

That was indicated that if there is a Turkish Düstur-ül Edviye and placed on a obligation to comply with it, move through customs procedures and also monitoring and inspection of pharmaceutical warehouses and pharmacies will be easy and no matter which country or factory good, public can find and take medicines which have always same treatment property for their treatment end health. At the same time it was stated that Turkish Düstur-ül Edviye will help physicians about composition of the pharmaceuticals[16]. For these reasons, a commission of Düstur-ül Edviye decided to establish.

Ottoman pharmacists must comply with 1866 French Pharmacopoeia (Pharmacopee Française) about norms and dosages of drugs[10]. This pharmacopoeia was translated in Turkish by Major Huseyin Sabri in 1874 with the name of "Düstur-ül Edviye" due to the difficulty of understanding (Fig. 3). This work was printed in Mekteb-i Tıbbiye-i

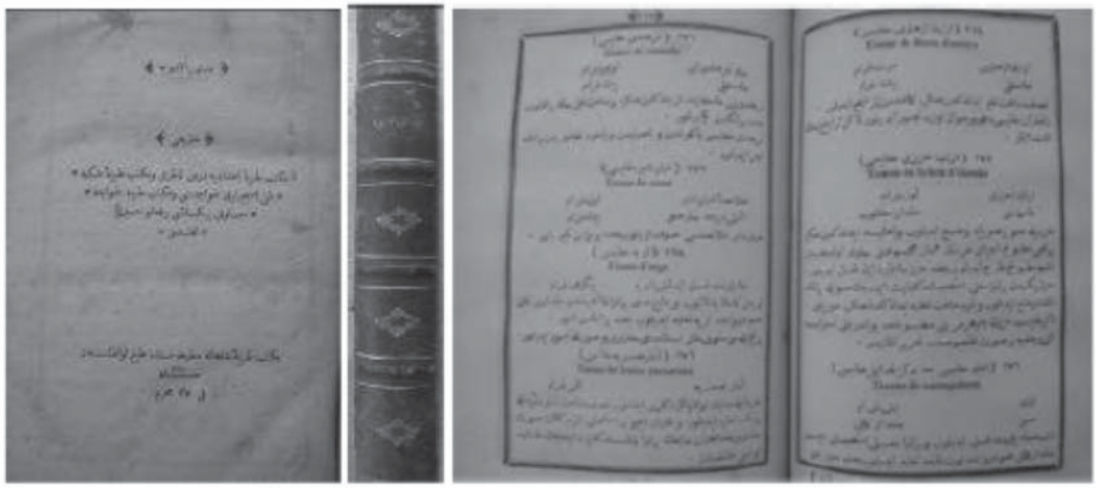

Figure 3: Düstur-ül Edviye (5)

Şahane Printing House on March 16, 1874 (27 Muharram 1291) and consists of 73 chapters and 508 pages[4,5]. A copy of this work is in Istanbul University, Faculty of Medicine, History of Medicine Institute Library D.344[2].

Preface of this work contains information about phases of French Codex in history and the necessity of a codex[8]. In the first part of the book the old and new decimal sizes and measurement scales were compared, conversion charts and information about herbal, animal and chemical substances used in the preparation of the medicine were given. In the second part of book, under the 75 different titles 848 drug composition and preparation methods were described[17].

In Düstur-ül Edviye grams and the multiples of grams had been used as a measure of weight[2].

Because of education in Turkish started in 1870 in Mekteb-i Tıbbiye-i Şahane, this book had big importance and had acted as Turkish pharmacists' handbook a long time[5,10]. This codex substituted the Dr. Bernard's Codex and until II. Constitutional of Monarchy (II.Meşrutiye-1908) was used as pharmacists apply book [2].

1. Major Mr. Huseyin Sabri

Major Huseyin Sabri graduated from the School of Military Medical School, worked in the army, ascended to the rank of the colonel, and was director of Mekteb-i Tıbbıye-i Mülkiye and Fenn-i ispençiyarî (pharmaceutical science) teacher[3,8]. In 1870, he published a book in Istanbul with the title of "Fenn-i ispençiyarî" which was the first pharmacy profession book in Turkish[3,18].

Conclusion:

These kinds of books are official books printed by the state or under the supervision of the state to standardize practices related to drugs in the country. Codexes mentioned in this study were played a significant role in the development of the pharmacy profession standards in that period. With the establishment of the Republic of Turkey "codex" issue taken up again and by the efforts of this period's Minister of Health and Social Welfare *Dr. Refik Saydam's* "*Turkish Codex Law*" No. 767 dated 03.03.1926 was adopted by the *Grand National Assembly of Turkey*. Still *Codex Committee* is established and the new codexes are created in accordance with this law.

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In the name of God

Terminology of Canon in Avicenna’s “The Canon of Medicine”

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• The encyclopedia of Medicine or Avicenna’s Canon of Medicine is the most prominent and creditable medical book in the world of Islam and probably the world. Teaching this book in Europe for some centuries clearly proves this idea. Likewise, this historical report expresses that it was the second book after the bible which was published once print machine was invented and it adds to the significance of this book in the history of science and medicine. Muslims, as the followers of Islam, were paying highly attention to health and cleanness due to the religious teachings. According to Prophet Mohammad, cleanness was an integral part of the religion. In addition, most religious instructions like ablution (before the prayer), ceremonial washing and fasting were for health aspects. Surprisingly, in Islamic architectural history especially in Iran, public baths were constructed in a way mosques were made and they enjoyed almost the same decorations muqarnas and it signified that according to Islam, cleanness was equal to worshiping. So Muslims were highly motivated to learn medical teachings and instructions and in that way they could develop their belief and by adhering to such instructions they expressed their commitment to their religion. Avicenna, as well in the beginning of his book, emphasized that medicine was mainly for maintaining health: “medicine is the science by which we learn, the various states of the human body, in health, when not in health, the means by which, health is likely to be lost, and when lost, is likely to be restored to health.”

Enjoying a high status in Islamic civilization, medicine was warmly welcomed by philosophers and wise men. Although Muslims took advantages of the achievements of Greek philosophers such as Hippocrates and Galenus, Islam had a special attention to the health of its followers and even in a saying, the prophet divided knowledge to religions knowledge and anatomy knowledge. It should be noted that Islam was already to work on medical science even if it hadn’t benefited from Greek achievements in translation movement.

But there are some debates on the philosophy of word “Canon” in a medical book in philosophy history and Islamic civilization. It was always a question among Muslim scientists why Avicenna used Canon for his medical book and the curiosity is raised when we find out that Avicenna named his great philosophical book “Shafa” (healing)! This kind of curiosity may not raise for non-Islamic and non-Iranian communities because they find both two different terms as per their own dictionaries but in Islamic culture, word healing is the right word for medicine not canon. Because Shafa means healing and treatment, while Canon refers to a rule and binding instruction.

The two following verses of holy Qoran give a proper definition of Shafa:

اَهنوُطُب نم جُرْخَي اًلُلُذ كّبَر لُبُس يكُلْساَف تارَمّثلا ّلُك نم يلُك ّمُث
مٍوقَل ةًيآَل كَلِذ يِف ّنَإِ سِاّنلل ءاَفِش هيِف هُناوْلأ فِلَتْخُم بٌارَش

[1] “al-Qanun fi al-tibb” in Arabic, translated to English called “The Canon of Medicine”, is an encyclopedia of medicine in five books compiled by Avicenna (Ibn Sīnā, 980-1037) and completed in 1025. It presents a clear and organized summary of all the medical knowledge of the time.

[2] Canon of Medicine, Book I, Part I, THESIS I. The Definition of “ Medicine “

[3] Hippocrates of Cos or Hippokrates of Kos (460 BC – 370 BC) was an ancient Greek physician of the Age of Pericles (Classical Greece), and is considered one of the most outstanding figures in the history of medicine. He is referred to as the father of western medicine in recognition of his lasting contributions to the field as the founder of the Hippocratic School of Medicine.

[4] Aelius Galenus or Claudius Galenus, (130 AD-200Ad) better known as Galen of Pergamon, was a prominent Roman physician, surgeon and philosopher.

يَتَفَكَّرُونَ.

Eat every kind of fruit, and follow the easy ways of your lord. 'From its belly comes forth a drink (honey) of many hues in which there is healing for people. Surely, in this there is a sign for a nation who reflect. (Al-NAHL (THE BEE): 69 - 16:69)

وَإِذَا مَرِضْتُ فَهُوَ يَشْفِينِ .

Who, when I am sick, heals me (AL-SHUARA (THE POETS): 80 - 26:80)

As we see, in verse 80 of surah 26, Shafa means treatment and healing. That is why some experts believe that Avicenna should have named his medical book "Shafa" and the philosophical one "Canon" and in an odd opinion some believe that it was originally so and they were misplaced upon a mistake! This article proves how they are wrong and how wisely Avicenna named his medical book "Canon".

To properly explain the matter, I'd better use word Canon. This is absolutely a Greek word signifying measure in that culture. It entered Islamic culture through the translation movement and was changed to al-Qanun.

In Webster's Dictionary in meaning of Canon comes:" a law, or rule of doctrine or discipline, enacted by a council and confirmed by the pope or the sovereign; a decision, regulation, code, or constitution made by ecclesiastical authority. Various canons which were made in councils held in the second century… This word is taken from the Greek, and signifies a rule or law. In ecclesiastical law, it is also used to designate an order of religious persons. "

As we see this word means law and rule in Greek culture. Since it does not express anything clearly by itself, we need to refer to the culture of old Greek philosophers and artists to find a better definition of Canon and realize why Avicenna let that word shine on his medical book.

First we begin with the field of philosophy and Especially Plato . Plato is a great philosopher and someone like Alfred North Whitehead believes that the entire European philosophical tradition is that it consists of a series of footnotes to Plato. We know that his most famous book is "Canons" meaning the laws but before going to his definition of Canon in his book it is interesting to know that he has a book named "Cratylus" on terminology of words. In this book he believes that making new words is an act attributed to legislation:

"Soc. Cannot at least say who gives us the names which we use?

Her. Indeed I can not

Soc. Does not the law seem to you to give us them?

Her. yes I suppose so.

Soc. Then the teacher when he gives us a name uses the work of the legislator?

Her. I agree

Soc. And is every man a legislator or the skilled only?

Her. The skilled only

Soc. Then Hemogenes not every man is able to give a name, but only a maker of names; and this is the legislator who of all skilled artisans in the world is the rarest.

Her. True. "

From his point of view, Canon or law is responsible for making words and it indicates that according to him, Canon is a mean able to set up the manner of living, uttering words and their meaning for people. Therefore, Canon sets up a group of rules in human life. Now what is the basis of such rules and for what features Canon has qualification to set up instructions for human life? We can find answers to these questions in Plato's book "Laws".

In his book, Plato mentions three main features for Canon: wisdom, adhering to them and certainty that naturally

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[5] Webster's Dictionary.

[6] Plato 428/427 for 424/423 BC – 348/347 BC) was a philosopher in Classical Greece. He was also a mathematician, student of Socrates, writer of philosophical dialogues, and founder of the Academy in Athens, the first institution of higher learning in the Western world. Along with his mentor, Socrates, and his student, Aristotle, Plato helped to lay the foundations of Western philosophy and science.

[7] Alfred North Whitehead, OM FRS (1861 – 1947) was an English mathematician and philosopher. He has been called the "greatest speculative mind of 20th century." He wrote on algebra, logic, foundations of mathematics, religion, philosophy of science, physics, metaphysics, and education; all of which were integrated into his comprehensive worldview known today as process philosophy.

[8] The safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato. Alfred North Whitehead, Process and Reality, p. 39 [Free Press, 1979];

[9] The Laws is Plato's last and longest dialogue. The conversation depicted in the work's twelve books begins with the question of who is given the credit for establishing a civilization's laws.

exists in them. By emphasizing on human education, Plato speaks of some traits like fear, hope, joy and pain human self and believes that wisdom which is able to distinguish is above all of them and it can be converted to law or Canon if it is generally accepted in society. In other words, wisdom is the spirit of Canon but it cannot be Canon solely by itself and if it is accepted by the society and it tries to adhere to that it turns out to become Canon. This is the very belief that a patient has to have to the physician otherwise no patient will obey the instructions of physicians. This is the main point that Avicenna meant when naming his medical book. In his "Laws" book, Plato pays a highly attention to the high amount of care physicians show in recognizing human's soul. That emphasize is important for enabling Canon to respect what is admiring and reject what is wrong. What I have learnt from "Law" book and the definition Plato gives of law or Canon is that according to him Canon is a binding and applicable order while theories should be tested and they might go wrong.

This is the exact area where philosophers and physicians differ from each other. Philosophers put forward some theories but physicians prescribe some instruction upon a convincing experience and certainty. Canon is the result of thorough research and experience and anyone who is looking for perfection both physically and mentally he should obey that. Here Plato points out an interesting fact:

" But the other doctor, who is a freeman, attends and practices upon freemen; and he carries his enquiries far back, and goes into the nature of the disorder ;he enters into discourse with the patient and with his friends, and is at once getting information from the sick man, and also instructing him as far as he is able, and he will not prescribe for him until he has first convinced him; at last, when he has brought the patient more and more under his persuasive influences and set him on the road to health ,he attempts to effect a cure . "

Therefore, Plato deems wisdom as nature of Canon and obeying Canon as a belief. But there is another proof about the authenticity of Avicenna naming his medical book so. As it was mentioned at the beginning, Canon means a measure in Greek and the concept of measurement and being criteria for measures is so important in the nature of word Canon especially when considering the important role of geometry and rules like golden proportional rule and its presence in Greek advanced art and architecture. According to the golden rule, if we divide a line in a way that the proportion of total line length to the greater part is equal to the proportion of the greater part of the smaller one, golden proportion has been achieved. This rule was widely applied by architecture, sculptors and painters. The more important point was that the Greek philosophers and artists believed that gods were the origin of such rules and therefore they were indisputable. Plato believed that mathematical and geometrical rules were eternal in his thesis named "Timeous" he has spoken of two triangles that the God Demiurge, as the god for ordering the universe, used them for organizing the universe and changed it from Chaos to Cosmos. Therefore, when Canon term was used in Greek architecture and art it referred to eternal rules. It should be interesting to mention that the sculptor Polycleitus , constructed a statue which was later named Canon. In another words Polycleitus consciously created a new approach to sculpture; he wrote a treatise (Canon) and designed a male nude (also known as Canon) exemplifying his aesthetic theories of the mathematical bases of artistic perfection, which motivated Kenneth Clark to place him among "the great puritans of art": His Canon "got its name because it had a precise commensurability (symmetria) of all the parts to one another "Actually it was so great that it turned out to act as criteria for measuring other artistic works. It was also true about the work of Andrei Rublev (1411) named Trinity that was recognized as criteria by the church or we can mention Raphael's "The School of Athens" that was recognized as a criterion. Later, the rules in works of Polycleitus were recognized as criteria for measuring artistic works in art and architecture.

On such criteria, Umberto Eco [12]says:

[10] The Dialogues of Plato, translated into English with Analyses and Introductions by B. Jowett, M.A. in Five Volumes. 3rd edition revised and corrected (Oxford University Press, 1892).

[11] Polykleitos (or Polyklitos, Polycleitus, Polyclitus) called the Elder was a Greek Sculptor in bronze of the fifth and the early 4th century BCE. He is considered the most important sculptor of Classical Antiquity the 4th-century catalogue attributed to "Xenocratic catalogue", which was Pliny's guide in matters of art, ranked him between Phidias and Myron.

[12] Umberto Eco (born 5 January 1932) is an Italian semiotician, essayist, Philosopher, literary critic, and novelist.

"In the 4th century B.C, Polycleitus constructed a statue that due to its great features and proper proportions in body organs it was recognized as criteria (Canon) work for measuring other works, but underneath principle for that criterion was not based on balance and equal element. All body organs should have equal proportions to one another. The relation between A and B should be the same as the relation between B and C (like golden proportional rule). Later architect Vitruvius provided a proper proportion as criterion based on the details of body organs as follows: Face should be one tenth of the whole body, head one eighth, upper body, one forth, etc."

As a result, the word Canon in Greece referred to rational, fixed and definite principles with eternal roots and inevitably true.

Coming back to Avicenna and his medical book, we know that he was under impression of Greek culture and he admired Greek scientists and took advantage of their opinions in his works. But he was not just imitating them and he did it upon making thorough researches. In the preface of his thesis named "Joudieh" he says: "In my Shafa book, I have explained some philosophical concepts and I have respected my Mashie partners but in another book (On Solar Philosophy), I have merely put forward truths and opposed their opinions by retelling my own opinions."

Like Farabi , he rejects the opinions of Greek scientists on music, knowing music as a sound of universe or distinguishing mind from imagination. While the history of literature knows the British Samuel Taylor Coleridge as the first one who made a distinction between Fantasy and imagination, Avicenna was the first one who did so in Shafa and it was not dealt with in Greece as Avicenna did.

However, Avicenna's approach to Greek philosophy and medicine was fully in an objecting manner and it should not be overlooked that he was a Muslim enjoying some valuable holy references like Quran that offered very explicit attitudes on universe phenomenon and Avicenna believed in them and used them in his works. He, for example used the verse of 35 of Noor in expressing the Levels of Reason in philosophical stages.

Despite having an objecting attitude to Greek philosophical ideas, Avicenna accepted the true ones like the concept of Canon. He believed that patients should believe in their physician to follow his orders especially when Canon offered them peace.

In my opinion, Avicenna willfully selected this title for his book because he was trying to say that he was going to speak of orders that contrary to philosophical theories are indisputable. An example of Canon book sheds lights on the issue. In a chapter of Canon, Avicenna speaks of love and introduces it as a sickness (of course we should note that he means the physical love not the spiritual love that is not only a sickness but elevating human soul). Then he mentions a patient suffering from the same sickness and when the physician takes his wrist to count his pulse and so adroitly utters some names and places, the patient's pulse suddenly goes up once he hears the name and place of his beloved. In this way, the physician helps the patient find his beloved. :" Love. Now the lover's pulse is variable and irregular, especially when he sees the object of his affections, or hears her name, or gets tidings of her. In this way one can discover, in the case of the one who conceals his love and the name of his beloved, who is the object of his passion . . . ."

On him methodology, Avicenna says "I have tested that and took advantage of the information I had gathered". It means he had reached such definite orders by experiments and testing and it was the very Canon.

At the end, I should mention another interesting fact that in the first story of THE MATHNAWI OF JALALU'DDIN RUMI, takes advantage of the experience Avicenna had. Here the physician finds out about the lover, Zargar Samarghandi, by taking the wrist and counting the pulses of a maid:

144. He said: "O king, make the house empty; send away
both kinsfolk and strangers".

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[13] Marcus Vitruvius Pollio (born c. 80–70 BC, died after c. 15 BC) was a Roman author, architect, and engineer during the 1st century BC perhaps best known for his multi-volume work entitled De Architectura.

[14] Al-Farabi / Abū Nasr Muhammad ibn Muhammad Fārābī for other recorded variants of his name see below) known in the West as Alpharabius[(c. 872 in Fārāb – between 14 December, 950 and 12 January, 951 in Damascus) was a renowned scientist and philosopher of the Islamic Golden Age. He was also a cosmologist, logician, and musician.

[15] Samuel Taylor Coleridge (1772 – 1834) was an English poet, literary critic and philosopher who, with his friend William Wordsworth, was a founder of the Romantic Movement in England and a member of the Lake Poets.

145. Let no one listen in the entrance-halls, that I may ask certain things of this handmaiden.
146. The house was left empty, and not one inhabitant (remained): nobody save the physician and that sick girl.
147. Very gently he said (to her), "Where is thy native town? For the treatment suitable to the people of each town is separate.
148. And in that town who is related to thee? With what hast thou kinship and affinity?"
149. He laid his hand on her pulse and put questions, one by one, about the injustice of Heaven.
150. When thorn darts into any one's foot, he sets his foot upon his knee, And keeps searching for its head with the point of a needle,
151. And if he does not find it, he keeps moistening it (the place) with his lip.
152. A thorn in the foot is so hard to find: how (then) is it with a thorn in the heart? Answer (that)!
153. If every base fellow had seen the thorn in the heart, when would sorrows gain the upper hand over any one?
154. Somebody sticks a thorn under a donkey's tail: the donkey does not know how to get rid of it: he starts jumping.
155. He jumps, and the thorn strikes more firmly (pierces deeper): it needs an intelligent person to extract a thorn.
156. In order to get rid of the thorn, the donkey from irritation and pain went on kicking and dealing blows in a hundred places,
157. (But) that thorn-removing physician was an expert: putting his hand on one spot after another, he tested (it).
158. He inquired of the girl concerning her friends, by way of narrative,
159. And she disclosed to the physician (many) circumstances touching her home and (former) masters and fellow- townsmen.
160. He listened to her story (while) he continued to observe her pulse and its beating,
161. So that at whosoever's name her pulse should begin to throb,(he might know that) that person is the object of her soul's desire in the world.
162. He counted up the friends in her native town; then he mentioned another town by name.
163. He said: "When you went forth from your own town, in which town did you live mostly?"
164. She mentioned the name of a certain town and from that too she passed on (to speak of another, and meanwhile) there was no change in the color of her face or in her pulse.
165. Masters and towns, one by one, she told of, and about dwelling-place and bread and salt.
166. She told stories of many a town and many a house, (and still) no vein of her quivered nor did her cheek grow pale.
167. Her pulse remained in its normal state, unimpaired, till he asked about Samarcand, the (city) sweet as candy.
168. (Thereat) her pulse jumped and her face went red and pale (by turns), for she had been parted from a man of Samarcand, a goldsmith.
169. When the physician found out this secret from the sick (girl),he discerned the source of that grief and woe.
170. He said: "Which is his quarter in passing (through the town)?" "Sar-i Pul (Bridgehead)," she replied, "and Ghatafar street."
171. Said he: "I know what your illness is and I will at once display the arts of magic in delivering you.
172. Be glad and care-free and have no fear, for I will do to you that which rain does to the meadow.
173. I will be anxious for you, be not you anxious: I am kinder to you than a hundred fathers.
174. Beware! tell not this secret to any one, not though the king should make much inquiry from you.
175. When your heart becomes the grave of your secret, that desire of yours will be gained more quickly."
176. The Prophet said that anyone who hides his inmost thought will soon attain to the object of his desire.
177. When seeds are hidden in the earth, their inward secret becomes the verdure of the garden.
178. If gold and silver were not hidden, how would they get nourishment (grow and ripen) in the mine?

[16] Allah is the lighter of the heavens and the earth. The example of his light is like a tube, in which there is a wick. The wick is in a lamp and the lamp is as a glittering planet kindled from a blessed tree, an olive that is neither of the east nor of the west. its oil would almost shine forth though no fire touched it. Light upon light; Allah guides to his light whom he will. Allah strikes parables for people. Allah has knowledge of all things. (35 of Noor- Holy Quran)

[17] Al- Qanon, pg. 907.

179. The promises and soothing words of the physician made the sick (girl) safe (free) from fear.
180. There are true promises, grateful to the heart; there are false promises, fraught with disquietude.
181. The promise of the noble is current (sterling) coin; the promise of the unworthy becomes anguish of soul.
182. How the saint, having discovered the (cause of) the illness, laid it before the king."

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A Review of Swine Flu in the Light of Islamic Medicine and Western Medicine

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Summary

The disease in which inflammation of nasal mucosa and larynx become prominent in a very short time is defines as acute rhino laryngeal ailment. a lot of variant of diseases which is common in community, in which upper respiratory system involve frequently but some disease of that system have a specific pattern to occurrence. From early time of Islamic Medicine this type of diseases are known in public with the different names, some of them spread at a large scale in a particular time after interval of certain period and danger to the public health but till now no any concrete solution find out to control this type of acute ailments and minimizing the mortality rate by this type of disease. some ailments are describing in Islamic/Unani prospective with the hope of enlighten the new dimension of Islamic/Unani description on the base of scientific concept .now the different types of diseases are describing with the correlation of recent concept and pattern of diseases, Hence we are trying to cover the most communicable and infective disease "Swine flu" under the concept of Islamic Medicine.

Key Words: Nazlas, swine flu, laryngeal ailment, wabayi, communicable disease.

The Diseases of upper respiratory system are define in Islamic Medicine with the possible correlation of laryngeal diseases so that type of diseases are comes under the Rhino laryngeal ailments, some diseases are define as below:

Nazla: Flowing of *maadeh* from brain to throat, larynx and trachea is called Nazla.

Zukam: Flowing of *maadeh* from brain to nostril is called Zukam But some Unani physician consider all above mentioned condition as Nazla and when very thin liquid(Raqeeq maddah)falling towards nostril and this liquid produces burning ,and erythema at that side along with that smell power also be disturbed.

Unani physician also describe the other form of Nazla, which is based on the complication of Nazla at earlier time but today the same concept revised as describing the type of Influenza like Influenza febrile, Respiratory influenza, gastro intestinal influenza etc.

Nazla: there is two major type of nazla

a) Nazla-e-har

b) Nazla-e-barid

a) Nazla-e- har: Nazla which is produces due to hararat e.g. hot climate, drugs of hot temperament (mushk, zafran, piyaz....), imtila-e-dam, imtila-e-safra, it is also a concept of Unani physician that the people who have hot temperament is more suitable for accepting the exogenous causes (Asbab-e-kharji) to producing nazlawi kaifiyat....

b) Nazla-e-barid: Nazla that is produces due to buroodat e.g. cold wave, cold exposure especially after Hammam, Riyazat...etc

So-ye-mizaj barid is also contributory for producing Nazla-e-barid because in such type of case proper digestion (Hazm-e-jayid) is not completed so absorbed nutrient toward brain has a lot of fuzlat that is flow out as nazla from brain.

Nazla-e-wabayi: This is actually a sub type of Nazla-e-har with the pattern of symptoms and pathology of that type of disease ,it is spread between a large population of a community at particular time so it is consider as a epidemic(wabayi) disease but at earlier time it is consider a disease under the so-ye-mizaj maddi har specially due to fasad-e- dam but after the development of recent advances in medical field it will be possible to rule out the actual cause of fasad-e-dam which is producing this

disease .nowadays it is clear that the disease is caused by a virus which is known as Influenza virus

Anful anzah: The name is suggesting that prominent feature of disease, excessive nasal discharge, is explained as"Anf" means Nose and "Anzah" means Wolf .Arab physician observed this type of clinical presentation in wolf (may be due to avian influenza in wolf) and same thing also be observed in human then it is given the name as Anfulanzah

Arab physician already describe the sign and symptoms of Nazla-e-har e.g.

- Flushing of face
- Body ache
- Weakness
- Feverish illness
- Coughing
- Sore throat

As complication something also describe by them e.g.

- Awja-e- meda
- Ishal wa sehaj amaa
- Qawlanj
- Qarh riya

In the light of the description of nazla-e-har you see the type of influenza e.g.

- Febrile influenza
- Respiratory influenza
- Gastro intestinal influenza
- Nervous influenza
- Malignant influenza (related to public health and increase mortality)

It is showing that influenza is very similar to the Nazla-e- har and their involvement of a large area and population is including it in the Nazla-e- wabayi .in the laboratory study it is found that virus of this disease have sub type e.g. Influenza A, B, C virus. The types of virus depend upon different type of strain of virus and now on the basis of clinical feature it is declare as an acute respiratory infection in which influenza A Virus have become epidemic and pandemic, it means this viral infection affect millions of people at different interval period .

Epidemic: Epi=upon; Demos=People, unusual occurrence in a community or region of disease. In other word it is define as excess of "expected occurrence".

Pandemic: An epidemic usually affecting a large proportion of population occurring a wide geographic area such as a section of nation, the entire nation, a continent or the world e.g Influenza 1918-1957.

Swine Flu: Swine flu is acute, highly contagious respiratory infection caused by new influenza virus which is called Novel - H1N1 (Swine flu) virus.

Why Novel İnfluenza A (N1H1) Virus Called as Swine Flu?

After isolation of virus in the laboratory it is found that many of the gene in it were very similar to influenza virus that normally were circulate in pigs of the North America then it is called Swine flu but after further study it is revealed that this virus is different from the virus of the North American pigs. Actually, it has two genes from pigs, another is avian gene and human gene so you can say these altogether are rearrange and develop new human virus and now spread only human to human.

Why İnfluenza A virus Become Epidemic and Pandemic Again and Again?

There are three types of influenza viruses as type A, B, and C, its types are based on antigenic characteristics of Nucleoprotein (NP), Matrix (M) protein antigen. Influenza 'A' virus is subdivided on the basis of surface Haemaglutinin (H) and Neuraminidase (N) antigen. Haemaglutinin is the site by which virus is attached to host cell and Neuraminidase is responsible to degradation of host cell and play major role to spread the infection because of remarkable propensity of H&N antigen of this virus to undergo periodic antigenic variation the most expensive and severe out break as periodic epidemic occurs by influenza A virus. Some outbreaks are given as for example:

1. Spanish influenza (H1N1) 1918 (in 1977 and 2009 its sub type become epidemic again)
2. Asian influenza (H2N2) 1957.
3. Hong Kong influenza (H3N3) 1968.

Influenza A has 16 distinct "H" sub type and 9 "N" sub type of where only H1, H2, H3, N1 and N2 is associated with epidemic and pandemic in human. When major antigen variation occurs then called *antigenic shift* and minor antigen variation called *antigenic drift*.

Clinical manifestation of Swine flu:

- Abrupt onset of systemic symptoms.
  - Headache (generalized / Frontal)
  - Feverish, chills (100 – 105^0F)
  - Myalgia (Most common legs, lumbo sacral)
  - Arthralgia may also develop.
  - Malaise
- Respiratory tract symptoms
  - Cough
  - Sore throat

Respiratory symptoms become more prominent as systemic symptoms minimize but cough and sore throat may persist for > 1 week.

- Ocular Sign and Symptoms
  - Photophobia
  - Burning of eye
  - Pain on eye movement
- GIT symptoms
  - Vomiting
  - Diarrhea
- Physical Sign
  - Flushing of Face
  - Skin is hot and Dry
  - Mild cervical Lymphadenopathy is noted (specially in younger)

Tests are carried out to confirm the Swine flu:

- Throat swab, Nasopharyngeal wash, sputum can be used for virus Isolation by Tissue culture.
- Rapid Viral test – immunologic or enzymatic Technique use.
- Haemaglutinin inhibition Technique (H1)

There is No Vaccine Developed So Far Effectively For İnfluenza Virus "A" Why?

Vaccines like *killed vaccine*, *Live Vaccine*, *split vaccine and Neuraminidase vaccine* have been developed but these are not fully effective which can immunize human body against all sub type of influenza virus "A". It is due to rapid changes in the antigen so our body is not immunized against this new virus, ultimately virus produces epidemic and pandemic. When vaccine is developed against this virus, then it again changes their antigen.

Now WHO is trying to develop recombinant vaccine that can be effective against full range of influenza "A" virus.

How to Protect Yourself from Swine Flu?

1. Avoid Stress – Stress decrease our body immunity "***Swine flu se darna nahi larna hai".***
2. Loose weight – Research indicate links between obesity and death due to Swine flu.
3. Take plenty of fluid – hydrate body and upper respiratory track helps to wash out the infections.
4. Take rest - our total body strength and immunity work fully against the elimination of infective organism during rest.
5. Take Nutritious diet – particularly proteins and vitamins containing diet.
6. During coughing and sneezing cover your mouth.
7. Don't spit everywhere.
8. In runny nose clean by tissue paper and put the paper in dustbin.
9. Frequently wash your hands when you come in from outside using the soap or alcohol based hand wash.
10. Don't touch eyes, mouth and nose.
11. Avoid people who are suffering from respiratory illness.
12. Avoid unnecessary public places.
13. Avoid the journey (prophet said to avoid journey at the time of epidemic of *Taown*.)
14. When go out from home use facemask.
15. Steam inhalation, steam bath
16. Sip / Drink boiled water.
17. Use tea but not coffee (because coffee dehydrate the Respiratory passage.
18. Gargle with Luke warm water. (1/2 Teaspoon salt + 5gm Black pepper powder + 10 gm ginger root)
19. Nasal saline irrigation – for a stuffy nose.
20. Disinfect your mobile phone.

Home Remedies and Diet:

- Take Vitamin "C" rich diet as amla, guavas and orange.
- Consume more green vegetables and fruits.
- Take small and light food.
- Do not take over cooked food.
- Cook the food in minimal oil.
- Turmeric powder 3 gm with milk or in capsule form.
- Avoid alcohol. (Alcohol is totally harmful for our body and also our healthy community and society but particularly in this disease alcohol dehydrate the upper respiratory system so that viruses not easily clear from upper respiratory tract and alcohol also decrease the body immunity.)
- **Avoid pork meet:** it is being said that pork meet is harmless and has no link with Swine Flu but I think this has been propagated under the pressure of Government of that particular country where the pork meet is consuming at a large scale and swine meet support the economy of such type of countries. We know that swine flu virus is emerged by recombination of swine virus, avian virus and human influenza virus. the people who are living in that surrounding is susceptible for hosting of this new virus and play a major role to spreading it from human to human.
- Use honey
- Use lemon oil.

Concept of Islamic Medicine:

In the light of Islamic Tib, it is a disease that disturbs blood chemistry and it is describe in Islamic Tib as Nazla-e-har / Nazla-e-wabyi. Therefore, there is need to normalize the blood cells disorder of affected persons and on this ground we can justify the concept of our system that the Usool ilaj of the Nazla-e-har in the swine flu is supporting to neutralize the affect of this virus.

Nowadays we accept that it is a viral disease but keep in mind that perfect and better cure of this disease will be possible when we consider maintaining the normal blood cells and boosting up the defensive mechanism of blood along with the other therapeutic concepts.

Formulation of Islamic tib can be effective:

Qunce fruit (Behi Dana) 6 gm, Jajuba (Unnab) 5 pieces Sabestan (Sapistan) 9 pieces, orris (irsa) 6 gm, Black pepper (Filfil siyah) 5 pieces Liquorices (Asalussoos) 6 gm with 300 ml water boiled for 10 minute at low fire when decoction will be prepared and add 3 tea spoon honey and then sip a full cup twice a day once at early morning with empty stomach and again at 5:00 PM.

Some Unani(Islamic tib) compound can also be used which are available in market.

- Infuza
- Khameera Khash Khash.
- Looq-e-Nazli Aab-e-Tarbooz wala.
- Khameera Marvareed.
- Laooq Sapistan Khayar Shambri
- Tiryaq-e-Nazla.
- Habb-e-suaal.

Conclusion:

The points which is described above for control and cure of this disease are clearly described in Islamic/Unani Medicine, On this aspect a presentation will be given by me in front of highly learning teaching staff of Unani faculty, AMU, Aligarh and we discussed on this challenging disease with the reference of Islamic/Unani and modern concept of Swine flu after that it is decided to given an effective formulation in near future to control the epidemic nature of disease. Finally, it will be better if the governments of the global community educate their people regarding the said concepts to realize the dream of healthier society.

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Western Medieval Period and Disease Concept: An Educational Experience in Ankara University Faculty of Medicine

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Summary

This paper introduces a selective course which was conducted at Ankara University, Faculty of Medicine to second year medical students during spring semester 2010-2011. 198 medical students were registered to the course. Course duration was 16 weeks and it was one hour per week. Training method included lectures as well as interactive methods such as group studies, group presentations and discussions among the students which enriched the learning the environment in the class. The assessment and evaluation methodology of the course consisted of one midterm and one final examination. Feed- back regarding the content and methodology of the course and satisfaction level of the students was obtained. This paper has been devoted to reflect the main features of this educational experience with a class of medical students in Ankara University Faculty of Medicine as a unique and also a very limited educational experience on Western Medieval period and disease concept.

Key words: Medieval history; medical humanities; medical education; disease concept in history; western medievalism; Turkey

Introduction:

Various examples of didactic tools for medical education have been developed throughout ages. Regardless of the diversity of these tools they are mainly based on the master-apprenticeship approach. This approach has significant importance in medical learning styles. It depends on the seniors telling their occupational experience to the beginners to transfer their knowledge and skill. Thus it is accepted as one of the best ways to prepare the newcomers to practice. (1)

Today history of medicine takes place in curriculas' of medical student education programs in most medical faculties throughout the world.(1,2) Turkey is no exception to this. There are 64 medical faculties in Turkey and all of them have history of medicine in their core curricula.(3) However these courses focus on general history of medicine with no particular focus on western medieval period.

Proposing a course in Medical Faculty of Ankara University on western medieval period; Western Medieval Period and Disease Concept

The department of Medical History and Ethics has been established in Ankara University Medical Faculty in 1946, one year after the foundation of the faculty. Courses on History of Medicine are being toughed to medical students and doctoral students in the department. The idea of teaching a course on Western Medieval Period and Disease Concept emerged from the dissertation thesis of the instructor which was approved in 1993. In the meantime the instructor published a book in Turkish, in 1997 on medieval period medicine and disease concept of the period.(4) This was the first course given to medical students in Turkey on this particular topic.

Content and Scope of the Course:

The course was planned for the second year medical students. It was an obligatory course for medical students in the second year. The course was performed in the lecture hall of the medical faculty. 198 second year medical students took the course. The syllabus of the course was prepared by the instructor with special attention to training backgrounds of the students. The students had hardly any courses on history of medicine or history of medieval Europe in their training background unless they had special personal interest in this area. This fact played a crucial role in planning the syllabus. A warm up sec-

tion to familiarize the students with the general paradigm of medieval Europe and the concepts related to health, disease and medicine had great importance to ensure the efficiency of the course as a whole.

The syllabus had 6 main sections. The first section consisted of introduction and general information on medical thought, culture and concept of disease in medieval period in Europe. Furthermore, a special emphasis was made on historic western medieval period as an entity. The second section was on the concepts of 'effect' and 'migration effect' in human mind in general and in medical thought particularly. Special attention was on 'ontology' and 'effect' as a phenomenal statement as well as rational, irrational and magical thoughts and common sense.

The third section mainly consisted of teaching the factors from which intellectual structure of western medieval period originated from. Cultural heritage of antiquity, Judaic elements and and the fall of Rome were the particular subtitles in this section.

The main characteristics of intellectual structure of western medieval period were addressed in the fourth section in two main parts; Patristic Philosophy and Scholastic Philosophy consecutively. In the fifth section, outstanding concepts, terms and theories of the Western Medical thought in Medieval Period were handled. Special attention was given to the decadence and collapse of Galenic paradigm and the evolution of concepts of disease in medieval period.

Reflections of medical thought of Western medieval period to modern thought in the context of terminology and institutional structures were addressed in the final section of the course.

Table 1: Syllabus of the course: Western Medieval Period and Disease Concept

1. INTRODUCTION AND GENERAL INFORMATION	• Medical Thought and Culture of Medicine, Medical Occupation and Disease, • Knowledge and Formation of Human Knowledge, Disease Concept, • Historical Entity and Western Medieval Period as an Entity, Entity of Western Medieval Period
2. "EFFECT" AND "MIGRATION OF EFFECT" CONCEPTS IN HUMAN MIND IN GENERAL AND IN MEDICAL THOUGHT PARTICULARLY	• "Ontology" and "effect" ; A Phenomenal Statement • "Migration of Effect" Concept Rational Thought • Irrational Thought • Commonsense and magical thought
3. FACTORS ORIGINATING INTELLECTUAL STRUCTURE OF WESTERN MEDIEVAL PERIOD	• Cultural Heritage of Antiquity • Judaic Elements • Migration Period and the Fall of Rome
4. MAIN CHARACTERISTICS OF INTELLECTUAL STRUCTURE OF WESTERN MEDIEVAL PERIOD	• Patristic Philosophy • Scholastic Philosophy
5. WESTERN MEDICAL THOUGHT IN MEDIEVAL PERIOD: CONCEPTS, TERMS, THEORIES	• Heritage of Ancient Times to Middle Ages • Decadence and Collapse of Galenic Paradigm • Medical Thought of the Western Medieval Period and the Evolution of Concepts of Disease
6. REFLECTIONS OF MEDICAL THOUGHT OF WESTERN MEDIEVAL PERIOD TO MODERN THOUGHT	• Extensions in Terminology • Institutional Extensions

Training Methodology and Evaluation-Assessment Process:

The training methodology of the course consisted of lectures, group presentations, group studies and discussions. Lectures were given by the instructor to present the general outline of the particular period of western medicine. The main aim of the lectures was to familiarize the students with the paradigm of European thought and culture in the medieval period of within in the context of outstanding concepts for medical literature such as disease, health and science. Apart from the lectures students were strongly encouraged to participate in the learning procedure through group works. The group works consisted of discussions and presentations. Students were also asked to prepare a set of questions regarding their presentation and discussion topics. These questions were gathered to form a question bank which was used for the evaluation and assessment procedure of the course.

The assessment and evaluation of the course consisted of one midterm and one final examination. Midterm exam was in April 2011 and final exam was at the end of spring term in June 2011. The students were asked to prepare a set of questions on the topic they were performing group presentations or group discussions. Thus a question bank of 150 true and false questions was comprised throughout the course. 25 questions for midterm exam and 50 questions for final exam were selected randomly out of this question bank.

Evaluation of the Course:

Methods:

The evaluation of the course is pursued to determine the satisfaction of the students regarding the content of the course, training materials, methodology, interaction between instructor and the students, instructor's attitude and challenges.

The survey questionnaire form using Triple Likert Scale was developed to get feedback from the students. Participants of the survey were 198 students who took the course in spring semester of 2011. The results of the survey were evaluated with SPSS statistical program.

The students received a self administered questionnaire which contained questions about the content of the course, training materials, methodology, interaction between instructor and the students, instructor's attitude and challenges. The questionnaire consisted of 7 questions with statements in triple Likert Scale. The scale included three statements; full agreement, no agreement and having no idea. The results were considered statistically significant according to t-test data ($p= 0.000 < 0.05$). There was a blank space dedicated to comments of the participants at the end of the survey.

Results:

The participants of the survey had a full agreement on the appropriateness of the time allocated to the course (n=198). All the participants stated that the training materials were enough and useful (n=198). Apart from one, all participants agreed that the course has increased their knowledge about the medieval medicine (n=197). However there was a full consensus on the difficulty of the topic to learn (n=198). The participants agreed on the positivity of the interaction between the trainer and students in the classroom. The atmosphere in the classroom and the trainer's approach to the students were evaluated as "relaxed and friendly" by all participants. The comments of the participants referred mainly to the need for a better timing of the exams and the crowdedness of the class.

Table 2: Phrases from comments of the participants of the class

"The most enjoyable course that we took, just exam times should be set better" (student number 7)
"Courses must be conduct together with fewer students" (student number 8)
"The number of students was too much for this course; and we took some trouble because of very crowded" (student number 20)

Discussion:

History of medicine is among the core classes each medical faculty student has to take in Turkey.(5,6) Most of these classes focus on significant interventions, practices, schools and institutions which appeared in the history and had a particular impact on the improvement in medicine.(7) However there are no particular courses devoted to western medieval period medicine in medical faculties in Turkey.

The social and intellectual aspects of the history of medicine in medieval Europe comprise the preparatory factors of Renaissance.(8) Thus understanding the philosophical and cultural paradigms of Europe in medieval period is a crucial step to comprehend the idea behind the rise of scientific thought and improvements in medicine in eighteenth and nineteenth centuries.

This particular course on Western Medieval Period and disease concept aimed to familiarize the undergraduate medical students with the history of medicine in medieval period. The interventions, practices and institutions of the time are determined by the medical paradigms and conceptional paradigm of the period. This fact is considered during the construction of the course curricula. Therefore the first step of the course was to introduce the emerge of historic entity of Western mediaeval period on the grounds of cultural heritage of antiquity. The courses on medieval medicine given in many well-known medical faculties have a similar introductive pattern which is to emphasize on the era's idea structure with its main factors and its basic features.

In this regards, the Judaic elements and fall of Rome which had significant effects in the formation of the philosophical paradigm in Europe during medieval period were addressed as corner stones. The effects of Greek antiquity and the world of Islam and how they were received by the Christendom of the mediaeval period to form the medical thought special to this period were discussed in the course. The rational, irrational and magic patterns of thought, analytic and synthetic arguments are covered as important concepts to comprehend the rationality of magical thought.(9)

This background knowledge served as a conceptual basis which facilitated to teach disease concept and medical practice of the time. The theories on etiology and pathogenesis of diseases, and their connection with the obscurantism and dominancy of Christendom are emphasized.(10) Diagnostic approaches such as pulse and urine examinations which reflect the medical thought paradigm are addressed in the context of the course.(11) The rise of institutionalization in medical education with shift from learned folkloric medicine to medical education in universities is considered to be a crucial step with significant consequences which changed the main aim of medical education from telling doctors what they should do to explain what a well-trained doctor should think and know. (12) During the course, this issue is tackled within the context of intellectual structure of the period in the frame of patristic and scholastic philosophy. The contributions of medieval medicine to general medicine as well as medical interventions were addressed as positive aspects of this period with a negative image in general.(13)

The results of the survey reveal that this course was well received by the medical students. This educational experience suggests an innovative approach to history of medicine curricula of undergraduate medical faculty students in Turkey with the suggestion of giving more significance to medieval medicine of Europe to develop a holistic comprehension of history of medicine as a whole(14).

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A Temperamental Approach in Promotion of Health

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Summary

The Unani system of medicine is a comprehensive medical system, which meticulously deals with the states of health and disease. Its holistic approach considers individual in relation to his environment and stresses on health of body, mind and soul. Temperament of a person is given great importance for identifying the most suitable diet and lifestyle for promoting the health of a particular individual. On the basis of Mizaj human beings have been categorized into four qualitative types: *Damvi (sanguinous)*, *Safravi* (*bilious), Balghami (phlegmatic), Saudavi (melancholic)*. They were supposed to result from predominant humor in the body. Any change in the temperament of person brings about change in person's state of health. There are some factors like age, place, season, diet and occupation, which are responsible for influencing the temperament of an individual and predispose them to a particular group of diseases similar to the temperament of that individual. Thus, the person of specific temperament becomes prone to a particular group of diseases in different phases of their life and under different climatic conditions. In Unani medicine, different guidelines for different temperaments have been mentioned for promotion and preservation of health. Thus, in this paper authors have highlighted the importance of temperamental approach for the promotion of health and prevention of diseases.

Key Words: Mizaj; Temperament; Unani medicine; Health promotion

Introduction:

The unique holistic approach of Unani medicine is its fundamental principles. Among these principles, most important is temperament. The meaning of the word temperament according to Taber's dictionary is "The combination of intellectual, emotional, ethical and physical characteristics of a specific individual".[1] While in Unani concept, Mizaj is the quality produced by the action and reaction of opposite qualities of building components. When these components interact by virtue of their respective qualities, a condition is achieved which is found in equal proportion in all the components of the compound this is called mizaj. Thus Mizaj can be described as the resultant quality that comes out of interaction amongst the constituents of a compound. Literal meaning of mizaj is intermixing.[2, 3] Temperament of a person is given great importance for identifying the most suitable diet and lifestyle for promoting the health of a particular individual. According to Hippocrates, it is more important to know what sort of a person has a disease rather than to know what sort of a disease person has. On the basis of Mizaj human beings have been categorized into four qualitative types: *sanguinous (Damvi)*, *bilious (Safravi), phlegmatic (Balghami), melancholic (Saudawi)*. They were supposed to result from predominant humor in the body.[4] Temperament of the body is specific for each individual fluctuating between certain minimum and maximum limits. Any change in the temperament of person brings about change in person's state of health.[5, 6] Therefore maintenance of balanced temperament under the varying conditions of life is necessary for the preservation of health and avoidance of disease in an individual. There are some factors like age, place, season, diet and occupation having their specific temperament, responsible for influencing the temperament of an individual and predispose them to a particular group of diseases. Thus, the people of specific temperament become prone to a particular group of diseases in different phases of their life and under different climatic conditions.[5, 6] If a person of *safravi* Mizaj adopts *har-yabis* tadabeer, then he becomes prone to develop diseases similar to the temperament of that individual like acute fevers, heat-stroke, dehydration, hypertension, insomnia, indigestion etc. Similarly, a person of *balghami* mizaj gets barid tadabeer; he will be more susceptible to develop diseases like hummae balghami, obesity, nervine diseases, female infertility, asthma[5, 7] etc. So, it is necessary to be acquainted with those factors responsible for change in

temperament of human beings and regimens to minimize the impact of these factors on the temperament.

Damvi Mizaj (Sanguine Temperament):

Identification: Persons of this temperament are characterized by well formed and prominent joints, oval face, more muscular tissues than fat; hairs of head are thick and luxuriant. They are pleasantly warm to touch. Veins are mildly prominent and pulse is full and strong. They have good appetite, balanced and sound sleep, and good faculty of judgment. They get trouble with hot things and feel comfort with cold and dry things and in cold weather. Their digestive power is wonderfully good and appetite keen. An optimistic positive mental outlook, they are persuasive extrovert, have good social skills. They have romantic nature, like to travel, play games and distractions, confident, poised, graceful and enthusiastic.[8]

Signs of the Dominancy of Blood (Ghalbae dam): The signs of dominancy of blood are very similar to those of quantitative plethora. There is feeling of heaviness of body, especially behind eyes and over the head and temples, Sweet taste in the mouth even without cause. Stretching and yawning are frequent. Excessive tendency to drowsiness and sleep perception is poor and mind dull. Fatigue is felt even without exertion. Tongue is usually red. Boils in the body and ulcers of tongue are common. There is bleeding from the gums, nostrils, and anus because the blood vessels of these parts are easily ruptured. The characteristic dreams of this type of humoral predominance are seeing of red things, flowing of blood and being immersed in blood.

The dominancy of blood predisposes them to diseases like Hummyat matbaqa, inflammations, Chronic diarrhea, Bloody diarrhea, Epistaxis, Haemoptysis, Diphtheria, Epilepsy, Gout, Headache, Tonsillitis, Sarsame damvi, Sudae damvi, Zaghtud dam qawi, Conjunctivitis etc.[8, 9]

Regimens: In order to remain healthy, they should adopt the following lifestyle factors:

- Avoid staying for long in hot and moist air. They can tolerate cold easily.
- Winter is the best season for damvi mizaj persons.
- They should preferably drink cold water and avoid excessive sugar, rich fatty foods and meat consumption.
- They should use *barid-yabis* foods.
- These persons should avoid foods which produce undue agitation and disturbances of humour.
- Exercise should be so gentle that there is no over production of heat in the body.
- Eliminative measures such as venesection and purgation should be carried out early in spring.
- They should gargle with decoction of Mastagi, Habbul aas, and Aaqirqarha for the evacuation of morbid matter present in the brain.
- Damvi mizaj persons are more susceptible to infectious diseases. So, they should use such drugs which have dafe taffun action.
- Excessive excitement, worry, anger or emotional excesses should be avoided.[10]

Safravi Mizaj (Choleric Temperament):

Identification: This temperament is marked by a medium stature, sharp angular features, medium/lean built, yellowish complexion, brilliant penetrating eyes, prominent veins and hairy body. Hairs are black, abundant, thick and curly. Pulse is rapid and strong. They feel comfort with cold things and get trouble with hot things. Most suitable season for them is winter. They have good digestion, sharp and quick appetite and sleep is light. They are energetic, bold, daring, and have brilliant intellect but they are impatient, irritable, and short tempered. Often they turned into fearless and rebellious leaders. They have strong inclination to indulge in sexual pleasure. They are indefatigable in their enterprises and most persistent, zealous, passionate and revengeful.[8, 10]

Signs of the Dominancy of Bile (Ghalbae Safra):- Yellow colour of eyes and complexion, bitter taste in mouth, rough and dry tongue, excessive thirst, rapid pulse, lack of appetite, nausea with bilious vomiting of green or yellow colour, irritative diarrohea, frequent attacks of tingling in the skin, feeling of burning and irritation as from hot bath or exposure to sun are signs of predominancy of bile. Characteristics dreams of bile are seeing fire and flags of yellow colour. Dominancy of safra predisposes them to diseases like Hummae ghib, T.B., Sudae safravi, Urticaria, Hyperacidity, Erysipelas, Headache, Eyestrain, Hypertension, Stress, and Cardiovascular disorders.[4, 8, 9]

Regimens:

- Exposure to sun or hot climate should be avoided.
- They should live in a cool, fresh and properly ventilated environment.
- Winter season is beneficial for these persons, while they get trouble in summer, because bile increases in this season. So, Mukhrije and Mushile safra drugs should be used by these persons in summer like sikanjabeen, tamarhindi, Aalubukhara, Gule neelofar, Gule banafsha etc.
- They should use barley water during summer season.
- Massage with Roghan banafsha should be done in these persons.
- Persons of safravi mizaj should avoid hammam.
- They should take meals three times a day.
- They should avoid salty, fatty and fried foods and Ratab foods should be used by these persons like Cucumber, Water melon etc
- They should avoid excessive movement and strenuous exercise, time of exercise should be early in the morning or late in the evening.
- A good night sleep is essential for such type of temperament.
- Extreme emotions of anger, irritability, excessive talkativeness, and suppression of anger are emotional extremes for this kind of temperament.
- Bile should be eliminated with emesis, purgation or both according to individual disposition. For purgation, banafsha, tamarind, halela zard should be given.[10, 11]

Balghami Mizaj (Phlegmatic Temperament):

Identification: Individuals of this temperament are flaccid, obese with soft and flabby muscles, White complexion, thin and soft hairs. Blood vessels are not prominent and pulse is slow and infrequent. Their movements and activities are sluggish. They feel comfort with hot things and in hot weather. They have round face with full cheeks, large moist eyes, have medium to large frame, more fatty tissue than muscular tissue and bones are well covered. They are calm, have sentimental subjective thinking, emotional, sensitive, tends to be religious, their mind is foggy, and slow. They are sexually frigid and do not get angry easily. Their digestive organs are weak and slow, hence they have less appetite and poor thirst. They are lethargic, dull and take excess sleep. Their memory is poor and power of perception is slow and feeble.[9, 12]

Signs of the Dominancy of Phlegm (Ghalbae Balgham): flabbiness of body, cold and moist skin, excessive salivation and viscid saliva, excessive sleepiness, mental dullness, soft and slow pulse, weak digestion, pale urine and dreams about water, ice, rain denotes excess of phlegm. Dominancy of phlegm predisposes them to diseases like Common cold, Ascites, Oedema, Hummae balghami, Pneumonia, Asthma, Paralysis, Obesity, Sarsame balghami etc.[5, 13]

Regimens:

- Cold air negatively affects them hence air conditioners and cold and wet environment should be avoided.
- They should use hot and dry foods and avoid cold foods.
- Lack of exercise and unnecessary rest during day time especially one hour before sunset should be avoided. They should indulge in strenuous exercise for longer duration. Aerobics is beneficial for them.
- They should get up early in the morning and avoid sleep after sunrise.
- Fear, shyness, depression are the emotional excesses for this temperament which should be managed accordingly.
- Sweating is beneficial, it should never be suppressed and laxatives are also beneficial.[2,3,8,14]

Saudavi Mizaj (Melancholic temperament):

Identification: These persons are characterized by lean and thin built, prominent bones, small beady eyes with sunken hollow cheeks and coarse and rough skin. They have dark complexion and profuse body hairs. Hairs are black and thin and have slow growth. Their digestion is weak, appetite irregular, sleep interrupted and often suffers from insomnia. Their touch is dry, leathery and cool. They have sluggish inclination towards sexual activity. They are analytical, detail oriented; retentive faculty of mind is well developed.[2, 3,8,15]

Signs of the dominancy of Sauda (Ghalbae sauda): Dry and dark skin, anxiety, burning in epigastrium, fal-

se appetite, thick and turbid urine, dreams are usully full of anxiety and are often of dark places and fearful objects. Excess of sauda predisposes them to diseases like Leprosy, Hummae ruba, Splenomegaly, Constipation, Anorexia, Arthritis, Neuromuscular and Psychiatric disorders.[4, 10, 11]

Regimens:

- Ibne Rushd has advocated Dalak layyan, mild exercise, long sleep, and har-ratab foods for these persons.
- They should avoid staying in cold and dry environmental conditions for long. They need to be protected in dry weather conditions. Seashore and coastal areas are beneficial for their health.
- Melancholic should avoid old, dry and stale food, excessive beans, nuts, astringent foods, peanuts, tomatoes, brinjal and rancid fats are harmful for them even in small quantities.
- Tea, coffee and artificially flavored drinks should be avoided.
- Har-Ratab foods should be given to these persons like anjeer, maveez, Chana, lobiya, apple, anar shirin, turnip, ginger etc.
- Moderate and light exercise for short durations is best suited for such temperaments; especially walk for 15 minutes after dinner.
- They should go to bed early for 6–8 hours night sleep. They are more prone to insomnia.
- Feeling of loneliness, depression and grief can have much more negative influence especially if prolonged or excessive.
- They should drink at least 2-3 litres of water daily.
- Bodily wastes like urine and stool should never be suppressed.
- Sauda should be evacuated from the body. For this purpose haleelajat and bisfaij should be used.[8,9,10,11]

Conclusion:

People of one type of temperament are prone to a particular group of diseases in different phases of their life and under different climatic conditions due to dominance of particular humor in particular temperament. This susceptibility can be checked by adopting the temperament specific regimens given by Unani physicians. Hence, temperament based preventive approach of Unani medicine can offer a better way for promotion and preservation of health with least cost.

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What is the Arabic Medicine? Critical Study of the Views of Some Writers

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Summary

Introduction: We talk about Arabic science or Arabic civilization. This civilization has evolved after the emergence of the Islamic call in the Arabian Peninsula in the middle of the seventh century, which the early advocates contributed to the establishment of a vast empire stretching from China in the east to Andalusia in the west.

Definition of Arabic medicine: The Arabian scholars and writers, and the foreigners have differed in the naming and definition of Arabic medicine, some of them called it the Arabic medicine, and others called it the Arabic-Islamic medicine or Arabic Islamic medicine, or Arabic and Islamic medicine, And some of them called it the Islamic medicine.

Authoring in other than Arabic: Arabic remained the language of science and the language of writing until the eleventh century AD, we did not find any of the scientific references in Islamic countries, wrote in their own local languages, but after this date, some authors began using the local languages, especially Persian.

Conclusion: The affecting factors on the emergence and development of Arabian civilization have contributed in building distinctive characteristics of Arab medicine by allowing people interact with each other including what they were carrying from different cultures and faiths, and through securing the incubator environment for this interaction. Therefore, the Arabian medicine has a distinctive methods; and distinctive pigment, regardless of the Nationality of the author or his religion.

Key Words: Arabic medicine, Arabic science, Islamic medicine, Greek medicine, civilization, Syria, Egypt, Persia, Andalusia, Greek.

Introduction:

When we talk about the Arabic science or Arabic medicine, this mean we talk about the Arab civilization. This civilization has evolved after the emergence of the Islamic call in the Arabian Peninsula in the middle of the seventh century, which the early advocates contributed to the establishment of a vast empire stretching from China in the east to Andalusia in the west.

This empire has passed in a three major eras:

- The first era: Is the time of the Prophet and Caliphs: the era of the establishment and consolidation of the call and start publishing it.
- The second is the Umayyad era: the era of the establishment of the empire and the consolidation of its corners.
- Third: the Abbasid era: the era in which the Arabian scientific renaissance is occurred, or we can say: the scientific revolution of the Arab.

The scientific renaissance centered mainly in two places:

- The first is the natural Syria[1] and Persia, and Egypt.
- The second is the Maghreb region, Spain in particularly (Andalusia).

This with an exchange of scientific and intellectual interaction between these two centers, the Arab civilization has characterized by comprehensive, Arab renaissance has included all aspects of life: political, economic, intellectual, cultural[2], and the sciences: medicine, astronomy, chemistry and philosophy ....Etc...

Scholars, researchers and intellectuals from different cults and different nationalities have contributed to the establishment the columns of this renaissance. There was the Christian, Muslim, Zoroastrian, Magi and the Jewish. And there was the Syrian, Egyptian and Persian, Moroccan and Berber.

This civilization was tolerant, and the charges of it were tolerant, this was of the most important qualities

that precipitated the Advancement of Arab civilization and access to this peak.

After this simple introduction, we come to the fundamental and problematic question at the same time: What do we call this civilization? Arab civilization or Islamic civilization, and therefore the science and the medicine were originated: Arab or Islamic science, and Arab or Islamic medicine.

This question has received a lot of controversy and debate, and many of researchers have gave their opinion, Some of them said that medicine is Arabian, And some of them said that medicine is Islamatic, But, if we take the form only, It is easy to response to them: it is not an Arabia medicine because the Persians, Syriac and Turks have contributed it. Ana it is not an Islamic medical because the Christians, Zoroastrians, Magi and Jews have contributed it.

Therefore, a number of researchers suggested calling it the Islamic-Arabic medicine and others proposed should be called the Arabic and the Islamic medicine. But, if we take the forms, the reply to these two calls is very easy.

Definition of Arabic medicine:

The Arabian scholars and writers, and the foreigners have differed in the naming and definition of Arabic medicine, some of them called it the Arabic medicine, and others called it the Arabic-Islamic medicine or Arabic Islamic medicine, or Arabic and Islamic medicine, And some of them called it the Islamic medicine. They differed about identifying and defining it as well:

1. The Arabic medicine in the eyes of Western thinkers (types):
   - **Joseph Schacht:** He defined the Arabic medicine and science as follows: (If we have just the right to talk about art and architecture Islamists, we are talking about Arabia medicine and science, given the important contribution made by non-Muslims in those fields. and because Arabic is the element that connects between their works and the work of their Muslim contemporaries, also Arabic language is the language of the Islamic civilization, which is superior to literature written in other languages of Muslim peoples, Those languages that have remained, in spite of their beauty and importance, only with a local impact in the Islamic world)[3].
   - **Manfred Ullmann:** defines Islamic medicine as a (medical system introduced to the Arab countries in the ninth century AD, and practiced during the Middle Ages until modern times. This medical system has been known on a large scale as "Arabic medicine", but many doctors, including some famous, such as Al-Razi "Rhazes", The Magi "Haly Abbas" and Ibn Sina «Avicenna» were Persians not Arabs. There is no doubt that they wrote most of their scientific writings in Arabic mainly. On the other hand there were Christian doctors such as Hunayn ibn Is'haq, or Jews like Maimonides, but their religious affiliation or their origin in this place was not a problem. All these scientists have lived in the vicinity of the Islamic culture, and they have helped in building this culture and give it its distinctive character. And so, when we talk about «Islamic Medicine» we think of Islam as a cultural power and look at it as a civilization contained different streams, and then, united and developed them)[4].

     But, he gives the Arabic language a little of importance, he says: (Islamic Medicine that has not grown on the land of the Arabs, and in fact it is only the late ancient Greek medicine, has been formulated in a templates in Arabic language along the southern and eastern shores of the Mediterranean Sea)[5].
   - **Edward Brown:** defines the Arabic medicine and science as follow: (Arabic Sciences or Arabic medicine is a sciences or medicine which wrote in Arabic, but for the most part was of Greek origin influenced by the Indian, Persian and Syriac sources, and a very small part can be considered from the results of the Arab Thought)[6]. But the significance of this medicine is in the two important things[7]:
     1. It was the sole supplier of Medical Sciences for Europe during the middle Ages.
     2. It provides extensive information on the history of medicine through the Arabian biographies as fihrist of Ibn al-Nadim, Tarikh Al Hukamaa of al-Qifti, Uyün al-Anbaa of Ibn Abi Usaibia, and Kashf al-zonon (revealed misgivings) of Haji Khalifa. These books have provided an important information for the historians of medicine and science, such as: Win-

rich, Wuestenfeld, Max Neuburgher, Leclerc, Brockelmann and others.

Although, the author called his book the Arabic medicine, but he reduces the importance of the Arabic language, he says: (I do not object to the label: the Arabian science or the Arabic medicine as long as we acknowledge the fact that just means that science and medicine written in Arabic ..... Moreover, the biggest part of the Arabic scientific heritage was produced by the Persians and Chaldeans, Jews, and to some extent was by the Greeks and the very small number of them was Arabs in origin)[8]. In spite of his acknowledge that many of the Persians, Assyrians, Jews, Christians, Zoroastrians and Sabians have contributed to the construction of Arab civilization, but the author does not find anything wrong to call it (Islamic civilization)[9].

And then, at the beginning of the third lecture, he contradict himself because he says: (The label «Arab medicine» can be valid if we take into account the language used and the care it enjoyed, but I prefer to called the Islamic medicine)[10].

- **Donald Campbell:** He says in his book; Arabian medicine and its influence on the middle ages, volume I: (It is necessary to point out that the term Arabian Medicine must be understood as synonymous with Arabic Medicine, as the language of the learned in the Empire of Islam was Arabic, just as Latin was the linguistic medium of the educated in Western Europe. Further, the term Arabian does not necessarily imply an Arab, for the Persians and Nestorians in the East, and he Spaniards and Jews in the West, took the principal part in the development of medicine which was expressed in the Arabic language during the dominancy of the Empire of Islam: the only prominent Arabic writer of pure Arab stock was *al-Kindi,* who was known to the European scholastics as Alkindus. The subject races of Islam adopted Arabic in furtherance of their national aims)[11]

2. Arabian medicine in the eyes of Arab intellectuals (types):

- **Dr. Ahmed Shawkat chatty:** Ahmed Shawkat Al-Shatti defines Arabic medicine as follows: (We intended by Arab medicine, the medical opinions which are contained in books of Arab and Islamic authors, those views inspired by ancient medicine, especially the Greek and decorated by additions from Indian, Persian and Syriac medicine, but, that what characterizes Arab medicine in a special character is compiled the ancient science in a fragrant bouquet of flowers and put it as a precious masterpiece in accessible to the world)[12]. After that, he is linking the study of Islamic and Arabic medicine with Studying Islam, he says: (there are important side in the study of the history of Arab medicine, we must refer to it, the link to Islam and the impossibility of separation of the two studies, it is no secret that the Arab prophet achieved a miracle breakthrough by combining Arab warring tribes in one religion, And he Bloats a new spirit which unified them and prompted them to science, faith, and obedience, sacrifice, dedication, good moral character and pursuit of the ideals)[13].
- **Dr. Mahmoud Al-Hajj Qasim Mohamed:** What is the Arabian medicine and who are the Arabian doctors? Dr. Mahmoud Al-Hajj Qasim Mohamed asked:

(When we say the Arabic medicine «= Islamic medicine» we mean: all medical scientific consensuses which wrote in Arabic, whether it has been written by Arabian doctors who are Muslims or non-Muslims or non-Arabian Muslim doctors. When I say Arabic physicians, I mean: Every one grew up and practiced medicine in the whole Arabic-Islamic Empire, which stretched from China's border eastward to the borders of France in the west. They used Arabic language as an instrument of expression in their medical writings, whether they are Muslims or the owners of religions other than Islam, and whether they are Arabs or of the owners of other non-Arab races)[14].

Then he says: (for the first time in the history, Islam could refractory all the elements of the peoples who entered them into one pot, and make them into homogeneous molds, And Islam created one empire of them. And they unified their scientific researches by using the Arabic language, after he sent it resurgence alive, it became always a headline of the unity of think and the unity of expression of such thinking. so, under the Islam-

ic state became possible for the Arab medicine to acquire a distinctive character as a manifestation of the Arabic Islamic civilization, which made us consider that Arab medicine and Islamic medicine is the same thing)[15].

- **Dr. Mohamed Al-Souissi:** Dr. Mohamed Al-Souissi says: (we mean by the «Arabic science»: the science whose articles have been written in Arabic, and all folks who contributed to its progress, lived in Arabian countries or owed to the authority of the Arabs, Arabs and Persians, Muslims, Christians, Jews and Sabians. Furthermore they shared one fate, and collected a common heritage, and they tasted the Arabic language. And science is not attributable to the gender , but, to the language in which wrote and publicized through it, If you said «Greek Miracle» and cited with its scholars, like Ptolemy «Egypt», Okulidis, Abolonius and Thaon «Alexandrians» and Ferforius «Tyre» and Talas «Malta», did not focus primarily on the language of publications of these scholars and wise men which in it they wrote their knowledge and wisdom? And when we mention the French scientist Marie Curie «Polish origin» and the French writer and philosopher Jean-Jacques Rousseau «Swiss-born», we do not consider the origin or race of those, only we consider the language which they used in expression their scientific researches .....)[16].

Now, before I answer this problematic question. I will talk briefly about the environment in which the Arab civilization has emerged, and the factors affecting in its appearance.

Mr. Fouad Sizgin says: (The emergence of ideas and people can not be a coincidence and without a suitable conditions and environment)[17]. In another place, he says: (The Islamic community, which began composed since the middle of the first century of migration from diverse environments, different cultures, and varying tongues, became, in fact, the contact home between the owners of the many schools and cross-fertilization of ideas after they had been before him separated from each other, and the impact of each absent almost)[18]…. (The community which used the scientific feats, and created a new era of human thought)[19].

The affecting factors on the emergence and development of Arabian civilization are:

1. Islam as an intellectual incubator.
2. The Arabs as advocates of Islam and the Founders of the state and its rulers.
3. Tributaries: Syriac, Greek, Persian and Hindi.
4. Geographic incubator (natural Syria «Levant and Mesopotamia»-Persia- Egypt)[20].
5. The incubator language = Arabic language.

1. Islam: Islam has called the Arabs to request the knowledge, and there are many verses and hadiths that incite the Arabs and the believers to seek knowledge. To the extent that the first word revealed to the Prophet (peace be upon him) is the word (read).

The Prophet (peace be upon him) has tried to expel the Arabs from superstition, witchcraft, and sorcery and asked them to follow scientific matters, and the best example of this is to send one of his friends for treatment at an idolater doctor, because he learns the medical assets in Jundishapur School.

(Franz Rosenthal summarized this view in his book «the continuation of sciences of the ancient Greeks in Islam», where he said: «motivation utilitarian practical or theoretical is not enough , to explain to us the broad phenomenon of the process of translating foreign books, but we must understand the position of the Islamic religion itself from science ..... and this position was the great engine not only for the religious life, but also for human life in all its aspects, and the position of Islam that is the main driver of the pursuit of science, and to open doors to gain access to human knowledge, otherwise, the translation confined in the things that are necessary for practical life alone »)[21].

In this charged atmosphere, Arabs began crossing cheerfully the ends of the earth for science and knowledge.

2. Arabic and Islamic rulers: Although, Arabs hadn't a cultural role before Islam, and did not have any state, only some Mini attempts had occurred in the southern Arabian Peninsula (Yemen), or the attempt by the Mecca in Hijaz, before Islam, but Arabs were distinguished by innate intelligence, Promptitude, and physiognomy.

Brown says in this regard, describing the Arabs (who have intelligence, courage, gallantry and bear hardships and they have the power of observation of nature around them)[22].

In addition to the fact that Arabs were in contact with the rich civilizations around them, (We must never doubt that the first Islamic rulers stood in front of holders of foreign cultures heedless, as Arabs were not at a degree of na-

ivete before Islam, as some people describe them, so they are «Arabs» can not answer about what they face them of new circumstances ..... and we respond to those people who think that such as perception, the point of departure in this case is: Arabs Inherit Arameans, Babylonians - geographically at least - and they were not isolated from their neighbors, the owners of cultures, complete isolation)[23].

These Reasons qualified them to found a distinct civilization when they had the opportunity.

It is good for Arabs that they maintained schools and libraries in the country, which occupied. In addition, they were negotiating with their enemies to allow them to purchase and the acquisition of scientific manuscripts.

This is in addition to the fact that the Arabs and the Islamic religion is placable, Therefore, many of non-Arabs and non-Muslims in Islamic lands had emerged and contributed a good and serious contribution to the emergence of Arab renaissance.

3. The Geographic incubator: The environment allowed the acquaintance and interaction of peoples with each other. It has increased in this mixing is the unity of politics and the availability and maintenance of security, in addition to this environment had been the owner of great civilization in the past, Any natural Syria, Persia and Egypt.

This environment has allowed scientists to mingle and compete and benefit from each other, the caliphs were keen to encourage seminars and debates among those scientists.

Therefore, we find Mr. Fouad Sizgin says: (The emergence of ideas and scientists can not be a coincidence, without a suitable environment and creating the conditions)[24].

4. The tributaries: the Arabic civilization was a flowing river which has been derived from a pre-existing civilizations in the region, most notably the Greek civilization, Syriac, Persian and Hindi.

The Arabs have translated what fell under their hands of the manuscripts into Arabic, to smelting that information in one melting pot and mixing it with new qualities which added from their creations.

5. Arabic language: the Arabic language, rightly and competently, managed to accommodate all those science and expressed in the exact correct expression of them, the Arabic language was characterized by fluency, flexibility and eases, therefore, quickly spread across the Controlled country and became the language of government, religion, science and the language of the people in daily trading.[25]

And it has become the incubator of intellectual and the way of the scientists in which expressed about their sciences and ideas.

Authoring in other than Arabic:

(Arabic remained the language of science and the language of writing until the eleventh century AD, we did not find any of the scientific references in Islamic countries, wrote in their own local languages)[26], but after this date, some authors began using the local languages, especially Persian, (Peronist wrote his book the understanding "التفهيم" «a book in astronomy» in eleventh century AD. and in the twelfth century appeared the book of the ammunition in medicine, who wrote for the king of algorithm, these two books have written in language other than Arabic)[27], the Persian was the fastest to revival their mother tongue and their national heritage. Avicenna was previously had written many books (all of which were in Arabic, only one author in the science of philosophy and logic, was written in Persian as «Danesh Nameh Alaei» and also a small message in the pulse)[28]. And has also appeared (Ferdowsi's book "Shah Nameh" in the beginning of the eleven century AD)[29], (and the book of Jhar Makalah "= four articles" for the poet of king in Samarkand Nizami Aroodi, it has been appeared in the year 1155 AD)[30].

(The ammunition in medicine or ammunition algorithm shah had been written by Mr. Ismail Jarjaani about the year 1135 AD in the Persian language for the King of algorithm)[31].

In these terms and in such circumstances, Arabian Science has been arisen and flourished, particularly in Arabic medicine, and took its form and distinctive character. That distinguish it from others even from its tributaries, whether Greek or Syriac, Persian, Hindi, The Arabian medicine collected them in a new tincture and new opinions and creativities, and with a new way and a new approach, and a new mechanism of action and new methods of treatment and diagnosis ..... Etc.

Those factors have contributed in building distinctive characteristics of Arab medicine by allowing people interact with each other including what they were carrying from different cultures and faiths, and through securing the incubator environment for this interaction.

Therefore, the Arabian medicine has a distinctive methods; and distinctive pigment, regardless of the Nationality of the author or his religion. Even the medicine which had written in another language or translated into another language, at that time, we consider it a part of Arabian medicine, as long as it was using the same approach and mechanisms of action itself.

As for the language, it is very essential for the thinking, innovation and creativity, and for the codification of this creativity. And it colors this creativity with its tincture. But when language carries creativity of another people and the characteristics of its culture, then language becomes secondary. A good example of this:

1. Arabic medicine which has been translated into Latin and other European languages. This medicine has remained an Arab medical approach, until Europeans Had added from their creativity and innovation on it, and they point it with their distinctive pigment.
2. Medicine, which wrote in Persian in the centuries: Eleventh Twelfth, Thirteen, fourteenth and around the fifteenth, was an Arabian medicine, because it conducted as long as the same approach and used the same mechanisms of action and the same compositions, treatments and medical stories ..... etc. So that we can call it a translation of the Arabian Medicine. A good example of that book, which wrote in Persian language in the twelfth century AD, It is a book ammunition Khorezm Shah authored by Ismail Jarjani and a book the four articles authored by Nizami Arodi, which wrote in 1155 AD. And especially the fourth article, which belong to the doctors.

Conclusion:

The affecting factors on the emergence and development of Arabian civilization are:

1. Islam as an intellectual incubator.
2. The Arabs as advocates of Islam and the Founders of the state and its rulers.
3. Tributaries: Syriac, Greek, Persian and Hindi.
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Therefore, the label has become a non-core, we can call it Arabic medicine or Islamic medicine or Arabic- Islamic medicine, as long as he maintains the same system and the same approach.

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9. http://www.ishim.net.
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ENDNOTES

1- I mean natural Syria: the Levant and Mesopotamia.
2- With the exception of the arts, such as painting, sculpture, acting, because of the rejection of the Islamic religion and have considered it a kind of diagnosis.
3- Heritage of Islam, the first part. Submitted by Joseph Schacht, m 3, classification of Joseph Schacht and Clifford Bosworth. Trans-

lated by Dr.. Mohammed Zuhair al-Wad Samhouri. Dr. Hussein sociable. Ihsan Sidqi mayors, a series of world knowledge, Issue 233, May 1998. Page 24-25.

4- **Ullmann**, Manfred, 1981 - **Islamic Medicine**. Translation of Yusuf al-Kilani, Kuwait. Page: 21-22.

5- Ibid, pp. 22-23.

6- **Brown**, Edward, 1964 **- Arabic Medicine**, translated by David Salman Ali, Ani Press, Baghdad. Page: 9-10.

7- Ibid, p. 10.

8- Ibid, p. 13.

9- Ibid, p. 13.

10- Ibid, p. 65.

11- **CAMPBELL,** DONALD, 1926 - **Arabian medicine and its influence on the middle ages, volume I.** Reprinted from the edition of 1926, London. Pages: xi

12- **Shatti,** Ahmed Shawkat, **The history of medicine and its Burgees and ethics,** the Directorate of books and university publications, Aleppo University, 1990, page 188.

13- Ibid, pp. 188-189.

14- Summary added the Arabs in medicine and science related to it. Dr. Mahmoud al-Hajj Muhammad Qasim, guidance Press, Baghdad, 1974, p. 14.

15- Ibid, p. 14.

16- Al-Souissi, Mohamed, (1985)-the views of some orientalists on the History of Arabic Science, reply to, Orientalists in the curricula of Arab and Islamic Studies, Part II, the Arab Organization for Education, Culture and Science, p. 30.

17- Lectures in the history of Islamic and Arabic Sciences. Fouad Sizgin, Publications of Institute of History of Islamic and Arabic Sciences, University of Frankfurt, Germany, 1984, p. 174.

18- Ibid, p. 22.

19- Ibid, p. 23.

20- Or what is called in the language of these days: the Middle East.

21- Lectures in the history of Islamic and Arabic Sciences. op.cit, p.: 24-23.

22- Arabic Medicine, op.cit, p. 16.

23- Lectures in the history of Islamic and Arabic Sciences. op.cit, p.: 23.

24- Lectures in the history of Islamic and Arabic Sciences. op.cit, p.: 174.

25- Edward Brown says, describing the Arabs and their language: (their language is rich in its meanings and its power and is still the pride to this day).

26- Arabic medicine, op.cit, p.13.

27- Ibid, p. 13.

28- Ibid, pp. 60-61.

29- Ibid, p. 79.

30- Ibid, p. 79.

31- Ibid, p. 80.

History of Contraception Through the Ages

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Summary

The practice of contraception is as old as humanity itself. Since ancient times men and women have experimented contraception with various methods to control their fertility. Previously, contraceptives preparations were used mostly locally in the form of pessaries, suppositories, liniments and anointments. But the advancement in the field of medicine lead to the invention of many effective contraceptive devices such as pills, condoms, IUDs and many others. Present paper highlights evolution of contraception through ages and contraceptive drugs mentioned in Unani treatises.

Key Words: Contraception; Unani medicine; History

Research shows that throughout history, men and women have experimented with various methods to control their fertility. Scattered references to fertility regulation exist in many historical records[1]. Evidence of early contraceptive techniques can be found in ancient works from a number of different cultures and societies, including the Egyptians, Greeks, Romans, Chinese and Indians[2].

Oldest reference for contraception was discovered on ancient Egyptian papyrus named *Kahun Papyrus* which was written in 1850B.C. it describes a pessary of crocodile dung and fermented dough. The Kahun Papyrus also refers to vaginal plugs of honey, gum and ground acacia.[3] In 1350-1200 BC, ancient illustrations of condom was found in Egypt.[4]

Hippocrates (460-377 BC) in his treatise "*On the Nature of Women*" described 'coitus interruptus' and using fingers to wipe out the vagina for contraception.[1] He had also mentioned the use of Queens Annes lace or Wild Carrot as an oral contraceptive.[3]

The Greek philosopher, *Aristotle* (384-322 BC) in his book "*Historia Animalium"* was the first to mention contraception. He mentioned local use of olive oil, cedar oil, and ointment of lead and frankincense oil as spermicidal.[2, 5, 6]

One of the oldest known plants for oral contraception was *Silphium*, a member of the giant fennel family described in 4th century BC.[3]

Next oldest references to birth control came from *"Bible"*. Coitus interruptus appeared in the "*Book of Genesis*" 38:9-10. It stated that, during intercourse Onan "spilled his seed on the ground" (coitus interruptus). This was "evil in the sight of the lord" and was punished by Onan's death. [3, 6, 7, 8]

In first century *Pliny* (23-79 AD), the Roman writer, was the first known advocate of abstinence as a form of birth control.[8] Then another physician of this century, *Dioscorides* (40-90 AD), who is referred as father of herbal drugs, had described around 100 herbal drugs for contraception in his book "*De Materia Medica"*. [9, 10]

In second century, *Soranos of Ephesus* (98-138 AD), the Roman physician, recommended in respect of contraception that "one should abstain from coitus in the period which is especially sensitive, that is the time just before and just after menstruation[9]. He also advocated gymnastics such as pelvic movements, holding the breath at the time of ejaculation, getting up and sitting down with bent knees and inducing sneezing.[2]

Galen (130-200 AD), in his book "*Kitab al Advia al Mufrida*" had described several medicines which have bearing on procreation.[9]

At the end of second century, in ancient India, the first documented method of birth control was mentioned by ***Charak***, the great physician of that era.[11]

In first half of 6th century, ***Aetios***, a Greek physician, suggested that the women should smear their cervices with cedar resin combined with myrtle, lead, alum or wine and their partners should coat their penis with alum, pomegranate, gallnut and vinegar.[6]

In between 7 and 8th century, ***Paul of Aegenate*** (676-732 AD), famous Greek physician of Byzantine era, in his book "*Kunnash"* (Arabic translation) had mentioned several medicines which have a direct bearing on procreation.[9]

During the flowering of Arabic medicine in 10th century, a variety of contraceptive recommendations were detailed, particularly in the work of *Rhazi, Ali Ibne Abbas Majusi, Ibne Sina and Ismail Jurjani*.

Legend has it that Arab camel drivers inspired the modern IUD. According to story, tiny stones were inserted into both horns of uterus of female camel to prevent pregnancy during long caravan journey.[12]

Mohammad Ibn Zakaria Al Razi (865-925 A.D), in his book "*Kitab Al Hawi Fit Tib*" had revived the writings of *Buqrat, Duscaridoos, Rofas, Oribasoos, Bolus, Ibn Serabuen, Rabban Tabri, Ibn Masoya, Al Kandi* and *Hunnain Bin Ishaq* regarding contraception.[13]

Ali Ibn Abbas Majusi (930-994 AD), in his book "*Kamilus Sanaa*" mentioned about certain conditions in which a physician should and should not prescribe any contraceptive drugs. He had also mentioned several contraceptive drugs which can be given in the form of pessaries and liniments.[14]

The great philosopher, thinker and prominent physician of Arab medicine, ***Sheikh ur Raes Bu Ali Sina*** (980-1037 AD), in his book *"Al Qanoon Fit Tib"* had extensively described certain conditions, various practices and drugs for contraception used in the form of pessaries, suppositories, liniments, anointment, pastes and orals.[15]

In 12th century, ***Sharfuddin Ismail Jurjani*** (1110 AD), author of excellent medical compendium entitled *"Zakheerah Khawarzam Shahi*" had given detailed description about contraceptive methods. Apart from this, he had described one of the safest and easy way to wrap the penis with a fine and thin piece of cloth, then insert and ejaculate in vagina, after the sexual act the piece of cloth should be removed, which is the origin of modern day condom.[16]

The famous Herbalist, ***Ibn Baitar*** (1197-1248 AD) had described nearly 150 drugs for contraception in his book *Al Jamey ul Mufridat ul Advia wa Al Aghziya*. [17]

Nineteenth century's famous physician ***Mohd. Azam Khan*** in his books "*Akseere Azam"*, "*Ramoze Azam*" and *"Muheete Azam*" had given detailed list of contraceptive drugs.[18]

In 1564 AD ***Dr. Fallopio***, an Italian physician, first publicized the description of the male sheath made up of linen, the forerunner of condom.[12, 19]

During 17th century, the French used the method of wetting a sponge with brandy to weaken the sperm as vaginal sponge and douche with an acidic liquid through syringes.[20]

During 18th century, some historian say a "Dr. Condom" supplied animal tissue sheaths to King Charles II to prevent him from fathering illegitimate children and getting disease from prostitutes.[21] ***Casanova*** (1725-1798 AD) wore condoms made of Linen[22] and invented a primitive version of diaphragm/cervical cap.[6]

In 1775 AD first vasectomy was performed. In 1823 AD, ***Sir Asley Cooper*** first carried out experimental vasectomy in dogs.[23]

In 1834 AD ***James Blundell*** recommended bilateral tubal division and in 1880 AD ***S.S Lungren*** performed the first tubal ligation in US, Toledo, Ohio.[24] In 1838 AD, ***F. A Wilde***, a German gynecologist, first made cervical caps.[12]

In 1868 AD ***Squire*** described an increase in basal body temperature in the second half of the cycle.[24]

In 1882 AD ***Dr. D.M. Mesinga*** of Flenberg, German, first developed the modern diaphragm.[12]

In 1885 AD ***W.J. Rendell*** developed spermicidal pessaries containing cocoa butter and quinine sulphate.[4]

In 1894 AD first vasectomy in man was performed in Britain.[6]

During 20th century, in year 1909, ***Richard Richter***, a German physician, first introduced specifically designed IUD made up of silkworm gut.[19,23] In 1920 AD ***Ernst Grafenberg***, a German physician described early IUDs made up of silver ring.[19]

In 1930 AD ***Ogino*** in Japan and in 1933 AD ***Knaus*** of Austria, proved that ovulation occurs mostly 12-16 days before next period and so the most fertile period is the midcycle phase when intercourse should be avoided for contraception.[12]

Rock, Garcia and ***Pincus*** (1956 A.D.) first showed that fertility control in women can be achieved by suppressing ovulation with Norethisterone.[4, 24]

In 1960 AD, FDA approved first combined oral contraceptive pill, Enovid was marketed in USA[24] and were used by an estimated half a million women in the first year thereafter.[25]

During 1960s, Sequential pill, POP, Depo-Provera, Morning after pill and Copper IUDs were introduced.[23, 24]

In 1970 AD birth control pills were first prescribed for emergency contraception by Dr. Albert Yuzpe, a Canadian obstetrician/gynecologistcommonly known as Yuzpe regimen (combined oestrogen and progestogen).[23]

In 1972 AD Dr. S John and Evelyn Billings, *et al*., in Australia, found a close association between cervical mucus change and ovarian activity.[26]

In 1980 AD latest generation of ultra low dose oral contraception was introduced.[24]

In 1985 AD ***Hicks, et al***., showed that nanoxynolol-9, a spermicide used with condoms, inactivated the HIV.[24, 27]

In 1986 AD ***Conant, et al***., determined by in vitro studies that condoms prevent Human Immunodeficiency Virus.[28]

Female condom was invented by Danish ***MD Lasse Hessel*** and was first used in 1988 AD.[29]

During 1990s, hormone releasing IUDs, first polyurethane condom in UK, first copper frameless IUD (Gynefix) and new types of hormonal implants were introduced.[23] During 21 century, in 2002 AD first combined pill (Yasmin) containing drospirenone was introduced.[23] Hysteroscopic sterilization, using ESSURE, was first made available in the US.[23] In 2003 AD contraceptive patch (Ortho Evra) containing ethinyl estradiol and norelgestromin became available. In year 2004, first silicon diaphragm (Milex) became available. In year 2005, new synthetic non latex condom was launched in the UK.[23]

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History of Islamic Medicine Brought to Light at King's College London Conference

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The period between 600-1600 AD, between ancient antiquity and Renaissance Europe, is commonly referred to as the 'Dark Ages' in our books. Despite evidence to the contrary, we are often told that after the Greeks and the Romans, all knowledge, science and technology had stagnated or, worse still, entirely disappeared.

On Wednesday 13th March 2013, the KCL Guy's Campus saw hundreds of students, academics and clinicians from all across the country get together to celebrate the contribution of Muslim physicians to the field of medical sciences at the Inaugural KCL National Conference for Islam and Medicine (NCIM), hosted by the KCL Student Islamic Society, in collaboration with the International Institute of Islamic Medicine (IIIM) from Florida, USA.

The conference began with a unique poster exhibition, hosted by IIIM, which was viewed by a large number of external attendees as well as students and academics at the KCL Guy's campus. This rare collection, collected, brought and presented by Dr. Husain Nagamia from Tampa, Florida, is the largest compilation of illustrations and artwork on the medical discoveries made during the Islamic era. A student viewing the exhibition said it was "very enlightening and extraordinary to see a period of history that has been overlooked by many yet undoubtedly had a tremendous contribution to our modern understanding of Medicine."

The exhibition was simultaneously accompanied by the poster presentation session. 15 students from across the London medical schools gathered to present their research on the History of Islamic Medicine. The faculty members took great interest in viewing the posters presentations and thought the overall quality was outstanding. The winners of the poster competition were Sophina Mahmood from Barts and The London School of Medicine and Dentistry with the poster entitled "Al-Zahrawi: His role in the History of Dentistry" (first place), Samiullah Dost from King's College London with his poster entitled: "Current research on Hijama" (second place) and Moustafa Sabry from King's College London with the poster entitled: "The Islamic hospital and its impact on Islamic Medicine" (third place).

Following lunch, the attendees re-convened for an afternoon of plenary lectures. The first session began with a welcome address by the Conference Patron Dr. Mohammed Jafer Qureshi. It was followed by the first keynote speech from Professor Mohamed El-Gomati, Professor of Electronics and Nanotechnology at the University of York and the Chairman of Foundation for Science, Technology and Civilization. Prof. El-Gomati gave the audience with a fascinating outline of scientific advance during the Islamic era and their experience with the multi-award winning 1001 Inventions Exhibition.

This was followed by Dr. Husain Nagamia, Consultant Cardiovascular Surgeon from Tampa, Florida and the Chairman of the International Institute of Islamic Medicine, and Mr. Sharif Kaf Al-Ghazal, Consultant Plastic Surgeon from Bradford and a Founding Member of the International Society for the History of Islamic Medicine (ISHIM). Both speakers explored the vast medical advances during the Islamic era and its consequent influences upon the Renaissance and modern medicine.

The second session introduced by Dr. Nagamia, began with Dr. Abdul Jamil Khan, a Paediatrics Consultant from New York, who gave an overview of pre-Islamic era medicine. It was followed by Dr. Ahmed Younis, whose research was received with great interest from the audience. His address was on the current evidence-based research on cupping (Hijamah), a great ancient Islamic tradition, at St. George's University of London. The final lecture of the afternoon by Dr. Amer Hamed, Consultant

Cardiologist, gave a brief overview of Islamic medical ethics that influenced, and continues to influence, the practice of many great physicians as well as modern Western medical ethics.

Following an intriguing question and answer session by the panel, the conference was closed by Dr. Shafiul Amin, Chairman of NCIM and past president of KCL Student Islamic Society.

The conference was very well received by all attendees. Dr. Anna Battaglia, a Lecturer in Anatomy & Human Sciences at King's College London, stated that "it was a great and illuminating conference. I have really enjoyed the posters and the exhibition as well as the lectures. I will surely attend next year's conference." A medical student described the event as "an excellent initiative which seeks to enlighten us about the huge contribution of Islam and Muslim figures to the development of modern medicine. A line up of international experts and speakers, as well as fantastic poster presentations is something not to be missed!"

After the delightful positive response to NCIM 2013, a committee is currently being formed for NCIM 2014, which will explore a different theme on how Muslims have and can actively contribute to medical practice. We are also pleased to announce the launch of another conference that will stem from NCIM 2013: National Conference for Medicine in the Islamic Era (NCMIE), which will see its inauguration following NCIM 2014.

The poster presentations and IIIM History of Islamic Medicine Exhibition

Prof. El-Gomati's keynote speech entitled: "Illuminating the Dark Ages:
The Role and Contribution of Muslim Civilizations"

The concluding Q&A session and panel discussion

Abdullatif AYDIN, BSc (Hons)
Ahmed Al-JABIR, Faisel ALAM, BSc (Hons)
Mohammed Shafiul AMIN, MBBS

The Faculty and the NCIM Committee

ISHIM NEWS

Board Meeting International Society for the History of Islamic Medicine (ISHIM)

Board Meeting International Society for the History of Islamic Medicine (ISHIM) was made in Van during 23-16 September 2014 .Society president became Prof.Dr.Abdulnasser Kaadan.

Executive Committee

Dr. Hajar A. Hajar, honorary president
Prof. Abdul Nasser Kaadan, president
Prof. Faisal A. Latif Alnasir, secretary general
Prof. Nil Sari, Vice President
Prof. Demirhan-Erdemir Aysegul, chief editor of the journal
Dr. Husain Nagamia, vice president
Prof. Mehdi Mohaghegh, vice president
Dr. Sharif Kaf Al-Ghazal, member

The Sixth International Congress of the International Society for History of Islamic Medicine

This congress of ISHIM was made in Van in Turkey during 23-16 September 2014. In this congress, many papers on important medical topics of Islamic World were present. Important historical places of Van were visited by the congress members.

SCIENTIFIC EVENTS

KLC National Conference for Islam&Medicine History of Islamic Medicine

It was made in London.

13 March 2013

Guy's Campus, Kıng's College London

Spa Culture in Europe 3

16-17 May 2013, Polonya, Wroclaw

It was held in Zachelmie, Wroclaw. **Prof.Dr.Ayşegül Demirhan Erdemir's paper** from Turkey was on **Comments on Hamidiye Water in the Light of Ottoman Archives Document and Original References.**

VIII. Lokman Hekim Medical History and Folkloric Medicine Days

Gaziantep 22-25 Mayıs 2013

It was held in Gaziantep

Contact

e-mail: lokmanhekimkongresi@gmail.com

4. International Congress for Medical Ethics and Law İstanbul 12-15 Kasım 2013

It was held in Istanbul during 12-15 November 2013. Its topic is Woman Health.

Congress Co-President:

Prof. Dr. Ayşegül Demirhan Erdemir

Prof. Dr. Seyfettin Uludağ

Contact:

Prof. Dr. Ayşegül Demirhan Erdemir

e-mail: aysegul.erdemir@yahoo.com

The 6th International Congress of the International Society for the History of Islamic Medicine

23-26 Eylül 2014- 23-26 September 2014

Van-TÜRKİYE

Congress Presidents

Prof. Dr. Ayşegül Demirhan Erdemir

e-mail: ayseguldemirhanerdemir@gmail.com

Prof. Dr. Öztan Usmanbaş

e-mail:oztanusmanbas@yahoo.com

Congress Topics

1. Comparative Study of Islamic Medicine with the Previus and Subsequent Civilizations.
2. Famous Muslim Physicians.
3. Diseases and Therapies in Islamic Medicine.
4. Drug Therapy.
5. Approaching Disabilities in Islamic medicine.
6. Health Institutions.
7. Contributions by Muslim Physicians to the Western Medical Sciences.
8. The Significance of Museum and Museum Work in Islamic Medicine.
9. Sources and methods of collection of Islamic Medical Literature and their Preservation, Classification and Digitization.

Congress on

Ethics and Law in Surgery

It was made in Istanbul during 5 November 2015

Co-Presidents

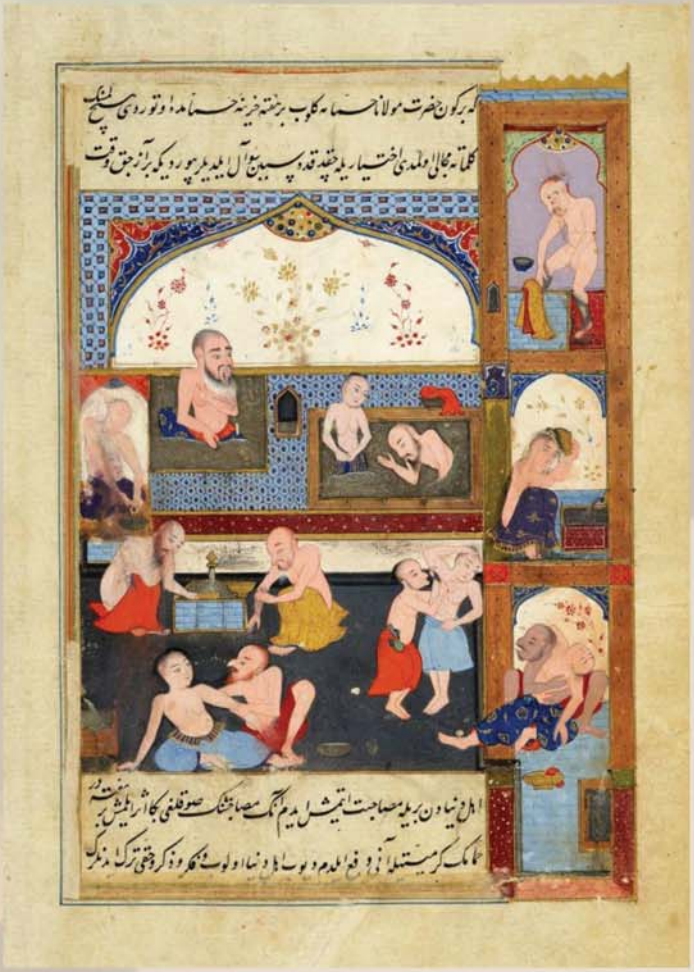
Prof. Dr. Arın Namal

arinnamal@gmail.com

SOCIETY FOR MEDİCAL ETHİCS, LAW AND HISTORY
TIP ETİĞİ TIP HUKUKU ve TIP TARİHİ DERNEĞİ
INTERNATIONAL CONGRESS FOR THE HISTORY OF MEDICINE
ULUSLARARASI TIP TARİHİ KONGRESİ

SPA CULTURE IN EUROPE
AVRUPA'DA SPA KÜLTÜRÜ

Istanbul, 28th-30th June 2016



Rūmī Spends a Day in the Hot Baths od a Ḥammam
Tarjuma-i Thawāqib-i manāqib (A Translation of Stars of the Legend), in Turkish
1590s
Item description:
Bathing was a traditional pastime for Sufis, and for Rūmī, in various stories and poems, the bath served as a metaphor for spiritual purification. Many scenes, therefore, were set within bathhouses. Here Rūmī sits by himself in one of the two pools set within the arched recess to cure a cold caused by "contact with the vain people." Elsewhere, and with a certain amount of humor, various bathhouse activities are depicted.
This miniature is part of a sixteenth-century manuscript account of the life and miracles of the poet and mystic known as Rūmī.

Rūmī, Mystic And Poet
The sixteenth-century miniatures presented here concern the life and miracles of Jalāl al-Dīn Rūmī, called Mē vlāna (Our Master), the most famous member of the Mevlevī order and greatest Sufi mystic and poet. He was born in Balkh in 1207, but his family emigrated after his father foresaw the Mongol conquest. They eventually resettled in Konya, Turkey, then the capital of Anatolian Rūm (thus Rūmī), where the poet died on 17 December 1273.

HONORARY PRESIDENTS

Prof. Dr. M. Zeki Karagülle

Prof. Dr. Bozena Plonka Syroka

Prof. Dr. Esin Kahya

PRESIDENTS

Prof. Dr. Arın Namal

Prof. Dr. Ayşegül Demirhan Erdemir

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CONGRESS LANGUAGES

Türkish- German- English- Polish

PLACE

İstanbul Üniversitesi

Kongre ve Kültür Merkezi

Beyazıt Istanbul

بسم الله الرحمن الرحيم

الجمعية الدولية لتاريخ الطب الاسلامي

International Society for the History of Islamic Medicine

(ISHIM)

طلب إلتحـاق

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