

REVIEW

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## Historical Perspective of Eye and Ophthalmic Diseases: A Comprehensive Review

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### ABSTRACT

As far as the living being is concerned, eye is the most valuable structure in the body. Half of the total sensory input from the entire body is contributed into the brain by the eyes. In ancient era, Eye diseases were out of control and among seven medical papyri only three Ebers, Carlsberg and London dealt with the eye problems. More than 100 eyes prescriptions, containing salts of copper, antimony, organic materials e.g. crocodile dung etc, were described in the Ebers papyrus. Unani medicine is a science of life and oldest treasure of medical science where many diseases have been described in detail with prognosis, internal medications and surgical interventions. At that time, ophthalmology was a specific field. During the blooming period of Greek Medicine, Ali Ibn Isa Kahhal was a famous ophthalmologist. The Unani physicians and ophthalmologists like Al Razi, Al Zahrawi, Al Tabri, Jurjani, Ibn-Al-Haytham, Ali-Ibn Isa Kahhal, etc made major contributions in development of ophthalmology as a specialized field which provided a base for the emergence of modern ophthalmology.

**Keywords:** Unani Medicine, Kahhal, Ebers papyrus

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## Introduction

The human eye is extremely complex and the most important sense organ of the body. If damaged, there is a need of proper diagnosis of the eye disease which impaired its function. Eye problems should be diagnosed and treated with great alertness, since life without eye is miserable and worthless absolutely. Origination of the Unani system of Medicine takes place from Greek but later Arab physicians explored the awareness of this system to all over the world.

At that time, ocular diseases were quite common in those places with unbearable heat, scorching wind and where the air was full of dust and sand particles. Due to this fact, most of the eye specialists were present at those places, compared to other diseases<sup>1</sup>. Hence, it was very important to protect vision at any cost. The role of Unani scholars in the field of Ophthalmology is immense in the light of history of medicine, Hippocrates known as “the Father of Medicine” himself treated cataract by couching methods<sup>2</sup>. The historical development of medicine and ophthalmology reached its peak about the year 1000 A.D. In ophthalmology, this time point is marked by the two excellent books i.e. Notebook of oculists (*Tadhkiratal-Kahhalin*) by *Ali Ibn Isa Kahhal* (1039 AD) of Baghdad and *Opticae thesaurus (Kitab-al-Manazir)*.

“Father of modern optics” known as *Ibn-Al-Haytham* (Al-Hazen) (965-1039 A.D)<sup>3</sup>, deliberated the anatomy of the eye extensively. He made important contributions to ophthalmology and eye surgery. In his Book *Kitab-al-Manazir*, he proposed the first correct explanations of the process of sight and visual perception, which was known as *Opticae Thesaurus* in Europe<sup>[4]</sup>. Then follows the slow decline of Unani Medical

science until the 16<sup>th</sup> century when western science begins to awaken and to surpass in output the orient, whose textbooks have been translated into Latin in the meantime. Arabic terms such as *Qurratul Ayn* (Eyeball), *Multehema* (Conjunctiva), *Qarniya* (Cornea), *Anabiya* (Uvea/Iris) and *Shabkiya* (Retina), *Ratobate jalidia* (lens) etc were introduced and used by Unani Medical scholars. India had a rich tradition of ophthalmic trends starting from the legendary Nimi through Susruta and Nagaarjuna of second to fourth century AD, Vāgbhat of sixth century AD and so on up to pre-modern times<sup>5</sup>. Even though present-day students and practitioners of unani medicine, no doubt, need to integrate the latest information on the subject in their study and practice, it fails to emphasize historical evolution of unani ophthalmology as well as its limitations. A scholar of Unani medicine needs to know how the discipline grew over centuries in the world and elsewhere. He needs to pinpoint how ophthalmic philosophy i.e. ideas related to both the theoretical and practical aspects grew with time to time till the modern discipline was defined. These ideas include understanding of anatomical parts of the eye, sense organs and their respective seats, mechanism and paths of perception and also causes, classification of diseases and their treatment.

As per the portrayal by Unani scholars the disease is an unusual process and the symptoms are the reactions of body to the disease. According to Unani philosophy, if the four humours and their basic temperaments (hot, cold, dry, moist) are all in a state of mutual equilibrium, the person is considered healthy and if these are altered, then a disease forms. These are the four *Akhlaat* (Humours), *Dam* (blood), *Balgham* (phlegm), *Safra* (yellow bile) and *Sauda* (black bile).

History:		
S.N	Name	Contribution in the field of ophthalmology
1	<b>Buqrat (Hippocrates 460-377 BC)</b>	Propounded four elements theory: water, fire, earth and air. Use of collyrium. <i>Buqrat</i> treated cataract by depressed or couched method <sup>2</sup> . In the Ebers papyrus of Egypt it is mentioned that Hippocrates described Strabismus <sup>9,10</sup> .
2	<b>Arastu (Aristotle 385-323 BC)</b>	Optic Nerve was described by Aristotle on the basis of animal dissections <sup>11</sup> .
3	<b>Herophilus (335-255 BC)</b>	Three layers to the eyeball were invented by Herophilus: an outer horny layer (comprising the cornea in front and the sclera further back), second layer, smooth on the outside and rough inside, 'like grape skin' (iris in front, choroid behind) and 'cobweb-like' inner layer (retina – likened to a casting net (retiform), from which the word retina originated) <sup>11</sup> . He prescribed treatments for eye diseases, such as ointments containing <i>inter alia</i> crocodile dung, hyena bile and vitriolic copper in honey and goats' milk by mouth, for day blindness <sup>11,13</sup> . He described the cornea, retina, choroid, iris, ciliary body and vitreous humor in the eye <sup>14</sup> .
4	<b>Jalinoos (Galen 129-200 AD)</b>	Recognized two separate chambers of the eye that were filled with similar fluid, The nature of optic nerve, retina and cornea and believed the lens to be the seat of vision, considered it to be situated in the front part. Dissection of the eye muscles of animals was first mentioned by Galen but he did not describe his findings. He believed that the crystalline lens was the essential organ of sight <sup>9,11,12</sup> .
5	<b>Abu zakariya Yuhanna Bin Masawiah Al Masawaih (777-857AD)</b>	Removal of cataracts with a hollow needle through suction <i>Marifat mihnāt al-kahhalin</i> (Knowledge of the Oculist Examination), <i>Daghal at alayn</i> " (The Defectiveness of the Eye) which is the earliest treatise on ophthalmology
6	<b>Ali Ibn Sahl Rabban Al tabari (770-780 AD-850AD)</b>	" <i>Firdaus al Hikmat</i> (The paradise of wisdom) The book has a short description of the most common eye diseases, with a long part dealing with their treatments <sup>15</sup> .
7	<b>Hunyan Ibn Ishaq Al abadi (809 AD - 886 AD)</b>	<i>Kitab al-ashrma qalatfil Ayn</i> (Ten Treatises on the Eye) was the earliest systemic textbook on ophthalmology. In this book, Hunain bin-Ishaq first time provided drawing of anatomy and physiology of eye with proper illustrations. He described that crystalline lens is located in the exact centre <sup>16</sup> .
8	<b>Sabit Ibn Qurrah Al-Harrani (836AD-903 AD)</b>	Treatment of amblyopia or lazy eye ( <i>Alghatash</i> ) given by Sabit ibn qurrah <sup>3</sup> .
9	<b>Abu Bakr Muhammad Ibn Zakariya Al-Razi (850AD-923 AD)</b>	<i>Hawi fi Al-Tib</i> (LiberContinens/Magnus opus). The second volume deals with the eye " <i>Kitab fee Kaifiyatul Absar</i> (A Book about the Mechanism of Vision)" <sup>17</sup> .
10	<b>Abu Al Hasan Ahmad Ibn Mohammad Al-Ṭabri (D.976AD).</b>	<i>Moalijat al-Buqratiya</i> completed it in 850 A.D, which contains 10 dissertations, and the 4 <sup>th</sup> one deals with ophthalmology. Tabri mention that cataract is a thick humidity that affects the crystalline lens and makes it opaque. He established biconvex lenses and called it the burning pebble.
11	<b>Abu abdullah mohammad bin ahmad al maqdasi Tamimi (D.980 AD)</b>	He described the pathology of Ophthalmia; its types, causes and treatment. The image forming on retina is conveyed to brain through optic nerve <sup>3</sup> .

History:		
S.N	Name	Contribution in the field of ophthalmology
12	<b>Yuhanna Ibn Şarabyun (D.935AD)</b>	Sarabyon wrote " <i>Alkunash Alkabir</i> (Practica)" and Eleven chapters of this book deals with ophthalmology <sup>3</sup> .
13	<b>Abu Mansur Al-qumri (D.990 AD)</b>	Al-Qumri explained various causes of weak eye sight in his book entitled as <i>Kitab al-Ghina Mana</i> <sup>19</sup> .
14	<b>Ali ibn abbas Al-majusi (930-994AD)</b>	He composed a book " <i>Kamil al-Sanaa al-Tibbiya</i> (Complete Art of Medicine)". In the 13 <sup>th</sup> chapter of the book he described 130 eye diseases in anatomical sequence, 143 simple drugs and names of beneficial herbs for the eye diseases. There is description of eye diseases i.e. ophthalmia, swelling, hardness in conjunctiva, itch, protuberance in the eyes, Pannus, blood spot, ulcers, pustules <sup>20</sup> .
15	<b>Ammar bin Ali mosuli (D.1000 A.D)</b>	He composed a book on eye diseases " <i>Al muntakhab fil ilaj amrad al ayn</i> . Ammar used the word " <i>Saqba-e Anabia</i> (pupil) for the first time which was previously known as "hole of the iris." He was the inventor of the cataract operation by suction.
16	<b>Ahmad Ibn'abdu-Rahman Ibn Mandwayhal-Isfahani (D. 1019AD)</b>	He wrote two books on ophthalmology " <i>Risala fee Tarkeeb Tabqatul Ayn</i> (Treatise about the construction of the eye's coats)"and " <i>Risala fee Ilaj Intesharul Ayn</i> (Treatise about the treatment of Mydriasis) <sup>3</sup> .
17	<b>Abul qasim khalaf ibn abbasAl-zahrawi (Albucasis) (936AD-1036AD)</b>	His book " <i>Kitab al-Tasrif Lamin-al ejaz al Anal Taleef</i> " is in 30 treatises. The last treatise deals with surgery, he divides the treatise in three parts. In the second part, he divided eye diseases into 12 divisions <sup>21</sup> .
18	<b>Ibn Sina (Avicenna 980-1037 AD)</b>	Ibn Sina compiled a vast medical encyclopaedia " <i>Al qanoon</i> " <i>fit tibb</i> (Canon of medicine). Avicenna said that the lens is the receptive organ of sight for the first time in the history. He also described contraction and dilatation of pupil and its diagnostic importance for the first time. He also discussed the functions of lachrymal duct. He mentioned eye as one of external senses.
19	<b>Ali-Ibn Isa Kahhal (1039 AD)</b>	He wrote a book on ophthalmology " <i>Tadkirat-al-kahhalin</i> (notebook of the Oculists). The first part of the book deals with the anatomy and physiology of the eye and the second part explains externally visible diseases, the third part in the book describes hidden diseases. Kahhal exemplified the optic chiasm and brain. While discussing <i>Damaa</i> (epiphora), <i>Kahhal</i> stresses that it is due to overzealous cauterization of <i>Nakhoona</i> (Pterygium) and in chronic stage he advised its surgical removal <sup>3</sup> .
20	<b>Ibn-Al-Haytham (Al-Hazen 965-1039 A.D)</b>	He authored a book on eye after extensive experiments and named it as <i>Kitab-al-Manazir</i> (Opticae thesaurus) <sup>23,24,25</sup> . He described the whole area of the eye behind the iris constitutes as the <i>uveal sphere</i> . He provided information about Conjunctiva, Cornea, Aqueous humor, Iris, Pupil, Lens, Optic nerve and Retina. He acquired the best knowledge of the structure of the eye and provided self-drawn pictures of the eye. He also devised technical terms for Ophthalmology i.e. <i>Saqba Anabia</i> (Pupil), <i>Al Qarnia</i> (Cornea), <i>Al A'asab Albasariya</i> (Optic Nerve), <i>Al Baiziya</i> (Albugenous Humor), <i>Al Zujajiya</i> (Crystalline Humor), <i>Al Jaleediya</i> (Vitreous Humor). He was the first to explain that vision was made possible because of refraction of light rays. He invented a new field of optics now known as physiological optics <sup>26</sup> . Al-Hazen described five types of mirrors i.e. plain, circular, concave, convex and conical.

History:		
S.N	Name	Contribution in the field of ophthalmology
		He taught the visual rays do not pass from eye to object as had been conceived by ancient philosophers and physiologists, but they pass from object to eye and that an infinite number of rays are emitted or reflected as the case may be from each and every point comprised within the surface of that object <sup>3</sup> . Al-Hazen was the pioneer of “concept of the magnifying role of the convex ocular lens” <sup>27,28</sup> .
21	<b>Ali Ibn Ibrahim Ibn Bakhtishu (D.1067AD)</b>	He compiled a treatise on eye “ <i>Tarkib al ayn wa ashkalha wa madawat ilajha</i> in the 10 <sup>th</sup> century.
22	<b>Ibn Mansur Al-Yamani (D. 1087AD)</b>	Ibn Mansur wrote the book “ <i>Noorul Uyyoon</i> (The Light of the Eyes)” and one chapter of this book is devoted to eye diseases i.e. cataract, trachoma, scleral and corneal diseases and problems of the eyelids.
23	<b>Ibne Qassoum Ibne Aslam Al-Ghafiqi (Died 1165AD).</b>	<i>Kitab almurshid fil kahhal</i> (The occultist guide of ophthalmology) is divided into six sections of which the fifth (partially) & sixth (whole) deal with treatment of eye diseases with medicine and hygiene of eye.
24	<b>Ibn Rushd (Averroes 1126-1198 AD)</b>	He described photo receptor properties of the retina. He was the first person to suggest that the principle organ of sight might be the arachnoid membrane <sup>29</sup> .
25	<b>Khalifah Ibn Abi Al-Mahasin Al-Halabi (D.1260AD)</b>	He composed a comprehensive ocular manual, “ <i>Al-Kafi fi al-kuhal</i> (The Sufficient Knowledge in Ophthalmology)”. <i>Khalifah</i> was the first known surgeon in history of medical science who used a magnet for the removal of a broken piece of the couching needle from the eye.
26	<b>Abul Hasan Allauddin Ali Ibn Abil Hazm Al Qarsi Ibn-Al-Nafis (1210-1288 AD)</b>	Cataract: He described the incipient cataract induced myopia. Glaucoma: He described the cataract secondary to glaucoma, <i>glaucomfleken</i> <sup>30</sup> .

Each humour has its own temperament, *dam* is hot and moist, *balgham* is cold and moist, *safra* is hot and dry and *sauda* is cold and dry<sup>6, 7</sup>. In classical Unani literature, diseases of the eye are well described and known as *Amraze chashm* like *Jarab Jufn* (trachoma), *Istarkha jufn* (Ptosis), *Slaq* (Blephritis), *Shirnaq*, *Shaierah* (Stye, hardiolum), *Baradah* (Chalagion), *Shaierul munqalb* (Districhisis), *Dama* (Lacrimation), *Wardiyanj wa yana'a* (Epidemic conjunctivitis), *Middah kamina* (Hypopyon), *Nutool qarnia* (Prolapse of cornea), *Ramad* (Conjunctivitis), *Bayaz* (Corneal opacity), *Tarfah* (Ecchymosis), *Moarsarj* (Iridoptosis), *Nuzoolul ma* (Cataract),

*Ma'aakhzar* (Glaucoma), *Hiwal* (Squinting), *Esha* (Night blindness), *Jahar* (Day blindness), *Qumoor* (Moon blindness), etc<sup>8</sup>.

### Literature review

#### Description of chashm and ophthalmic diseases (eye and eye diseases):<sup>17</sup>

According to unani system of medicine, the diseases of eye can be classified on the basis of weakness of *Quwatte faela* (Power of vision) and any disease of eye orbit which may affect vision, motor and sensory power.

#### Layers of the eye:<sup>15,18,29,31,32</sup>

Most of the Unani scholars describe the layers

Classification of diseases related to eye layers	
<b>1. Disease of sclera (Tabaka sulbiyya)<sup>18</sup></b>	
<b>Sclera have mainly three types of disease</b>	
<b>Non specific</b>	Non specific means those types of headache which are also known as organic headache. In non specific type of eye diseases, the dryness in the sclera is treated by inducing wetness in the temperament of the body; but if the cause of diseases is wetness, then do <i>istafraqh</i> by <i>habbe sibr</i> , <i>habbe ayarij</i> organic headache.
<b>Specific</b>	Two specific diseases are found in the sclera.
	<b>A. Itawa:</b> In <i>iltawa</i> , patient feels his eye is turned on one side and feels <i>tamaddud</i> like pain, treatment of this type of disease is by <i>makoolat</i> and <i>mashrobat</i> or <i>hammam</i> or <i>abzan</i> and using <i>qairooti</i> prepared by oils and mom.
	<b>B. Istirkha:</b> In <i>istirkha</i> , there is no pain but patient is unable to see roof. He should be treated by <i>istafraqh</i> like <i>habbe sibr</i> and <i>habbe ayarij</i> .
<b>2. Disease of Choroid: (Tabaqa mashimiyya)<sup>18</sup></b>	
Due to the prominent and more vessels, <i>damwi amraz</i> occur in this layer with the pain present in the back of the eye.	
<b>3. Diseases of retina (Tabqa shabkiya)<sup>18</sup></b>	
Retina has several diseases.	
•	<i>Yarqan</i> (jaundice) associated with tears of the eye.
•	Sunken eye caused by obstruction in the blood vessels. Due to this obstruction, loss of supply of nutrients in the eyes takes place.
•	<i>Wardyanj</i> in children or <i>yanah</i> in adults (pink eye, epidemic conjunctivitis).
•	Thorny pain in the eye.
<b>4. Diseases of unakotiya<sup>18</sup></b>	
•	The presentation of disease in <i>unakotiya</i> may be classified as a specific disease which is detected in the layer itself.
•	The other one is common disease, which affects all the layers of the eye.
<b>5. Diseases of the cornea:</b>	
Although cornea has many common diseases, but two diseases of cornea are specific:	
•	<i>khashunat</i> (dryness) which is developed by dryness of the skin and alteration in the <i>mizaj</i> . In this condition, dryness of upper eye lid occurs along with continuous lacrimation.
•	In another prominent condition, the dryness covers conjunctiva.
<b>6. Diseases of conjunctiva (Multahima)<sup>15,32</sup></b>	
A.	<i>Tarfa</i> (eccymosis)
B.	<i>Ramad</i> (conjunctivitis)
C.	<i>Zafara</i> (Pterygium)
D.	<i>Nafaq</i> (intifaq, tumifaction)
E.	<i>Jussat</i> (induration sclerosis)
F.	<i>Sabal</i> (vascular keratitis)
<b>7. Disease of the pupil or iris (unabiyya):</b>	
A.	Itasha inabiyya (dilatation of the pupil)
B.	Natu unabiyya
C.	Jeeq wahadqa
D.	Morsarj

of the eye and give the name of these layers on their treatises which are given below.

1. *Tabaqa sulbiyya* (sclera)
2. *Tabaqa mashimiyya* (choroid)
3. *Tabaqa shabakiyya* (retina)
4. *Tabaqa unkabootiya* (capsule of lens)
5. *Tabaqa unbiya* (iris)
6. *Tabaqa qarniyya* (cornia)
7. *Tabaqa multahima* (conjunctiva)

#### Classification of diseases related to eye layers:

It has been discussed that there are anatomically seven layers of the eye and each layer of the eye has its own disease, as described in the table below.

#### Fluids in the eye (*Ratubat chashm*):<sup>18,29,31,33</sup>

Fluids or *ratubat* can be distributed in three categories. The first is known as *Ratubat zujajiyya*

(Vitreous humor). The second one is called as *Ratubat baydiyya* (aqueous humor) and the third one is *Ratubat jalidiyya* (Lens). Table summarizes information.

#### Discussion

As it was previously discussed, all diseases are formed due to alteration in the four humours (*Dam, Balgham, Safra* and *Sauda*) and the four primary temperaments (Hot, Cold, Dry, Moist); the person is considered healthy if equilibrium of these temperament is maintained and if these are altered, then a disease forms. On the basis of these four *khilt* (humours), Rabban Tabri mentions signs and symptoms of eye diseases and defines how we can diagnose the causative humour of the diseases. If there is alteration in the *khilt*, then that type of symptoms occurs.

Diseases of the eye on the basis of fluids in the eye ( <i>Ratubat chashm</i> )				
Disease of vitreous humour ( <i>Ratubat Zujajiyya</i> ).			Disease of aqueous humour ( <i>Ratubat baydiyya</i>	
1.	<i>Sil ul ain</i>		1.	Excess production
2.	<i>Dam 'a (epihora</i>		2.	Decrease quantity of the fluids
3.	<i>Ghuroob</i>		3.	Alteration in the consistency
4.	<i>Zuhjeul ain (exophthalmus)</i>			
Disease of lens ( <i>Ratubat Jalidiya or adsia chashm</i> )				
1.	<i>Juroog al- Ma</i>			
2.	<i>Nuzul al- Ma (cataract)</i>			
Disease of the eye lid				
<i>Jarab(trachoma)</i>	<i>Burud(chalazion)</i>	<i>Tahazzure</i>	<i>Shaiera (Stye, hardiolum)</i>	<i>Ittasq jufni (Symblepharon)</i>
<i>Intasar ul ajfar</i>	<i>Warad yanz</i>	<i>Silaq or ramad jufni (blephritis)</i>		<i>Shirnaq</i>
Other diseases of eye				
1. <i>Zoafe basar</i>	2. <i>Asha</i>	3. <i>Jahar</i>	4. <i>Khafis</i>	5. <i>Qumoor</i>
6. <i>Baied nazri</i>	7. <i>Qareeb Inazri</i>	8. <i>Perana nazri</i>	9. <i>Sudad</i>	10. <i>Hawal (strabismus)</i>

1. **Ghalba Dam (blood)** then these alamaat are seen in the eye If redness, rutubat and kichad (excess production or discoloured of eye discharge) are more.

2. **Ghalba bhalgham (phelghm):** If kichad is more and redness is less then due to balgham

3. **Ghalba safra (yellow bile):** If redness is present with only dryness and not kichad, then *safra* is present.

4. **Ghalba sauda (black bile):** If kichad and redness is less, then the cause is *sauda* <sup>17</sup>.

According to Unani physicians, the **Quwate basra** (power of vision) is mostly affected by disturbance in temperament, inflammation and weakness or altered function of *asab mazufa* (optic nerve). Other factors include: all eight types of abnormal *mizaj*, All four types of *waram*, Ceaser (*shigaf*), *Tamaaddud*, *Tashanuj*, *Waram* due to Obstruction <sup>17</sup>.

**Zakariya Razi says in *Al hawi fit tib* that the following factors affect the normal or abnormal eye:** <sup>17</sup>

1. Continues dryness of the stomach
2. Continuous exposure to bright light
3. Continuous reading of small writings
4. Excess sex
5. Eating excessive amount of salty water fish
6. Continuous stupefaction
7. Sleeping after dinner
- 8 Dust, smoke, hot and cold air (*hawa e Ghair Tabai*)
9. Contrast light
10. Excess use of sedation like tobacco, charas, bhang, etc.
11. Excess amount of venesection

By maintaining the equilibrium of these above mentioned factors, the health of eye and its vision could be preserved.

**Signs and Symptoms of eye diseases:** <sup>15</sup>

If weakness of the vision or complete blindness is present without any changes in the eye, then it may be due to excess *rutubat* or obstruction in the nerve of the eye. If near vision is good but the person is not able to see far objects, or if day vision is fine but the individual is unable to see in the night, it may be due to *ghalzate* (weakness of) *rooh basira*. First symptoms of *najool ama* is patient seeing hair or insect-like substances in front of eye; if these substances are seen in front of one eye, then the problem is in the same eye, if these perceptions are found in front of both eyes or mainly found while the stomach is empty, then it may be due to weakness of *maida* (stomach).

**Prevention of eye diseases:** <sup>34</sup>

Eye is a sensitive organ. The followings are the things which affect the eye and may prevent the eye problems.

**Eye wash:** <sup>34</sup>

Regular eye wash with *Triphala* with the use of eye wash cup is beneficial for eye health.

**Eye exercises:**

Movements of both eyes in up-down, sideways (right-left), rotational (clockwise-anticlockwise) directions, followed by palming is very effective in preventing refractive errors. Eyes are the most precious gift of God and eyes play a vital role in our day to day lives. This world is visible to us because we are blessed with eyesight. Good eyesight is very important for our daily activities like reading, watching television, internet surfing, driving, etc. So those who wish to have prolonged healthy vision should keep the value of practices and daily regimen prescribed by ancient scholars because "Prevention is better than Cure".



### Line of treatment:<sup>17</sup>

### Drugs used for the management of eye diseases in Unani system:<sup>17</sup>

Advia which are used in eye diseases are of seven types:

1. *Musaddid* (Deobstruent)
2. *Munaffij*
3. *Jali* (Detergent)
4. *Muaffin* (antiseptic)
5. *Qabiz* (Astringent)
6. *Mukhaddir* (anaesthetic)

### Types of Advia *chashm* according to their action:<sup>17</sup>

Unani physicians mentioned two types of medicine for eyes. The first type is free from *sozish* (irritation). viz. *safedi baize murgh, samgh katira and hulba*. The other group of medicines have some *sozish*. Examples are: *Wardh, Kundur, Zafran, Mur, Anzaroot, Rasoot*, etc. *Kundur* has *hararat moatadil* and *jila moatadil*. Due to these properties, it accumulates the pus and relieves pain. *Zafran* has anti-inflammatory properties, although *zafran* is *moatadil* in astringent property. *Mur* has anti-inflammatory action, absorbs *ratubat* and makes the eye dry, not having astringent property.

If causes of the eye disease are external *ratubat* (secretion), then drugs having *tehlul* (Dissolving) action should be used. If *sabab* (cause) is internal *ratubat* etc, then *mushile* (purgative) advia should be prescribed. If causative factor of eye diseases is excess *dam*, then *fasd* (venesection) on same side of hand should be done, and these *nuskhajats* (compositions) should be used: *Roghan gul, Safedi biaza murg* (Egg white), milk, shall be mixed and then hot fomentation should be done.

According to *Buqrat*, when there is pain in the eye, following items are very beneficial in eye diseases: pure *sharab, fasd, takmeed haar* (Hot Fomentation). *Nuskha tekoor* for pain in eye,

Decoction of *Hulba* and *akleel mulk*.

For lacrimation and *kichad* (dirty material), a *Nuskha zamad* is: *barge kasini, barge khurfa, barge anab shalab*, and then *roghan gul and arad zou* are added, mixed with the above water (extract) and used as a *zimad* around eye.

### Conclusion

It can be concluded that following the guidelines written by great scholars of Unani system of medicine, enlighten us to preserve the health of eyes naturally. Preventive strategies are described by the generous physician *Zakria Razi*, according to which continuous light seeing, continuous reading of small letters, excess sex, eating excessive amount of salty fish should be avoided. The equilibrium of four temperaments should be properly maintained. The natural drugs, which were frequently used by these noble ophthalmologists, were very safe and useful e.g. *Gulab, Kundur, Zafran, Mur, Anzaroot, Rasoot*, etc. The trends by using natural herbs should be encouraged for proper eye care along with exercise and diet advised by *Attibba*. Finally, focusing on the Unani line of management and treatment (natural techniques) e.g. *Musaddid, Munaffiz, Jala, Muaffin, Qabiz, Mukhaddir* along with preventive strategies are very useful tools for maintaining health of the eye.

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All the authors declare no conflict of interest.

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