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## Review Article

### A REVIEW ON DIAGNOSTIC VALUES OF SWEATING IN UNANI MEDICINE: A UNIQUE FEATURE OF SKIN

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#### ABSTRACT

Sweating is a physiological phenomenon to eliminate the waste as well as excess matter from the body. Importance of sweating was discussed thousands of years back in Greek Arab system of medicine under the heading of Tareeq or Arq. In this system of medicine, abundant literature is available regarding sweating and its significance. Regime and diaphoretic drugs used to induce therapeutic sweating are described. Actually physis of body works continuously to manage everything. Ancient Greek Arab scholars explained that the sweating occurs for cleansing of blood or to reduce the workload of other excretory organs. They also described the importance of sweating as a regime in different diseases. Literature related to sweating is in scattered manner in classical books. Present paper is an effort to compile the relevant literature.

**KEYWORDS:** Sweating, physis, significance, values, Greek Arab medicine.

#### INTRODUCTION

Skin is the largest organ of the body. It is not uniformly thick; at some places it is thick and at other thin. Average thickness of skin is about 1-2 mm. Basically, there are two layers of skin i.e. epidermis (outer layer) and dermis (inner layer). Epidermis is formed by stratified epithelium, nourished by small capillaries through diffusion. <sup>1,2</sup> Epidermis consists of stratum corneum, lucidum, granulosum, spinosum and germinativum. Dermis is the inner layer of skin. It is a connective tissue layer made up of dense collagen fibres; fibroblasts and histocytes. There are two layers of dermis superficial papillary layer and inner reticular layer.

Sweat is formed by special glands known as sweat glands. There are two types of sweat glands- <sup>1</sup> i. Eccrine gland- It is distributed throughout the body. <sup>3</sup> It is a tubular coiled gland. ii. Apocrine gland- It is present at certain areas like axilla, areola, pubis and umbilicus. It is non-functional till puberty. Sweat contains water, sodium chloride, urea and lactic-acid. <sup>1</sup> According to Unani scholars, sweating is the effect of Tabiyat <sup>4</sup> (physis or medicatrix naturae). <sup>5</sup> It is a waste of Hazme salis (third digestion) which takes place in the vessels of the body. When it is retained; it causes abnormality like disturbance of innate heat. Tabiyat wants to excrete out the waste of body through sweating. <sup>4</sup> Unani description about sweating as a waste matter is accounted by contemporary research which says that some waste matters like urea etc. appears in sweat. <sup>6</sup> In small vessels of body nutrition cannot circulate without fluid or water and yellow bile. Further they explained that after providing the nutrition to the target organ watery substance returns back through vessels towards the kidney for urine formation. But little amount of water remains in the

organ and excretes out through skin with or without waste in the form of sweat. If sweat does not have waste it evaporates from skin insensibly. <sup>4,7</sup> When it contains waste then the person feels sweating. Different characteristics of sweating indicate the condition of humours, digestion and waste in the human body. <sup>4</sup> Normal sweating may be due to hot weather, exercise, Hamam (steam bath) and Bohran (crisis). <sup>4,5,8</sup>

Unani physicians described causes of abnormal sweating as excessive exercise and hot weather, weak retention power of body, Imtila mawad (accumulation of matters), severity of disease, or wasting diseases. <sup>4</sup>

#### SIGNIFICANCE OF SWEATING

From many years it is proposed that sweating accelerates the elimination of contaminants from the human body to maintain the homeostasis. <sup>6,9,10</sup> It is the way to cool the body and prevents overheating. <sup>11</sup> In a series of studies, it is found that the chemicals concentrations in sweat were often higher than that of blood and in some investigations, chemicals were noticed in sweat but not in blood and urine. So hypothesis formulated that these particular chemicals are possibly excreted in sweat to reduce the body burden. <sup>6</sup>

Following characteristics of sweating (see, Table 1) direct the physician towards the condition of body:

Quantity, colour, taste and odour, consistency, temperature of sweat matter, timing and regularity of sweating.

**Table 1. Characteristics of sweating**

Characteristics of sweat	Diagnostic value/ significance	Reference
Quantity (increase or decrease)	Increase- excess of water or vicious matter in the body and over opening of skin pores Decrease-less fluid in body, unduly viscid matter, partial opening of skin pores, weakness of power of elimination	4,8
Colour	Dominance of type of humour, condition of physis of body	8
Taste and Odour	Presence, elimination of viscous matter in sweat	4,8
Consistency	Indicates the duration of diseases	4,8
Temperature of Sweat matter	Duration of disease and condition of innate heat	4
Timing and regularity of sweating	Condition of physis and eliminating power (for excretion)	8

**QUANTITY**

It depends upon following factors:

- Quantity of fluid in the body.
- Consistency of fluid content.
- Condition of skin pores.
- Power of elimination.
- Power of retention of body.

More sweating without any sign of disease indicates more water content in the body and surplus opening of skin pores.<sup>8</sup> In other condition, excess of perspiration denotes the presence of more waste in the body. This excess sweating is beneficial for body. Correction of accumulation of waste material in the body is done with the help of power of elimination by Tabiyat. But if power of retention becomes weak, excessive perspiration will be without the sign of accumulation of excessive waste matter in the body and this is not a good condition so, it means Tabiyat is unable to retain the useful substances. In disease condition, more sweating means there is more accumulation of vicious matter in the body.<sup>4,8</sup> Majoosi said that excessive sweating leads to weakness.<sup>8</sup> If sweating occurs in bilious fever especially on head, neck and chest is a sign of bad prognosis. It denotes the weakness of Quwwate Haiwaniya (vital power) especially when the sweating is cold because vital power provides Hararat (heat) to the body or maintain the temperature of body. It also indicates the excess of viscous matter in the body and inability of Tabiyat to eliminate it. Unani physicians mentioned causes of decrease in sweating too; like less fluid content in body, unduly viscid and raw matter, partial opening of skin pores and weakness of power of elimination.<sup>4,8</sup>

**COLOUR**

Colour of sweat is used as a parameter to point towards the dominance of particular humour in the body as well as condition of physis. Normally the colour of sweat is whitish. Some other colours are: Reddish- Due to Fasade khilte dam or dominance of Khilte dam (abnormalities/ dominance of sanguine). Yellowish colour indicates dominance of Khilte Safra (yellow bile). Greenish or greyish colour indicates dominance of Khilte sauda (atrabilious). Colourless sweat is due to dominance of Balgham (phlegm) or weak retentive power of capillaries. Body eliminates surplus quantities of humours through skin to save the body from side-effects of excess or accumulated humours. But, if these colours of sweat are present without dominance of Khilt (Humour) then it indicates elimination of the useful humours.<sup>8</sup>

**TASTE AND ODOUR**

Sometimes taste and odour of sweat are useful in the diagnosis of disease. Foul smell sweat denotes the presence and elimination of viscous matter in sweat turns it Tursh (pungent) smell. Bitterness of sweat is due to dominance of Khilte safra.<sup>4,8</sup>

**CONSISTENCY**

Unani physicians have proposed two types of sweat consistency in disease conditions. One is thin and second is thick. Thin sweat indicates the dominance of thin humour like Safra and thick consistency shows the dominance of viscid humour like Sauda and also indicates the prolongation of disease because physis takes more time to correct or eliminate such type of thick matter.<sup>4,8</sup>

**TEMPERATURE OF SWEAT MATTER**

Normal temperature of sweat (same as of body temperature) is a good indication; means body does not feel it. But cold sweat as well as hot sweat is not a good sign. In any condition especially in high grade fever if cold sweating occurs, it points out Hararate ghariziya (innate heat) is weak or vicious matter is excessively present in the body and innate heat is unable to make essential alteration which is required by Tabiyat in terms of temperature, consistency and quantity of sweat or causative matter. Cold sweat highlights one more important aspect to the physician that is prolongation of disease. Jurjani described hot sweat is better in any condition as compare to cold.<sup>4</sup>

**TIMING AND REGULARITY OF SWEATING**

Under this heading, physicians have discussed about timing and regularity of sweating. Uniform sweating at regular interval shows the better state of Tabiyat (physis) and proper elimination of matter. Irregular sweating, not uniformly distributed over the body indicates weakness and inability of Tabiyat to eliminate vicious matter.<sup>8</sup>

**EFFECTS OF SWEATING ON BODY**

Unani scholars described the effects of excessive<sup>12,13</sup> (hyperhidrosis, sweat when the body doesn't necessarily need cooling)<sup>11</sup> and decreased sweating under the heading of Istifraghe Ghair Zarooriya (abnormal elimination) and Ehtibas Ghair Zarooriya (abnormal retention). IbnSina wrote in Al Qanoon fit Tib (The Canon of Medicine), if elimination and retention of matter from body are balanced and occur when needed; are beneficial and health protective and promotive.<sup>12-15</sup>

Table 2. Effects of sweating on body

Factors	Characteristics of Sweating	Effects on body
Excessive exercise and hot weather, weak retention power of body, Imtila mawad (accumulation of matters), severity of disease, or wasting diseases. <sup>4</sup>	Excessive sweating (abnormal elimination) <sup>4</sup>	Weakness, dryness, coldness <sup>8</sup>
Weak power of elimination, excessive cold weather, less fluid content in the body, unduly viscid matter, partial opening of skin pores. <sup>4,8</sup>	Decrease sweating (abnormal retention) <sup>4,8</sup>	Coldness, dominance of moisture, disturbance in temperament and humour, skin diseases. <sup>2,15,16</sup>

Sweat matter is the waste of body which is eliminated physiologically. If this waste matter gets retained in the body, leads to many disorders. Excessive sweating also causes some derangements in the body because sweat is composed of solutes and water. So, due to excessive loss of water as well as useful matter; the person becomes dehydrated and some other symptoms appear.

Akbar Arzani and other Unani physicians explained that the retention of the matter which should be eliminated through perspiration causes certain diseases that may be structural. Accumulated matter suppresses the innate heat resulting in coldness or dominance of moisture in the body which leads to disorder of temperament and body humours,<sup>12-18</sup> further bring into being some skin diseases like measles, Banatul Lail (urticaria) etc.<sup>2</sup>

Depletion of matter which must be retained in the body causes coldness and dryness in the nature of the organs. Sometimes due to excessive dryness; obstruction and occlusion of the vessels may develop. Other than this, convulsion and tetanus also follow excessive depletion.<sup>14,16,17</sup>

## CONCLUSION

With above discussion it is found that the sweating is a very important phenomenon occurring in the body. Sweating plays an important role in cleansing of body, as diagnostic tool and as a regime. Unani physicians discussed all aspect of sweating and its benefits. In this paper the writings of Unani physicians were systematic reviewed and compiled. So this is the first kind of work in this direction was done; further study is required for elaboration and better systematization of Unani concepts in the light of present sciences.

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## REFERENCES

- Sembulingam K, Sembulingam P. Essentials of Medical Physiology. 6<sup>th</sup>ed. New Delhi: Jaypee Brothers Medical Publishers; 2012.
- Ibnul Quf. Kitabul Umdah Fil Jarahat. Vol.1, (Urdu translation). New Delhi: CCRUM; YNM.
- Wilke K, Martin A, Terstegen L, Biel SS. A short history of sweat gland biology. International Journal of Cosmetic Science. 2007;29(3): 169–179.
- Jurjani SI. Zakhira Khawarzam Shahi. Vol.2. (Urdu Translation by Hakim Hadi Hasan). New Delhi: IdaraKitab-us-Shifa, Koocha Cheelan; 2010.
- Anonymous. Standard Unani Medical Terminology. New Delhi: CCRUM in collaboration with WHO Country Office for India; 2012.
- Baker LB. Physiology of sweat gland function: The roles of sweating and sweat composition in human health. Temperature (Austin). 2019; 6(3): 211–259.
- List CF. Physiology of Sweating Annu. Rev. Physiol. 1948;10:387-400.
- Majoosi IA. Kamilus Sana'ah. Vol. 1, (Urdu translation). New Delhi: CCRUM; 2010.
- Crinnion WJ. Sauna as a valuable clinical tool for cardiovascular, autoimmune, toxicant- induced and other chronic health problems. Altern Med Rev. 2011;16(3):215–225.
- Hussain J, Cohen M. Clinical effects of regular dry sauna bathing: a systematic review. Evid Based Complement Alternat Med. 2018;2018:1857413.
- American Academy of Dermatology. Hyperhidrosis: Overview. Accessed on 15/06/2020, from [https://www.aad.org/public/diseases/dry-sweaty-skin/hyperhidrosis].
- Anonymous. Al-Qanun Fil-Tibb. New Delhi: Department of Islamic Studies, Jamia Hamdard; 1993.
- Shah MH. The General Principles of Avicenna's Canon of Medicine. New Delhi: Idara Kitabus Shifa; 2007.
- IbnSinaA. Al Qanoon Fit Tib.(Urdu translation by Ghulam Husnain Kantoori). New Delhi: Idara Kitabus Shifa; 2010.
- Arzani A. Aksirul Qulub. New Delhi: CCRUM; 2010.
- IbnSina A. Kulliyat Qanoon. (Urdu translation by HkmKabeeruddin). New Delhi: Ejaz Publishing House; 2006.
- Gruner OC. The Canon of Medicine of Avicenna. New York: AMS Press; 1973.

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