

ORIGINAL ARTICLE

Different Ways to Treat Warts in Islamic Medicine Resources up to the Sixth Century AH

Abstract

In the age of development and efflorescence, Islamic medicine was founded on the principle of four temperaments; therefore, the prevalence of various diseases and their treatment methods were carried out based on the view mentioned above, namely, temperament balance loss. According to available resources, it is clear that the recognition and treatment of some dermatoses, such as warts, were affected by this view. Warts are a common dermatosis that is discussed from various aspects and problems based on the four temperaments as perceived by doctors in Islamic civilization. Despite the big misunderstanding in identifying the origin of this disease, mainly due to the lack of required technology and lack of accurate tools, Muslim physicians, unbelievably, were able to accurately examine and explain the type and location of their occurrence. Furthermore, the physicians could adopt appropriate treatment based on their type, extent of infection, and location. It is important to keep in mind that, with some advancements in technology and medicines, most of the treatments and medications that were widely used until the end of the 20th century can be modified to work in modern medicine.

Key words: Treatment, Superstitions, Warts, Herbs, Surgery, Skin Diseases

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Introduction

As a primarily viral benign disease, warts develop mainly on the skin's surface and change their appearance. The Human Papillomavirus (HPV) is the root cause of this illness (HPV). Due to their proliferation inside the tissues, various types of damage of different sizes are developed on the surface of the skin. So far more than 150 types of warts have been identified (Goodarzi, et al., 2020, p. 64; Yazdanfar, et al., 2014, p. 104; Lipke, 2006, pp.273-274; Habif, 2011, pp. 188, 205). Because of the involvement of the external surfaces of the skin that allows the observation of warts, this disease has long been known to exist and has been treated using various treatment methods. Physicians in Islamic civilization, applying the knowledge gathered through the translation of texts and their clinical observations and experiences, have added valuable information about this disease, including its diagnosis and treatment, to the medical knowledge of Islamic civilization. Although the absence of precise and modern tools and the influence of the four temperaments theory led to some confusion about the origin and cause of this disease and consequently some difficulties in its treatment, Muslim scientists had significant achievements in identifying various types of warts. Based on their experiences and observations, considering the location and dimensions of warts, as well as the extent of their spread, physicians in Islamic civilization mostly recognized the ones which were most likely to be infectious; therefore, they used several treatment methods, either through prescribing various medications or performing surgery.

To the best knowledge of the researchers of this study, there has not been independent research performed on the treatment of warts in Islamic medicine. The previous research emphasized the effects of new advances, such as lasers, Cryotherapy, and some medications in the treatment of warts; therefore, the present study is one of the first studies carried out on the treatment of this disease in Islamic medicine. In the present article, it is attempted to examine the level of attention paid by physicians in Islamic civilization to the recognition and treatment of this disease based on library resources and descriptive-analytical methods; besides, it is tried to find an answer to the following question:

According to the available resources, how much did the physicians know about the causes of warts and their treatment methods?

Based on the findings, like other diseases, the cause of the disease was influenced by the dominant opinion, the system of four temperaments, which was not verified completely by the new findings. However, in recognizing the organs involved and applying the treatment methods, considering the location of the wart, physicians appeared to apply innovative and developed methods which were quite ahead of their time.

Discussions

Physicians and their knowledge about the disease

Consistent with the content of medical sources, as mentioned by early physicians, warts were considered one of the most common dermatoses that could appear in most parts of the skin, but they were mostly seen on the fingers and hallux (Majuwsy, 2008, Vol. 2, p. 283; Razi, 2001, Vol. 17, p. 13). In Islamic Arabic sources, these warts were given the names like "*sa'alil*", "*âžax*", and "*zegil*" (Jurjany, 2012, p. 268; Jurjany, 1990, p. 243). The fact that how much attention was paid to the disease by various physicians of different periods, particularly during the flourishing era of Islamic civilization, was partly influenced by its prevalence. Although the disease was not unknown and was relatively



prevalent, it was rarely described fully in medical texts and a small number of physicians attempted to offer a definite description of the disease and its characteristics. Majusi, for example, considers warts to be a mass formed by the drying of the skin (Majuwsy, 1997, p. 293); he considers them to be circular bumps that grow on the surface of the body, becoming hard and firm (Majuwsy, 2008, Vol. 2, p. 283, 296). Early physicians believe this disease to be a kind of abnormality in the body that changes the natural shape of the organ (Huniyn Ibn Ishaq, 1978, pp. 28-29, 55-56).

Physicians and pathogens

One of the critical issues in treating diseases is recognizing the disease and its etiology. Due to the lack of knowledge and precise tools, the cause of these warts was unknown to the physicians of that era. However, some physicians in the studied period suggested several different opinions about the cause of these masses, most of which were significantly different from the actual cause, i.e., the papillomavirus. These views were primarily based on the prevailing view of the period, namely the role of the four temperaments. Some physicians attributed the disease to a mixture of black temperament or mucus (Sabit Ibni Quri, 1998, p. 36), some others to a severe combination of mucus and bile (Majuwsy, 2008, Vol. 3, p. 315), and still some others to the severe feeling of bilious in the body (Avicenna, 2010, pp. 191-194). Muhammad ibn Zakaria al-Razi, in his book, recorded the opinions of previous physicians regarding the cause of warts, such as blood drying, anthrax, and drinking water after eating beans (Razi, 2001, Vol. 21, p. 400, Vol. 23, p. 455). This view was also repeated in Ibn Al-Jawzi's book, *Laqt al-Munafi fi Alam al-Tab* (Ibn Jwzy, 2010, p. 667). Some physicians assumed that the warts were a mass stiffness that blends with acid (Tabari, 2002, p. 227). Some others related it to poor digestion of food, lack of proper fecal excretion, as well as overeating (Majuwsy, 2008, Vol. 2, p. 280; Zahrawy, 2004, p. 664); besides, some other groups assumed that its cause was the blending of sore mucus with blood (Majuwsy, 2008, Vol. 2, p. 281). However, as mentioned above, all the ancient physicians misunderstood the origin and cause of warts. As stated, the reason for this misconception was the dominance of the theory of four temperaments over Islamic medicine and the low level of technology of that period. This erroneous view was also seen in historical sources. For instance, Ibn Sa'd referred to the cause of Abu Sufyan's death as the wart on his forehead being cut while he was shaving his head (Ibn sad Katib Wagidy, 1995, p. 44).

The nature and types of diseases in medical resources

The possibility of observing warts on the skin of organs, especially the hands and feet, made Muslim physicians pay more attention to their occurrence in different parts of the body (Majuwsy, 2008, Vol. 4, p. 235). Having observed various cases, physicians began to name them based on their appearance, namely "*crooked warts*" (Razi, 2001, Vol. 20, p. 59; Zahrawy, 2001, p. 267), "*cuneiform*" (Razi, 2001, Vol. 21, p. 220) "*fungoid*", "*white warts*", "*dry warts*", "*scattered warts*" (Razi, 2001, Vol. 23, p. 455; Zahrawy, 2001, pp. 116, 164, 335). They attempted to divide warts mostly based on their appearance. This division is somewhat compatible with modern medicine. In modern medicine, simple warts, plantar warts, and resistant and genital warts are called warts type 2, 4, 7, 1, 4, and Condylomata Acuminata, respectively (Habif, 2011, p. 188).

In their works, the physicians of the period recognized and recorded several types of



warts, such as warts on the face; legs (Sabit Ibni Quri, 1998, pp. 35-36); eyelids, the corners of the eyes and around the eyelashes (Majuwsy, 1997, p. 365; Zahrawy, 2001, pp. 9, 63, 176; Kashkary, 2007, pp. 78, 786); around the nose (Zahrawy, 2001, p. 205); and abdominal ones which were mainly formed as fungoid masses; warts around the uterus and mouth (Majuwsy, 2008, Vol. 2, p. 500; Razi, 2001, Vol. 9, p. 132); the anus (Razi, 2001, Vol. 20, p. 71; Zahrawy, 2001, p. 333); the penis (Majuwsy, 2008, Vol. 4, p. 264); and the urethra which makes irritation while urinating (Kashkary, 2007, p. 503). Some physicians assigned a specific chapter or section of their books to the issue and elaborated on it accurately. Furthermore, depending on warts' location, they prescribed different medications or special tools for treatment or surgery.

As noted, the way the disease was paid attention to together with its reflection is one of the critical and thought-provoking issues in the works of Islamic medicine during its flourishing time. In some sources, depending on the location and position of warts, information was gathered about the disease and its treatment methods, relying on the experiences of physicians of the period. For example, some physicians, like the author of the Al-Haruniyah treatise under the title of "the characteristics of sa'alil" (Al-Zakhira Fi Alam al-Tab, the twenty-fifth chapter) (Sabit Ibni Quri, 1998, p. 213), Razi (the twenty-first chapter), the author of Kamel al-Sina'a al-Tabiya (the seventeenth chapter) (Majuwsy, 2008, Vol. 2, p. 236) the author of Al-Dakhira fi Elm al-Tib (the fourth chapter), discussed the issue while examining other dermatoses (Sabit Ibni Quri, 1998, p. 11).

In some sources, while discussing the organs of the body, the warts were paid attention to when the diseases were related to the organ being evaluated; moreover, the author expressed his views on the treatment of the disease. Majusi, for example, assigned one chapter (the nineteenth chapter) to warts; besides, in the other chapter (the twenty-fourth one), he addressed their appearance on the eyelids and around the eyes. In the ninth and thirteenth chapters, we also found some treatments related to the disease (Majuwsy, 2008, Vol. 4, p. 184). In the book, Al-Kahhal, we can find some information on the treatment of warts around the nails, cervix, and penis in the ninth, thirteenth, nineteenth, and fifty-third chapters, respectively. In the twenty-seventh chapter (Majuwsy, 1997, pp. 139, 155, 158, 161), the author of Tazkereh al-Kahalin also deals with warts on the eyelids and the way to treat them (Razi, 1991, p. 258).

Although in some sources, such as Ferdows al-Hikma, there was no specific chapter on treating this disease, the author referred to diseases while addressing the diseases of the organs (Tabari, 2002, pp. 227-228). When Ibn Sina mentioned the skin and its diseases, he assigned one chapter to the cause and treatment of the disease (Avicenna, 2010, pp. 191-194). In addition, Zahrawy dealt with warts and the way to eradicate them in the thirty-fifth chapter (Zahrawy, 2001, p. 125).

Treatment methods

The treatment of the disease is one of the essential and significant issues to which a part of the medical resources is dedicated. Depending on the location and type of the case, Muslim physicians use various herbal and chemical medications; besides, in the case of emergency, they do surgery, which will be evaluated according to the available sources.

1- Medication

Physicians used to prescribe various medications as a part of the treatment measures at that time. As mentioned, depending on the location and the disease extension, the type of



prescribed medicine and treatment methods differed. At times, they would include both chemical and herbal medication. It is important to note that scarce research has been performed on the effectiveness of herbal medicines so far, which demands more studies to be performed in the future.

According to the physicians of the period under study, if the number of warts and the infected area is limited, the drying method is advised; and if the number is considerable, the area needs to be cleaned in order (Razi, 2001, Vol. 23, p. 564; Kahal, 2008, p. 153). In some sources, such as Al-Hawi, the medicines and instructions used for treatment are collected based on earlier sources. The writer has also stated his experiences and opinions (Razi, 2001, Vol. 23, p. 455).

A. Herbal medicines

According to available sources, there was a wide range of herbal medicines available then and Physicians mostly prescribed them for treatments. These herbs were used separately or in combination with other herbs or animal fats and oils. Some examples include the leaves of an Elm tree (Derakht-e- Gharb) (Razi, 1987, p. 258), the leaves and petals of the Nabataean carob (*Ceratonia siliqua*) tree, the crushed Nabataeans palm seeds (Razi, 2001, Vol. 20, p. 129; Tamimi, 1999, p. 629), the almond and its sap (Razi, 1991, p. 258), the boiled seeds of the nutmeg (Razi, 2001, Vol. 23, p. 455), Kabikeh (Persian Alaleh), tear flower, wet basil, Salep (Razi, 2001, Vol. 21, p. 337), leaves and fruits of figs tree and heir sap (Razi, 2001, Vol. 23, p. 456), a Kharazmi peach with cabbage juice (Razi, 1998, p. 49), Qarchak and Hamqa broad beans (Razi, 2001, Vol. 20, p. 130), wild celery (Razi, 2001, Vol. 21, p. 337), thistle (Kharkasak) (Razi, 2001, Vol. 23, p. 456), *Nigella Sativa* (Abwriyhani Byrwny, 2004, p. 471), the oil of *Myrtus* leaf, moist *Caper* bush leaf (Kahal, 2008, p. 153) and the oil of the *Comifora* plant (Razi, 2001, Vol. 23, p. 455).

Sometimes, a mixture of them was applied as a liquid or a poultice, namely, the mixtures of tamarisk with vinegar and Kabikeh (Razi, 2001, Vol. 23, p. 455), Nabataean leek juice with sumac (Razi, 2001, Vol. 21, p. 342), the poultice of *Asafoetida* with figs sap (Razi, 2001, Vol. 23, p. 455), the poultice of mountain figs and vinegar (Razi, 2001, Vol. 20, p. 113), the poultice of *leopoldia* plants (Razi, 2001, Vol. 23, p. 455), the poultice of Elm trees ash and vinegar (Razi, 2001, Vol. 23, p. 455), the Shauniz poultice and urine (Razi, 2001, Vol. 23, p. 456), the leaves and flowers of Al-Khalaf with vinegar (Abwriyhani Byrwny, 2004, p. 471), figs with clay and *Salaq* oil (Hirawy, 1967, p. 199), and a mixture of honey and sage (Razi, 2001, Vol. 21, p. 390), the berry oil, black cumin, *Nigella Sativa* and salt (Majuwsy, 1997, p. 294). Besides, Ibn Sina refers to some medicinal plants that effectively treat this disease (Avicenna, 2010, pp. 191-194). Nevertheless, vinegar is still recommended in modern medicine (Habif, 2011, p. 188). Although Basic and Clinical Pharmacology (Katzong, 2017, Chapter 64) has been assigned to herbal medicines since 2012 (Katzong, 2017, pp. 692-711), the medicines recommended in Islamic medicine have not been studied in terms of their effectiveness yet.

B. Chemical medicines

The other part of the medication used had chemical bases that were mainly used either separately or as a combination to burn warts, some of which continued to be used until the last century. Some of them included arsenic, yellow alum (iron sulfate), and the combination of burnt alum with Shitaraj, Orpiment, and calcium hydroxide (Sabit Ibni Quri, 1998,



p. 36; Tabari, 2002, p. 228; Kashkary, 2007, p. 78). These medications, as mentioned, were used to peel the skin (Razi, 2001, Vol. 20, p. 167), and a bandage was put on the skin after applying them. In modern medicine, the use of acids, such as salicylic acid, is common (Habif, 2011, pp. 188, 205), despite the fact that because of its acidity and burning nature, it has some side effects. Sometimes chemicals were used in combination with plants or animals and herbal oils, such as alum mixed with duck fat, cress seeds (Sabit Ibni Quri, 1998, p. 36), and a combination of arsenic and quicklime or vinegar and salt (Kahal, 2008, p. 153).

Some physicians, such as Majusi and Ibn Sina, stated the way and amount of their appliances in their books. For instance, in Majusi's work, how to make medicine is reflected in two different methods. The first one included copper rust, copper and bronze oxide, Abu Jahl melon, Borax, Ammonium chloride, soda, yellow Orpiment, and Seidlitzia Rosmarinus, one part each, and half a part of lime, which is mashed and mixed with soap and rose before being applied on the case. The second method included a mixture of quicklime and wine fortified with flour, which was applied at first, and then after removing the dead skin, a combination of copper oxide and peanut sap was used to burn the roots (Majuwsy, 2008, Vol. 3, p. 315). In the third step, after burning warts, a bandage was put on them. Ibn Sina, in his work, records three complete prescriptions with the number of materials used for the treatment (Avicenna, 2010, pp. 191-194). Inoculation is another recommended method, which was suggested in two previous sources, but there is no information about its quality and its preparation (Razi, 2001, Vol. 21, p. 247; Isrâyly, 1991, pp. 242, 456, 466, 471, 501, 523).

Applying for surgery

In case, herbal and chemical medications are not effective, surgery is an option. According to the available sources, the physicians in that period used several methods to remove warts, ranging from simply covering them (Razi, 2001, Vol. 21, p. 337) to using a scalpel.

Frequent phlebotomy was one of the most straightforward solutions, suggested (Razi, 2001, Vol. 23, p. 455). However, this is shown to have no scientific basis, despite some otherwise claims. In addition, so far, there has not been published research on the effect of phlebotomy on the elimination of warts. Tying up warts firmly, particularly with hooks, metal wires, hair, and silk thread, was an example of simple surgeries performed (Razi, 2001, Vol. 23, pp. 455-456; Majuwsy, 2008, Vol. 4, p. 236). As indicated, in case of failure of medications and basic methods to be effective, the physicians resorted to using scalpels (Razi, 2001, Vol. 23, p. 456) to cut the warts off (Sabit Ibni Quri, 1998, p. 216; Majuwsy, 2008, Vol. 4, p. 235).

Another practical and standard method was to heat warts with various tools. This has been used for many centuries and is still used today with some modification and construction of more accurate tools (Tabari, 2002, p. 238; Majuwsy, 2008, Vol. 4, p. 235). Meanwhile, some physicians, such as Majusi and Zahrawi, explained their surgical methods and tools in great detail. For example, to remove eyelid warts or the ones next to the roots of the lashes, a thin pair of tweezers was used to hold the eyelid, and finally, it was removed with scissors. The use of hollow iron tubes, or feathers of some birds similar to the size of warts, was another surgical tool (Majuwsy, 2008, Vol. 4, p. 236).

Based on his experiences and observations, Zahrawi elaborated on the method of treat-



ment and the tools needed to operate on warts of different body organs; besides; depending on the surgical organ, he recommended a specific method of surgery. In his surgeries, he did not use a wide Nishtar (a sharp metal tool used to drain blood) only, but he also used thin copper or iron tubes, as well as goose or vulture feathers. Due to the low level of technology of the period, Zahrawi believes that warts formed on invisible organs of the body, such as the uterus, are incurable. However, in the case of visible organs, he recommended removing them using the available tools. In the case of dry and rough warts on the skin's surface, especially the hands, he suggested tying them with silk thread before heating them.

Nevertheless, to remove wet warts on the eyelids, he recommended removing them with a scalpel and heating the area with a lens-shaped burn (Zahrawy, 2001, pp. 176, 334). *“After removing the wart, heat a metal like a spike and while it is still hot, dip it into the wart so deeply until it penetrates the vein from which the blood is flowing; repeat this action several times for each wart. Finally, put some appropriate ointments to be healed”* (Zahrawy, 2001, pp. 125, 267).

About narrow-rooted fungoid warts, growing in various sizes, he recommended cutting them with a wide Nishar and then heating them, as well as using a string of metal wire for tying them daily (Zahrawy, 2001, p. 267). Zahrawi, as recorded in his book, suggested innovative ways to operate on anal warts and the ones around the nose. The innovation he applied in order to remove the wart from around the nose which was important in terms of appearance was interesting (Zahrawy, 2001, pp. 125, 205, 333).

The critical point is that Zahrawy used to pay attention to the possibility of recurrence of the disease if the root remains there. (Zahrawy, 2001, p. 176). It is necessary to explain that according to his book, the treatment methods he provided were primarily based on his observations and experiences. This may confirm his claim about removing large warts, weighing eighteen and six ounces (Zahrawy, 2001, p. 267).

Superstitions and standard methods

Superstition was one of the issues that were present among the public since ancient times and affected medicine and methods of treatment. This superstition was partly due to the inability to cure many diseases, ignorance, idiotism, and profitability. Although the prevalence of superstitions in all fields, including medicine, increased with the decline of Islamic civilization, especially after the Mongol invasion, such issues can be traced to previous periods. In Islamic medicine and its sources, even in the golden period of Islamic civilization, these superstitions were observed in some sources.

As warts appear mainly in the external tissues of the body and are visible, compared to other diseases, there are relatively more superstitions about treating them. The possibility of tracing the exact time of promotion of superstitious thoughts and strategies is practically impossible, and it appears that they must have been rooted in pre-Islamic times. Nevertheless, in the surviving medical works of the second century AH, the folks' remedies are reflected and repeated in the works belonging to later periods. Most medical authors have employed some superstitious ideas in their works and further, without even critically analyzing the works of others, have just quoted them. Some examples of non-scientific solutions in medical sources are mentioned to clarify the issue, some of which still prevails among the public today. Interestingly, at times, some of them have had positive consequences, namely, mixing dung and bird droppings with human faeces



(Dimashqy, 2009, p. 221), mixing sheep's dung with milk (Isrâyly, 1991, p. 523) mixing some substances with old urine (Razi, 2001, Vol. 21, p. 247), mixing sheep's dung with vinegar or its mixture with Salep (Majuwsy, 2008, Vol. 3, p. 210) using dogs' urine, young boys' urine and mixing urine with the spleen (Majuwsy, 2008, Vol. 3, p. 209; Tabari, 2002, p. 297; Razi, 2001, Vol. 20, p. 189), bird droppings impregnated with saliva (Majuwsy, 2008, Vol. 3, p. 211; Tabari, 2002, p. 302), goats' dung and vinegar mixture (Razi, 2001, Vol. 23, p. 456) and putting them on the wart. This might be because of their psychological impact on the individual. It is believed that Razi also mentions the effect of rat blood in removing warts, yet, due to the many other available medications, he does not seem to regard this method as worthy.

Being attracted to the influence of zodiac signs, such as planets and stars, was another case in point. Watching the moon and other planets and simultaneously touching the warts was a common belief in the treatment of warts (Dimashqy, 2009, p. 221). The author of the book *Al-Aghdia* and *Al-Adawiyah* quoted from Diqirids, "*Some believe that if chickpeas or beans are put on warts at the beginning of the month, then they are collected in a cloth bag and thrown backward, the resilient and firm war will be eliminated*" (Hirawy, 1967, p. 199). Based on the latest sources, it is found that this is still a common method (Tabari, 2002, p. 364; Qalanisy Samarqandy, 1982, p. 304). Tabari also attributed this method to "*Dioscoridus*" (Tabari, 2002, pp. 363- 364), which cannot be verified due to the absence of the mentioned book. According to the available information, it seems that certain popular methods and superstitious ideas have been introduced to Islamic medicine through the translation of some works, such as Greek resources, and it is more expanded following the decline of Islamic civilization and is continued to the present day.

Conclusion

The findings of this study indicate that according to the system of medicine following the four temperament theory, recognizing the cause of the disease was associated with some misunderstandings. Nevertheless, Muslim physicians, particularly during the golden age of Islamic civilization, paid due attention to skin diseases and their treatment. They showed particular attention to recognizing different skin warts, explaining their exact dimensions and types, as well as suggesting different treatment methods and medications. In addition to the use of previous knowledge, an important part of the topics in the sources consists of physicians' experience and clinical observations. Until the 6th century, doctors used various herbal and chemical medicines, which were mainly used to burn warts. In the case of resilient warts and insufficiency of the medical effect, various methods of surgery from very basic methods to the use of special tools and knives were applied. In the periods after the sixth century, due to the gradual decline of medicine, there wasn't any innovation in the treatment methods anymore; therefore, the physicians resorted to the application of older methods at lower levels. Adapting the findings of Islamic civilization medicine and what contemporary doctors use requires some research being undertaken by experts in the field of dermatology. However, from a historical point of view, prior to the application of cryotherapy and laser, some other methods and medicine, such as using acids to burn lesions and removing them with surgery, were very popular. Despite this, there are some non-verified treatment methods and superstitions in the form of folk medicine that are still popular among ordinary people, and surprisingly,



sometimes they are observed to be effective. Research on clinical experiences, solutions, and recommended medicines not only can lead to a better understanding of the achievements of Muslim doctors in treating skin diseases but can also be applied to reidentify the quality as well as the effectiveness of medicines to produce new medicine.

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Conflict of Interest

None.

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