



A review of old baths and its benefit in maintaining health from the perspective of Persian medicine

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Abstract

Introduction: In Persian medicine (PM) references, bathroom is not only important for the body cleanliness. In this study, the applications and therapeutic effects of taking a bath is investigated.

Materials and Methods: This is a library study that searched the keywords of bath, taking a bath, and washing in the comprehensive traditional medicine library of Noor research center, pub med, Google scholar, and SID databases as well as other domestic and foreign articles.

Results: From the PM's point of view, taking a bath has many privileges and it is recommended for maintaining the health of normal people and the treatment of diseases in patients. The sages of Persian Medicine have written many papers about the benefits of bathing and therapeutic solutions in bath such as bathtub, oil therapy, massage, and use of hot, cold, and mild types of bath. They have referred various types of water in this treatment. In general, they have discussed the preventive and therapeutic uses of bathing such as relieving pain, anxiety, DM, enhancing sleep quality, and promoting the quality of life in cancer patients. Bath is not only a place for body cleansing, which is predominant in modern baths. In addition to the role of their architecture based on temperament, these are prescribed to prevent the disease and due to their therapeutic effects.

Conclusion: From the point of view of PM, baths with different and appropriate conditions can have many applications for maintaining the health status of normal people or the patients' treatment and recovery.

Keywords: Bath, Persian medicine, Therapeutic Uses, Health

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Introduction

Cleanliness has been considered a religious rite among Iranians, and Ghusl and washing were obligatory in order to participate in the religious ceremonies of the Zoroastrian religion. After the advent of Islam, the use of bath was also essential for these purposes (1).

Bath is a place for cleaning and washing the body. The Iranians also call it bathhouse (Garmabeh). They were one of the first tribes building bathhouses. The construction of bathhouses in this country dates back to Shah Jamshid Pishdadi. Monuments of private baths have been found in relation to Achaemenid Empire and Assyrian palaces during the Parthian Empire (2).

In ancient Iran, bath-construction was very common and Iranian architects were very skilled in the construction of baths, in such a way that outside the borders of Iran, such as in the Levant and Iraq, these architects were involved in building baths in the first centuries of Islam. This shows that Iranians were fully aware of the importance of bath construction in health.

A proof to this claim is the large number of baths in cities and villages as well as those left over from past centuries as valuable heritages of Iranian culture and civilization. Among the well-known baths remaining from those days, Ganjali Khan Bath in Kerman, Vakil Bath in Shiraz, and Fin Bath in Kashan can be mentioned. As well, what was significant was the donation of baths by Iranian donors for public use.

Public baths in Iran have been very effective not only on cleanliness, but also on the prevention and treatment of different diseases. This has been a prominent part in the lifestyle of the people and strengthened the collective spirit, exchange of ideas, and preservation of religious and ethnic rituals and traditions (3).

In Iranian bathhouses, services such as washing the body, rubbing the body with flannel, massaging, removing excess body hair, and using herbal medicines to strengthen the hair and skin were provided. Therefore, bath buildings have been among the most important urban and rural architectures in Iran, and the brilliant Iranian architects had realized that the bath buildings should have a smart space commensurate with the needs of the human's body and mind.

The ancient public baths were constructed with very beautiful tiles, stained glass, and pleasant stonework. The walls and ceilings were decorated with good-looking carvings, mostly taken from the characters and stories of Shahnameh. The bathroom spaces were divided into several separate parts with different and specific applications. The various sections or booths of the bath were so beautiful and useful in a way that it provided fun times for people (4).

By searching the keywords of bath in scientific databases, we found several articles dealing with the historical background of bath in different fields, some social and even political functions (5), comparing the main structural and cultural features of bath in the past(6), and the effect of traditional medicine on the architectural design of public baths (7). Moreover, baths in Islamic cities and its role in health, worship, seeing, and exchanging information were discussed (8). In this article, we attempted to compare different applications of bath therapy from the perspective of Iranian physicians with new findings in this field, so that the therapeutic role of bath can be used further.

Materials and Methods

This was a library study that searched the keywords bath, taking a bath, Ghusl and washing in Noor Research Center comprehensive library of traditional medicine and authentic books of traditional medicine such as Ibn Sina's The Canon of Medicine, Al-Mansouri Razi, Zakhireye Kharazmshahi, Mofarrah al-Gholoob, Tohfeye Khani, Resaleh Dalakieh, Hefz al-Sehat Naseri, and Hefze Sehat. PubMed, Scopus, and Google Scholar were investigated for the evaluation of the scientific evidence related to the therapeutic uses of bath. Thereafter, we collected, categorized, and analyzed the obtained data.

Results

Bath buildings

The Iranian bathhouses were designed in such a way to be directly related to the four temperaments of the human body as well as its health status (Figure 1). The different parts of the bathhouses play an important role in balancing the elements in the bath with the four temperaments of human beings(3, 9).

The main spaces of the baths included the entrance corridor, Maslakh, Mian Dar, bathhouse, and the Khazineh. This clever architecture made it possible to enter and exit from any space to another space safely in the bathhouse without any harm to the body, especially when leaving the bathroom when the body is warm and the apertures of the skin are open. The body under this condition is ready to enter another space; also the exchange of air and humidity between the spaces is reduced. In such a bath, the temperature in each space is different from others and at the same time, no space is empty of heat (4, 10).

Entrance corridor and Maslakh (Sarbeyneh)

At the beginning of the entrance to the bathroom, people had to go through a corridor, which was usually a maze, in order to enter the locker room. This corridor actually separated the private space of the bathroom from the outside and caused the heat inside the bathroom to be maintained and the inside of the bathroom to be out of sight of passers-by (11).

Maslakh, Sarbeyneh or the locker room from which the bathing process begins, covers a wide space and most of the decorations and luxuries of the bathhouse building, including patterned tiles and artistic plastering, are located in this section.

At the center of this space, there is a large tiled pool, around which there are several platforms in a circular or hexagonal form furnished with carpets or kilims. It is a place used to change clothes and relax after bathing as well as for friendly chats.

The air in Sarbeyneh is cold and dry. The beauties and luxuries used in this space reduce people's black bile.

Mian Dar

Mian Dar or Sarkhan is the space between Sarbeyneh and the Bathhouse that connects these two spaces. This place includes either a corridor with a vestibule or a twisting corridor.

Due to the presence of cold water pools, it has a cold and wet temperament, which is phlegmatic and suitable

for hot temperaments. At the end of bathing and after leaving the Garmkhaneh (bathhouse), they washed their feet in these pools so that the body being adapted to the air in Maslakh and then to the air outside the bath. This space regulates body temperature and humidity (12).

From the Mian Dar space, one or two side corridors to enter the Nezafat Khaneh [cleaning house] could be seen, which includes the henna dying place, the Noureh Khaneh, and toilets. Noureh is a powder consisting of arsenic, phosphorus, sulfur, and lime that is used to cleanse the body of excess hair.

Bathhouse (Garmkhaneh)

The Bathhouse or Sahn was the main place for bathing and washing the body. People entered the Bathhouse after crossing the Mian Dar. The air of the Bathhouse was hot and dry, which was suitable for people with a cold temperament. Warm-tempered people should have stayed shorter in this space. In this place, besides washing the body, they rubbed the body with flannel, massaged people, etc. (11, 12). The bathhouse was a large, high-altitude space, which prevented people from breathing the CO₂ gas as well as the vapors and odors caused by body dirt and filth. The roof of the bathhouse was circular with goblet-shaped glass to let light enter the bathroom, as the use of tally lamps, candles or oil lamps causes breathing problems (13, 14).

Khazineh

Next to the bathhouse, over a few steps and crossing through a small entrance, they entered the Khazineh, which is a pool also called Abzan (Sitz Bath). Abzan is one of the treatment methods of traditional medicine for the prevention and treatment of diseases. In the Khazineh, heat and humidity were almost enclosed so that the air in this place would be warm and wet. In addition to this pool or Abzan that was located on the Tun [fire house], there was also a cold pool in this space (11, 12).

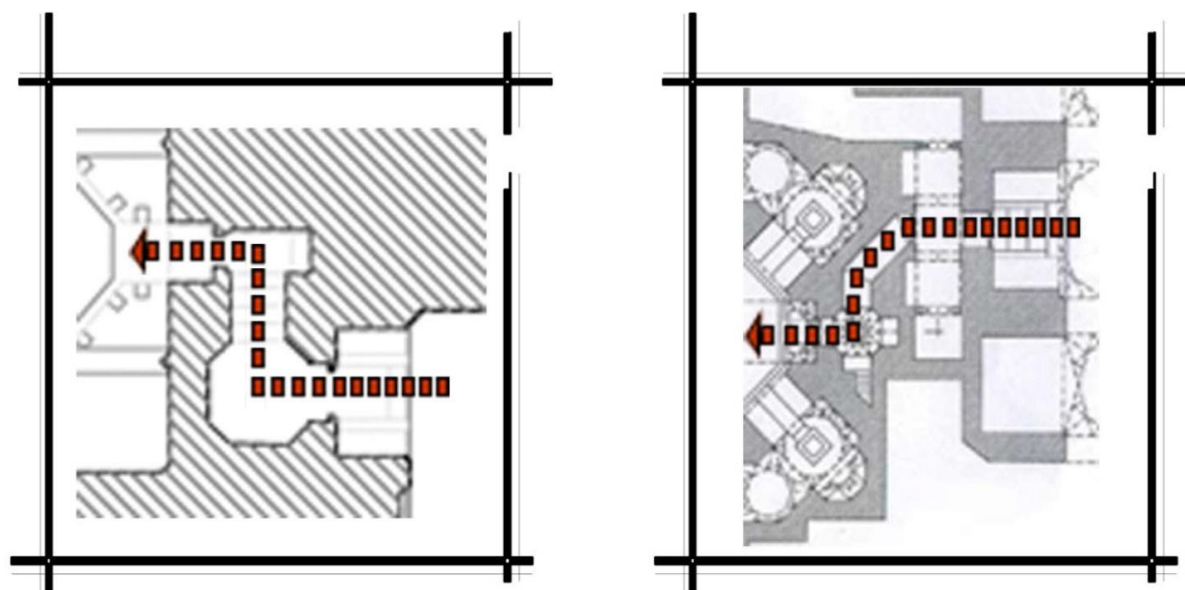


Figure 1. Entrance hall of Ganj Ali Khan bath in Kerman (right), entrance hall of Ebrahim Khan bath in Kerman (left) (15).

Signs of a good bathing

Good bathing creates a good transition in the body, the first sign of which is the reddening of the skin as a result of the heat and humidity in the bath, provided by the duration of staying in the bath at the average level. Other signs include good sleep after bathing, lowered fatigue, rejuvenation of the body, solution and discharge of the unhealthy substances, confinement of diarrhea, and cleansing the skin of impurities (16).

However, if the time of stay is more than average, there will be more problems, the signs of which are dryness and wrinkling of the skin caused by heat and dryness of the body. Accordingly, these lead to thinning and flow of substances to weaker organs, weakness of those organs, decreased appetite, loss of sexual desire, weakness of the heart, or nausea (16).

Bath time

The best time to take a bath is either after the first and second digestions (stomach and liver) – i.e. about six hours after eating, or when there are signs of digestion such as lightness on the rumps or non-recognizability of the smell of food in the burp. In case you take a bath immediately after eating and before digestion in the stomach, due to the opening of the intestines and ducts in the bath, food is absorbed by the body before digestion, which consequently causes blockage of organs (obstruction of organs), especially the major

organs, as well as weakness of the nerves, gout, and Polydipsia (2, 16).

People who intend to gain weight can take a bath after the first digestion (in the stomach). Bathing is also not suitable when starving or fasting because it causes dehydration, dryness, and thinness of the body. Other side effects include the bile falling into the stomach leading to vomiting. Those who want to lose weight can use this method, however it is not recommended (3).

Bathing based on water temperature

Cold bathing

In this type of bathing, the water temperature is between 12 and 18°C and it strengthens the body. Due to the closure of the apertures, this type of bathing increases the intrinsic temperature. In order to boost energy, Cold bathing is useful in the morning after waking up. The duration of this type of bathing should be short, as about 20 seconds. In case of taking shower for longer times, it will cause tremors and convulsions. In PM, it is recommended to use the cold bathing cautiously. This type of bathing is suitable for the hot-temperament, muscular youth in summer(3, 4, 9).

In a number of patients' rehabilitation projects, a relationship between coldness and muscle strength was observed. Coldness strengthens muscles (enhancing intrinsic heat), so that immersing the leg in water at 10°C increases the strength of the gastrocnemius

muscle and causes a similar effect on the wrist and fingers, so people will gain a higher power grip(4).

Hot bathing

The temperature of the water in hot bathing is between 30 and 40 degrees, which leads the body to sweat and opens the apertures and pores of the body, moisturizes the body, reduces pain, and expels impurities and wastes. Moreover, it is hypnotic. However, if the duration of a hot bath is prolonged, it will lead to general weakness of the body(17).

Moderate bathing

The temperature in this type of bathing is between 25 and 30 degrees. It neither strengthens nor weakens the body and at the same time it preserves the health of the body. This means that it is better to be used for healthy people and those with no diseases (4).

Preventive aspects of the bathing

According to (PM), bathing should be able to dissolve, moisturize, relieve, and strengthen the function of different body organs.

Traditional and new physicians have always recommended bathing as a means of health and treatment, because they believed that bathing, in addition to its application for cleanliness and hygiene, also has therapeutic and preventive applications. For example, one of the ten medical recommendations of Tiazq(Theodocus), who is one of the physicians of the Umayyad court, in order not to get sick, was to take a bath every other day, because what the medicine could not take out of your body will be taken out by bathing(15).

Bathing has also been recommended for the treatment of some diseases and cleansing of the body; for example, hot bathing is effective on treating the predominance of phlegm and cleansing the body's ducts of sediments. Bathing has also been emphasized in some eye diseases, gynecological diseases, fungal diseases, etc.

Therapeutic aspects of bathing

The ancient sages recommended bathing for the treatment of many diseases. Among the therapeutic

methods in the bath, the selected ones can be mentioned as follows:

Hydrotherapy in the Khazineh: To treat some diseases such as headaches caused by dryness (dehydration), especially in summer and after doing exercise, prolonged fatigue, and for pregnant women who have difficulty in giving birth, hydrotherapy in the bath has been recommended (11, 12).

Another type of hydrotherapy is to relax in the Abzan, which is a space made of metals or other materials in sizes commensurate to the human body and it is now called a tub.

In this method, the patient is advised to place all or a part of his/her body in a container containing water alone or with specific medicinal compounds. Water can be hot or semi-hot and can be used in pure form or with the decoction of some medicinal plants and medicinal oils. The patient was placed in Abzan containing medicinal substances, and this method was used to treat various diseases, including various types of fevers, diseases of urinary tracts, kidney stones, specific gynecological diseases, neurological disorders such as melancholy, seizures, insomnia, heart disease, and epilepsy.(2).

Dalk (massaging): Massaging may be hard, soft or mild. Hard massaging dissolves harmful moisture and strengthens the limbs, soft massaging opens the apertures of the body and softens the hard parts, and the Mild type is fattening due to blood absorption. Harsh massaging, performed with a rough cloth (flannel), strengthens the body and enlarges the organs due to the absorption of blood to the organs(10).

Oil therapy: Oil therapy in the bath has been prevalent for thousands of years due to its medical properties. The ancient Egyptians, Greeks, and Persians used aromatic oils for massaging in the bath(14).

In the traditional medicine, various types of oil have been recommended to be used in the bath based on the type of illness; for example, for the treatment of backache, kidney stone, childbirth facilitation, etc.(2).

Along with a warm bath, vegetable oils can relieve muscle aches, headaches, insomnia, and stress. Oils such as thyme oil reduce inflammation in the body due to having antioxidants. In addition, Chamomile and

lavender oils are effective on relieving insomnia and relaxation. Tea tree oil is used to treat skin infections and wounds. Eucalyptus oil is effective on relieving respiratory problems and fever, and rose oil is effective on relieving digestive problems and helping blood circulation.

In the Persian Medicine, oils are divided into two categories, namely aromatic and non-aromatic. Accordingly, aromatic oils are obtained from the essential oils of aromatic plants, flowers, trees and fruits, bark, stems, and seeds(14).

Incense therapy or aromatherapy: Incense (fumigation) with a variety of herbs can be used based on the type of disease; for example, for phlegm-type headaches and opening the throat and tonsils, the incense of *Rosa Canina* is used in the bath(15).

Use of pumice-stone: Due to high abrasiveness, pumice-stone is used to remove dead hard layers of skin on the heel. It is also useful in relieving foot fatigue. One of its therapeutic applications is the treatment of cerebral headaches (16).

Use of plants and herbal soaps: Plants and herbal soaps were used in the bath to cleanse and treat some diseases. For example, cedar is beneficial in cleansing the body of pus, preventing hair loss and hair softness, and relieving hot headaches. As well, the hollyhock soap has been used to relieve cold and wet headaches (10, 16).

Depilatory: In addition to hygienic and removal of excess hair, it was used to treat skin diseases such as white lesions in the form of Kieron and Keloid (11, 18).

The therapeutic role of bathing in new findings

There is now strong evidence of the effect of water-based therapeutic interventions on improving the health status of patients with chronic obstructive pulmonary disease (COPD). In this regard, some studies have shown that bathing in warm water affects the psycho-functional status of COPD-positive patients. On the other hand, water-based exercise had more significant effects on these patients compared to those who exercised on the ground or did not exercise at all (19).

Hydrotherapy improves sleep quality, physical function, occupational status, psychological disorders,

and physical symptoms in patients with fibromyalgia (20, 21) .

In patients with psoriasis, back pain, and knee osteoarthritis, hydrotherapy is also effective on reducing pain, improving performance and quality of life, and reducing disability (22, 23). Additionally, due to the positive effect of bathing on reducing the physiological stress in the premature infants with swaddle, this method can be used as a suitable and safe bathing method in neonatal intensive care units (24).

Moreover, warm foot bathing can be used as an effective relief method to reduce the pain caused by placing fistula needles in the hemodialysis ward (25).

Therapeutic effects of hot or foot bathing (Abzan) can be observed on reducing anxiety and sleep quality (26). Diabetic Foot Spa and Sauna Bathing were effective on improving sleep quality and balancing blood glucose levels in quasi-experimental studies (27). As well, nowadays, hydrotherapy is used to facilitate childbirth in pregnant mothers (28). Foot bathing is used as the main mechanism in the enhancement of relaxation for pregnant mothers. Of note, lavender is one of the essential herbs used in aromatherapy (29).

Azimian et al. showed that in patients with the reduced level of consciousness due to head trauma, stimulating the foot skin (like using pumice-stone) in hot foot bathing (Abzan) at a temperature of 50°C consequently improved their level of consciousness (30) .

The hot foot bathing (Abzan or foot scrubbing) is very effective on peripheral neuropathy in patients with diabetes (31).

Foot bathing is more effective than foot massage on skin temperature as a supportive care with respect to nonpharmacologic interventions for alleviating chemotherapy-induced peripheral neuropathy as well as promoting the quality of life in cancer patients (32).

Water bath hyperthermia at 40 °C results in a decreased number of Side-population cells in heat-treated colon cancer cells, and it also plays a role in regulating the stemness of colon cancer cells (33). **Therapeutic application of all types of water used in bathing**

Apart from fresh water, various types of water such as salt water, sulfur water, alum water, ferrous water

(from iron ores), and copper water (copper ores) could be used in the treatment of different diseases.

Sulfur water: It dissolves and dilutes harmful substances and also reduces the looseness and softness of the tissue. In addition, it is useful for some skin diseases such as itchy rash, secreted rash, and scabies and also for preventing infusion of substances into the wound.

Ferrous water: It is known to be useful for stomach and spleen diseases.

Copper water: This type of water, which is conveniently available, is useful for diseases of the mouth and throat and secretions of the eyes and ears (34).

Salt water: It strengthens the head and chest and prevents the infusion of infected substances to them. It also strengthens the moist stomach and improves ascites (3).

In general, water from copper or iron ores as well as salt water, is effective on the treatment of cold and wet (phlegm) diseases like joint pain, and respiratory diseases such as pulmonary cough and shortness of breath (34).

Alum water: it is suitable for bleeding-inducing diseases such as bloody sputum, rectal bleeding, and purulent; inflammatory diseases of the anus; abnormal menstrual bleeding, upset stomach; and miscarriage caused by anxiety and sweating (This type of water is less conveniently available) (3).

Previous studies have shown that inhalation of sulfur-rich water improves mucosal-ciliary secretions, reduces the production of inflammatory cytokines and inflammatory infiltration of the mucosa, reduces the secretion of elastase from neutrophils, and maintains the interstitial elastic properties of the lungs (19).

Discussion and Conclusions

Bathing has many applications from the PM's point of view. It is recommended for maintaining the health status in normal people and the treatment of a number of diseases in patients.

The scholars of Persian Medicine have written many papers about the benefits of bathing and its therapeutic

applications such as Abzan; oil therapy; massaging; and the use of hot, cold, and mild bathing. They have referred to the effects of various types of water on the treatment of the diseases and have generally dealt with the preventive and therapeutic effects of the bath. Nowadays, by obtaining more data on these useful effects of the bath, an attempt has been made to develop the baths of houses, pools, and public baths in terms of facilities and technology and to conceptualize them as "baths" in order to make sufficient use of its beneficial effects (35). This article was conducted with the aim to express the benefits of the bath from the perspective of PM and modern medicine, but in some previous studies, the adverse effect of the bath have been mentioned. Accordingly, it was stated that some herbal treatments such as kava, aloe vera, eucalyptus, camphor, henna, and yohimbine used in bath can cause dermatological side-effects like St John's Wort (36).

Shower exposure as a potential route of transmission *Legionella* spp. And *L. pneumophila* infection is a major concern for immunodeficiency in elderly people, because they are at a high risk of getting infection (37).

Humid environment and high temperature in the bathroom and swimming pool are the best conditions for the growth of all kinds of fungi in these environments. Therefore, having contact with these places and non-observance of hygiene standards cause the transfer of fungal agents and various superficial skin fungal diseases (38).

It can be concluded that bath treatments are not free of side effects, which should be considered along with their benefits.

Author contribution

FK and **HA** contributed to the design and implementation of the research, **MQ**, **SS** and **MZ** contributed to the edit of the manuscript comprehensively. All authors confirmed the final version of the paper.

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Conflict of interest

None declared.

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