



Critical Evaluation of Water Purifying Methods in Ancient India WSR to Ayurveda

Waghe S*

Department of Roganidana, Sarvepalli Radhakrishnan College of Ayurveda & Research Center, Sarvepalli Radhakrishnan University, India

*Corresponding author: Subhash Waghe, BAMS, MD (Roganidan), Department of Roganidana, Sarvepalli Radhakrishnan College of Ayurveda & Research Center, Sarvepalli Radhakrishnan University, Bhopal, Madhya Pradesh, India, 462-047, Email: carenidan@rediffmail.com

Review Article

Volume 7 Issue 2

Received Date: April 03, 2023

Published Date: May 29, 2023

DOI: 10.23880/jonam-16000399

Abstract

Water is essential component of the human body. Impure water contains many impurities. Safe and palatable water drinking is essential for maintaining the health. Ancient Indian medical science, Ayurveda emphasizes on safe water drinking practices. Ayurveda had described different types of water sources like well, river, ocean, waterfall, pond etc. Ayurveda had mentioned the hazards of drinking unclean and unpalatable water. Ayurvedic acharya Sushruta had not only mentioned about the water purifying process but also about disinfecting the water to avoid the water borne diseases. As per Ayurveda, drinking unsafe and impure water may lead to diseases like edema, anemia, indigestion, skin diseases, cough, rhinorrhoea, abdominal pain, abdominal distension, fever, anorexia, conjunctivitis and goitre. Ayurveda had advocated the use of Nirmali seeds, Lotus root, Spirogyra root, cloth, pearl, Hessonite stone water and alum for purifying the water. Similarly, the ancient methods to disinfect the water include keeping the water in sunlight, boiling the water under heat, immersing the hot iron ball in the water etc. For making the water palatable and removing the bad odour from the water, Ayurveda had suggested to make it scented with lotus, pandanus (Ketaki), Mesua ferrea (Nagakeshar), Michelia (Champa), Stereospermum suaveolens (Patala). In ancient water purifying process, water was used to stirred with Alum primarily. Alum is well known for settling the dust to the bottom. Cloth was used to arrest the impurities in water by straining. Later water was used to get treated with Strychnus potatorum seeds to make it clean. Later water was heated to boiling point to make it germ free. It is observed that drinking impurified water leads to water borne diseases. It is concluded that water purifying and disinfecting methods are very well described in ancient Indian medical science, Ayurveda.

Keywords: Dushita Jala; Nirmalikaarana; Prasadana; Purification; Disinfection

Introduction

Water is essential component of the human body. Safe and palatable water drinking is essential for maintaining the health. Ancient Indian medical science, Ayurveda

emphasizes on safe water drinking practices. Ayurveda had described different types of water sources like well, river, ocean, waterfall, pond etc. Ayurveda had mentioned the hazards of drinking unclean and unpalatable water. Acharya Sushruta, had given the detail account of water purifying

and disinfecting process in 46th chapter of Sutrasthana of his text Sushrut Samhita. Ayurvedic acharya Sushruta had not only mentioned about the water purifying process but also about disinfecting the water to avoid the water borne diseases. Acharya Vagbhata had mentioned the impurities in uncleaned water, hazards of drinking impurified water and process of cleaning the water in 6th chapter of Sutrasthana of his text Ashtang Samgraha. As per Ayurveda, drinking unsafe and impure water may lead to diseases like edema, anemia, indigestion, skin diseases, cough, rhinorrhoea, abdominal pain, abdominal distension, fever, anorexia, conjunctivitis and goitre. Ayurveda had advocated the use of Nirmali beeja (*Strychnus potatorum* seeds), Lotus root, Spirogyra root, cloth, pearl, Hessonite stone water and alum for purifying the water. Similarly, the ancient methods to disinfect the water include keeping the water in sunlight, boiling the water under heat, immersing the hot iron ball in the water etc. For making the water palatable and removing the bad odour from the water, Ayurveda had suggested to make it scented with lotus, pandanus (Ketaki), *Mesua ferrea* (Nagakeshar), *Michelia* (Champa), *Stereospermum suuaveolens* (Patala).

Material & Methods

Literary analytical method of research is adopted in present study. Classical Ayurvedic texts such as Sushrut Samhita, Charak Samhita, Ashtang Samgraha have been referred for literary search.

Review of Literature

Impurities & Contamination of water

The water which is contaminated with insects, urine, stool, eggs of flies, dead body, bush, poison, mud, algae and the water which does not get the sunlight is said to be contaminated [1].

Pathological water

The water which develops pathological taste, odour, colour, touch and which is full with waste and to which aquatic animals and birds have left, which had lost its natural qualities is a pathological water [2].

The water which is slimy, with microbes, with waste, with algae, with altered odour, taste, and colour, which is concentrated is Pathological [3].

Drawbacks of contaminated water

The contaminated water develops six drawbacks.

- Roughness (Kharata), Slimyness (Pichhilata), hotness (Aushnya), Sensitiveness (Danta Agrahita) are the tactile

drawbacks (Sparsha doshas).

- Mud (Panka), Sand (Sikata), Algae (Shaiwal), multiple colour (Bahu Varnata) are the appearance drawbacks (Rupa doshas).
- Appearance of taste is a Rasa dosha (taste drawback).
- Lack of natural scent is gandha dosha (olfactory drawback).
- If on consumption individual develops salivation, thirst, heaviness, then it indicates Veerya dosha (Potency related drawback).
- If on consumption individual develops indigestion, abdominal gurgling then it indicates Vipak dosha. (metabolization related drawback) [4].

Hazards of Impure water

Drinking unsafe and impure water may lead to diseases like edema (Shotha), anemia (Pandu), indigestion (Ajirna), skin diseases (Twak Vikara), cough (Kasa), rhinorrhoea (Pratikshyaya), abdominal pain (Udar Shoola), abdominal distension (Udar Addhman), fever (Jwara), anorexia (Agni Sada), conjunctivitis (Netra Abhisyanda), Itching (Kandu) and boils (Ganda) [5,6].

Purification of water

The water should be made clean with cleaners like grass root (Parni moola), Lotus root (Bisa Granthi), Pearl (Moti), *Strychnus potatorum* seeds (Katak/Nirmali Beeja) and cloth (Vastra), Spirogyra (Shaival), Hessonite water (Gomedaka) and with precious stones (manis) [7,8].

Disinfection of water

The water should be made disinfected by keeping the water in sunlight, boiling the water under heat, immersing the hot iron ball in the water etc [9].

Scenting of water

The water should be made scented with deodorants like Pandanus (Ketaki), *Mesua ferrea* (Nagakeshar), *Michelia* (Champa), *Stereospermum suuaveolens* (Patala) and *Neria indicum* (Karveera) [10,11].

Discussion

Acharya Sushruta, had given the detail account of water purifying and disinfecting process in 45th chapter of Sutrasthana of his text Sushrut Samhita. Acharya Charaka, had mentioned about the unsafe and uncleaned water in 27th chapter of Sutrasthana and 3rd chapter of Vimansthana of his text Charaka Samhita. Acharya Vagbhata had mentioned the impurities in uncleaned water, hazards of drinking

impurified water and process of cleaning the water in 6th chapter of Sutrsthana of his text Ashtang Samgraha. Acharya Sushruta not only mentioned about purifying the water but also about disinfecting the water to avoid the water born diseases. Water was used to stirred with Alum primarily. Alum is well known for settling the dust to the bottom. Cloth was used to arrest the impurities in water by straining. Later water was used to get treated with Strychnus potatorum seeds Nirmali beeja (Strychnus potatorum) seeds is also called as water filter tree in English. It acts as wormicidal. It is also useful in abdominal pain, cough and anemia. Pearl was also used for cleaning process. The ancient disinfection process included procedures like keeping the water in sunlight, boiling the water under heat, immersing the hot iron ball in the water etc. Heating the water to the boiling point kills all disease-causing germs. Ancient method of water disinfection like keeping the water in sunlight, may be correlated with modern method of solar purification in which the ultraviolet sunrays kill the germs in the water. Pandamus (Ketaki), Mesua ferrea (Nagakeshar), Michelia (Champa), Stereospermum suuaveolens (Patala) are the famous scented drugs (Sugandhi Dravyas) in Ayurveda. They were used to remove the bad odour from the water and thereby to make it palatable. In modern era also alum is used for purifying the water. The other modern method of water purification include Ultra filtration, reverse osmosis Modern method of water disinfection include chlorination, iodination and boiling of water.

Conclusions

- Drinking impurified water leads to water borne diseases.
- Water purifying methods are very well described in Ayurveda.
- Water disinfecting methods are very well described in Ayurveda.
- Ancient methods of water purification are still used in many parts of the country.

References

1. Sushruta (1975) Sushruta Samhita. In: Atrideva (Ed.)

Sutrasthana, 45/9-11, hindi translation, 5th edition, published by Motilal Banarasidas, Jawahar Nagar, Banglor rd, New Delhi – 110 007.

2. Charaka, Agnivesha (2019) Charak samhita. In: Shukla AV, Tripathi R (Eds.) Vimansthana. 3/2, 1st (Edn.), Chaukhamba Sanskrit Pratishtan, ansari road, New Delhi, India, pp: 569.
3. Charaka, Agnivesha (2019) Charak samhita. In: Shukla AV, Tripathi R (Eds.) Sutrasthana. 27/215, 1st (Edn.), Chaukhamba Sanskrit Pratishtan, ansari road, New Delhi, India, pp: 410.
4. Sushruta (1975) Sushruta Samhita. In: Atrideva (Ed.) Sutrasthana. 45/11, 5th (Edn.), Motilal Banarasidas, Jawahar Nagar, New Delhi, India, pp: 164.
5. Sushruta (1975) Sushruta Samhita, In: Atrideva (Ed.) Sutrasthana. 45/12, 5th (Edn.), Motilal Banarasidas, Jawahar Nagar, New Delhi, India, pp: 164.
6. Vagbhata A (1981) Ashtangasangraha. In: Lalchandshastri (Ed.) sutrasthana. 6/24, 2nd (Edn.), Shree Baidynath Ayurved Bhavan ltd, Nagpur, India, pp: 210.
7. Sushruta (1975) Sushruta Samhita. Atrideva (Ed.) Sutrasthana. 45/12, 5th (Edn.), Motilal Banarasidas, Jawahar Nagar, New Delhi, India, pp: 164.
8. Vagbhata (1981) Ashtangasangraha. In: Lalchandshastri (Ed.) sutrasthana. 6/28, 2nd (Edn.), Shree Baidynath Ayurved Bhavan ltd, Nagpur, India, pp: 210.
9. Sushruta (1975) Sushruta Samhita. In: Atrideva (Ed.) Sutrasthana. 45/12, 5th (Edn.), Motilal Banarasidas, Jawahar Nagar, New Delhi, India, pp: 164.
10. Sushruta (1975) Sushruta Samhita. In: Atrideva (Ed.) Sutrasthana. 45/12, 5th (Edn.), Motilal Banarasidas, Jawahar Nagar, New Delhi, India, pp: 164.
11. Vagbhata (1981) Ashtangasangraha. In: Lalchandshastri (Ed.), sutrasthana. 6/28, 2nd (Edn.), Shree Baidynath Ayurved Bhavan ltd, Nagpur, India, pp: 210.

