

Water for Health: An overview of principles & practices of Water consumption in Ayurveda

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Abstract

Water is the most essential element of human life next to air. Ayurveda considers water as the elixir of life. Modern day lifestyle undermines the importance of water with various inappropriate practices prevailing among individuals. People are confronted with a flood of advice regarding drinking of water. Present day research data indicating effect of water consumption on health is very minimal & basic. Ayurveda has elucidated in detail about the principles of water consumption for maintenance of Health, Prevention of illness and alleviation of disease. At the moment resurfacing of such Ayurvedic principles are very important. In this study, Ayurveda Classics were reviewed in terms of various aspects of water viz. importance of water, relation of water intake to food, water consumption according to season, therapeutic uses of water and indications-contraindications of water. The electronic databases Google Scholar and PubMed were searched for relevant contemporary literature. Classical Ayurveda methods of water purification can be economical, green and environment friendly. Ayurveda advocates the optimal & judicious use of water for the maintenance of health. Due to the *ritu* (season) specific state of *dosha*, specific water is indicated in different season. Medicated water, administered as per the disease condition, helps in balancing the vitiated *doshas*. This review has attempted to compile and analyse the significance of water in maintenance of health and alleviation of disease of an individual. **Scope:** This exploratory work may be considered as a potential source for generating newer hypothesis in the field of 'Water and Health research'.

Key words : Ayurveda, Health, Medicated water, Water

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Introduction

Panchamahabhuta are the five basic elements and fundamental base of all cosmic creation according to classics of the Indian literature¹. Water is one among the five basic elements which has been enumerated vividly in several contexts of Vedic as well as Ayurveda literature. Balanced intake of *aahara* (Food) and *pana* (water predominant liquids) as per prescribed rules is said to be the important reason for maintenance of strength and enhancement of life span of an individual². Centuries ago

the ancient Indian scholars have documented, as per the scientific principles of Ayurveda, in detail about the properties, types, methodology of purification, indication, contra-indication, utilisation in daily life as well as various therapeutic uses of water. In Ayurveda water has been considered as the elixir of life (*Jeeva*) for all living beings³.

Contemporary science also considers water as an essential and vital nutrient for life. Further precise regulating mechanisms are also described to maintain good hydration level for optimal physiological functions like; digestion, assimilation, elimination, respiration and maintaining temperature which are essential for the

maintenance of health of individual⁴. Till date no valid scientific studies have been conducted on principles of water consumption for health. Further, modern day lifestyle undermines the importance of water leading to practices wherein many individuals consume water inappropriately with respect to (w.r.t.) time, quantity and quality either due to ignorance or misconceptions. Moreover, the present day medical practitioner are emphasizing more on food based dietary advises, however recommendations on water consumption remain ignored specially at the level of prescription. In this context Ayurveda has a cardinal role to fill the existing knowledge gap as it has elucidated in detail about the principles of water consumption for maintenance of health, prevention of illness and alleviation of disease. These principles when practiced religiously, act as a best tool to find solutions for several health problems.

Objective of the Study

Objective of this review is to collect the scattered information about the principles & practices of Water consumption in Ayurveda and its clinical/diagnostic/preventive role on health from the Ayurveda Texts including *brihatrayi* (Charak Samhita, Sushrut Samhita, Ashtang Sangrah, Ashtang Hriday) & *laghutrayi* (Madhav Nidan, Sharangdhar Samhita & Bhavprakash Nighantu). Further, also to search the electronic databases (PubMed, Google Scholar etc.) for relevant & corresponding contemporary evidences such that the knowledge can be practiced in present era for health maintenance as well as for alleviation of diseases.

Methodology

In this current literature, Ayurveda classics *brihatrayi* & *laghutrayee* were reviewed by searching manually all the *shlokas* of various *sthana* for various aspects of water viz. importance of water, relation of water intake to meals, water consumption according to season, therapeutic uses of water, and indications- contraindications of water. The electronic databases Google Scholar and PubMed were searched for relevant literature published from time of their inception to 2019, with results restricted to report in

English language. Key words included the following: water intake & health, effect on health, seasonal variation and water, hot water drinking, excess water intake, medicated water, indications and contraindications of water.

Review Results

On reviewing of literature related to Ayurveda classics the following observations are made:

Importance of water

The Scholars of Ayurveda has given lot of importance to water. It has been considered as the basis of life (*jeeva/prana*) for all living beings. It has also been mentioned that entire world is full of it; there is no survival without water for the healthy or even for the diseased⁵.

Types, Purification methods and storage of water

Eight types of territorial water viz. deep well, natural lake, artificial pond/lake, water collected in pits of rocks, waterfalls, water from natural springs, well with steps all around and river has been explained⁶. Deep well water is considered best among territorial water for drinking and acts as *rasayana* (rejuvenative). Various methods of purification of water including filtration with thick cloth, processing of water with *Katak*, (*strychnos potatorum*) *Gomedak* (Hessonite), *Bisgranthi* (lotus/water lily), *Shaival mul* (Algae), *Mukta*, *Mani* (pearl) has been explained⁷. Susruta has further mentioned purification of water bodies as well as potted water by mixing with ash of certain medicines⁸. Vessel made of Gold, mud or glass was advocated for storage of drinking water⁹. Further it is also advocated to drink water in containers made of Gold, Silver, Copper, Bronze or precious stones¹⁰.

Methodology of water consumption

(i) **Quantity of water intake:** Water in less or excess amount is harmful for health hence should be consumed in optimum quantity for maintaining the body physiological activities¹¹. Water should be consumed judiciously in appropriate quantity then it acts like nectar or otherwise acts as poison¹². Water in less quantity is recommended

for the person suffering from *alpagni* (diminution of agni/ reduced digestive power), *pandu* (anaemia), *udar rog* (ascites), *atisar* (diarrhoea), *arsha* (haemorrhoids), *grahani* (disorders of lower G.I.T.), *gulma* (lump) and in *shotha* (oedema/inflammation). Except for *Sharad* (autumn) and *nidagha* (summer) even healthy persons should drink less quantity of water in all other seasons¹³.

(ii) Water consumption and food: Out of four parts of stomach amount equivalent to one part water should be consumed at the time of meal¹⁴. Specific effects of water on health in relation to intake of meals have been explained in classics¹⁵. Water when consumed before meal during good appetite time acts like poison and may result in emaciation or weight loss. Drinking water intermittently along with food gives the strength to body and result in maintenance of weight and health. Drinking of water just after meals may result in obesity. Water protects like umbrella if is consumed on appearance of thirst after taking the food¹⁶. Drinking of water in the morning helps in *vayasthapan* (preventing the effects of age) in healthy persons depending on their constitution, specifically for *sama prakriti* (Balanced constitution) individuals¹⁷.

(iii) Seasonal variation and water: (Table 01- water for drinking according seasonal variation)

Indications of water

Ayurveda classified water as per various means of processing and signifies role of each type of water for human being. Cold water is indicated in *madatyaya* (alcohol abuse), *chardi* (vomiting/emesis), *klama* (fatigue), *bhrama* (giddiness), *trishna* (thirst/polidypsia), *daha* (burning sensation), *pittaj vikar* (pittaj disorder), *visha* (poison), and *pittaj mutrakriccha* (dysuria due to pitta)²⁶. Various types of *ushnodak* (hot water) based on quantity to be reduced after boiling is also explained in the texts along with its indications viz., *navajwara* (fever of recent origin), *pinasa*, *vataj pratishyay*, (rhinitis) *hikka* (hiccup), *shwas* (dyspnoea), *kasa* (cough/ tussis), *sthaulya* (obesity), after & during *panchkarma*, *Galroga* (disorders of throat), *anaha* (flatulence) and *thrishna* (thirst)^{27,28}.

Boiled cooled water is *anabhishandi* (non-obstructing channels of circulation) and *laghu* (light/easily digestible); advisable in *pittadosha* associated conditions, however, if it is kept overnight it will vitiate *tridoshas*²⁹.

Aushadsiddha paniya (Medicated water)

Various medicated water has been explained in the context of treatment of different diseases. To prepare *aushad siddha paniya* one part of raw drug is taken with sixty four times of water to be boiled up to half i.e. thirty two part of water, is then used for various purposes such as to drink as a water, to use as *anupan* (drink which is taken before, after and along with food and Medicine) and to make *peya*, (thin gruel of rice) *vilepi* (thick gruel of rice) etc³⁰.

(Table 02-medicated water indicated in various diseases)

Contemporary views about water

Water, as a vital nutrient, performs numerous critical roles in the human body. It acts as a building material; as a solvent, reaction medium, reactant and reaction product; as a carrier for nutrients and waste products; in thermoregulation and as a lubricant and shock absorber. The regulation of water balance is very precise and is essential for the maintenance of health and life⁴⁵.

Water's importance in the prevention of nutrition-related non-communicable diseases has received more attention recently because of shift towards consumption of large proportion of fluids as caloric beverages⁴⁶. Drinking patterns and quantities vary and are influenced by variety of factors including age, gender, diet and physical activity level⁴⁷. All the aspects of physiological function are impaired by Hyper-hydration and hypo hydration⁴⁸.

Hot liquid is superior to cold liquids in the management of upper respiratory tract infection as drinking hot water (fluids) transiently increases nasal mucus velocity in part or totally through the nasal inhalation of water vapour⁴⁹.

Water drinking evokes a brisk pressor response in patients

with autonomic failure and can be used to treat orthostatic and postprandial hypotension. Water drinking moderately decreases orthostatic tachycardia in patients with idiopathic orthostatic intolerance. Thus, water drinking may serve as an adjunctive treatment in patients with impaired orthostatic tolerance⁵⁰.

Reduced water intake by patients with type 2 diabetes deteriorates glucose regulation⁵¹.

Increased water drinking is associated with a reduced risk of developing kidney stones⁵².

Discussion

This review examines various Ayurveda principles and Current knowledge of different aspects of water pertaining to human health, viz., types, purification methods, storage, rules of water intake, effect of water intake in relation to meal on health, water & seasonal variation and therapeutic uses of water. Data related to present day research indicating effect of water consumption on health is very minimal & basic. Further there are no published trials that have adequately evaluated the preventive & therapeutic aspects of water on human health, including its various methods of administration. Conventional treatments of water include sedimentation, filtration and disinfection. It is well known fact that most of the chemical disinfectants used for antibacterial activity generate various unwanted chemicals known as disinfection by products (DBPs) in water and these DBPs are associated with harmful effects on humans such as hemolytic anemia, cancer risk, nervous system effect and liver effects⁵³. The process of purification of water with certain specific Ayurvedic drugs i.e. *Katak*⁵⁴ (Strychnos potatorum) *Shaival*⁵⁵ (micro algae), *Gomeda*⁵⁶ (Hessonite) and *Shigru bij*⁵⁷ (Moringa oleifera) documented in the ancient text of Ayurveda has been validated by various studies for their antibacterial activities, removal of turbidity, total hardness, pH, total dissolved solids, heavy metals, etc⁵⁴⁻⁵⁶. Therefore, classical Ayurveda methods may provide alternative ways of water purification which are economical, green and environment friendly. Storage of water in Mud or Gold or Glass pot as explained in Ayurveda text may help to retain natural

properties of water as they do not react chemically with water. Further it also maintains atmospheric temperature. In Ayurveda role of *agni* (digestive/metabolic factors) is quintessential in understanding the process of health & illness and water is said to have a significant influence in maintaining the process of equipoise of one's *agni*. Further, excess water intake is considered as the prime causative factor for *ajirna*⁵⁸ (indigestion). Hence Ayurveda advocates the optimal & judicious use of water for the maintenance of health. Daily quantity of water is not same for every person as it is influenced by variety of factors including *agni*, age, gender, diet and physical activity level of an individual.

In Ayurveda *tridoshas* (*Vata*, *Pitta* and *Kapha*) are described as functional triad of the body. These *doshas* are accountable for the origin, development and maintenance of the human body during their normal state. The seasonal variation affects the normal state of *tridoshas*. Different seasons influence the accumulation, vitiation and pacification of *vata*, *pitta* and *kapha* doshas⁵⁹. *Shitodak* (cold water) is *pitta* pacifying⁶⁰, *Taptashit*⁶¹ (boiled and cooled) water is *anabhishtyandi*, *laghu* and *pittashamak*, and *Ushnodak*⁶² (hot water) is *dipan* (digestion and metabolism enhancing), *kaphavicchedi* (disintegrator of *Kapha dosha*) and *vatapittanuloman* (regularising the normal movement) in nature. Taking the *ritu* specific state of *dosha* in to consideration; based on properties, specific water is indicated in different season. Effect of water intake in relation to food, according to Ayurveda Principle, provides new insight into the topic. Further research is needed to understand the scientific basis behind these principles.

Medicated water explained in Ayurveda classics can be considered as innovative mode of medicine administration which is either supplementary to the main medicine or itself a primary medicine that helps in curing/managing various health problems. On boiling water with medicines, the medicinal properties gets easily blended which in turn helps in balancing the vitiated *doshas*; when administered appropriately as per the disease condition. It has been mentioned that un-boiled, boiled & cooled and boiled water

get digested in three hours, one and half hour and forty-five minutes respectively⁶³. Osmosis is first step in absorption of water in the body which gets increases as the temperature of water increases resulting in faster absorption. As discussed above, impairment of *agni* is considered as the prime factor responsible for the disease manifestation and keeping in view the extent to which *agni* has been impaired; various types of boiled water (*ushnodak*) have been indicated in different diseases.

Water is imperative to our survival and to our culture and we hope this critical role will sharpen our focus on water in human health. This review has attempted to compile and analyse the significance of water in maintenance of health and alleviation of disease of an individual. Further, the present work may be regarded as a preliminary exploratory research which may act as a substratum for potential resource in generating newer hypothesis in the field of 'Water and Health Research'. Various hypothesis for revalidating the principles of water in Ayurveda may be deduced from this work for example: 'benefits of Ayurveda methods of water purification against the conventional methods'; 'effects of seasonal consumption of water as per Ayurveda on health maintenance'; 'effects of methods of water consumption in relation to food intake on health'; 'role of hot water consumption in improving the digestion & metabolism or in metabolic disorders like obesity'; 'role of medicated water prepared using immune boosting herbs in improving immunity among healthy or immune compromised subjects'; 'antipyretic effects of medicated water using specific antipyretic medicines in subjects with seasonal fever/viral fever'.

The limitation of the present work is that it is a review of existing literature, whereas, work related to the findings of Experimental or Clinical research are needed to revalidate the principles of Ayurveda about water consumption so as to bring them into practice under Public Health Initiatives.

Conclusion

Water is considered as one of the sustainers of life of every living being. The principles & practices of water

consumption for health maintenance as well as for alleviation of diseases were vividly explained in Ayurveda. This traditional wisdom of Ayurveda about water consumption may be utilized in this present era by bringing in to practice at community level as a Public Health Initiative after conducting appropriate & rigorous scientific revalidation.

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