



The Principles & Practices of Water Consumption According to Ayurveda- A Cross-Sectional Survey

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Abstract: Well-balanced water (*Pana*) and food (*Aahar*) input are essential. Ayurvedic literature outlines certain rules for proper food intake and *Ahar*, retaining vigor and life duration. In water, trace elements can be found in high concentrations. Children, pregnant women, and the elderly have higher water requirements. Drinking water can be processed in a variety of ways using natural methods. The context of Ayurveda mentions the benefits of drinking *Ushnodaka* (warm water). In Ayurveda, there are various advantages of drinking water. The benefits of drinking warm water were also emphasized in Ayurveda. Drinking water habits are crucial for good health because dietary habits are important for a person's lifestyle. The aim and objective of the study were to understand the domestic cause of lifestyle illnesses associated with improper water consumption habits and to create awareness regarding water consumption practices. Data was gathered from the general public who suffer from lifestyle diseases and those ready to participate. The data was collected with the specially designed inquiry form and a standard *Prakriti* (physical and mental constitution of the body) questionnaire. 250-sample size, among which 40% were male and 60% female. It was found that most of the population belongs to *Kapha* dominant *Prakriti*, i.e., 149 (59.6%), whereas 45 (18%) and 56 (22.4%) population was of *Vata* & *Pitta* dominant *Prakriti*, respectively. 80.4 % of people drink water in seating positions, and 56% directly swallow water. 70% of people drink normal water, and 44 % drink clay pot water in summer. Type II diabetes is the most common lifestyle disorder. A reduction in water intake triggers type II diabetes. It has been discovered that people do not immediately drink water after getting out of bed, which causes gradual weakness. Instead, people drink water before a meal, which helps them to lose weight. The intake of one glass of water before going to bed reduces *Vata* and *Kapha* and prevents indigestion.

Keywords: Water, Lifestyle Disorders, *Prakriti*, Ayurveda, Diabetes

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I. INTRODUCTION

Food, drink, air, and shelter are among basic human requirements. Water is the life potion, according to Ayurveda. Water is one of the five basic elements of *Panchamahabhuta* (five elements of the body), as stated in various Ayurvedic texts¹. Approaches to consuming healthy water are critical for both health and developmental issues. It is essential to have well-balanced water and food intake. Various principles for correct food intake and *Ahar* (food) have been given in Ayurved literature, which preserves the strength and duration of life^{2,3}. Ayurveda writings provide many guidelines surrounding water consumption. Water should not be consumed in very small or excessive amounts because it is hazardous to one's health⁴. When water is ingested in quantity and quality, it can behave as nectar or poison⁵. The Ayurveda context also mentions various therapeutic drinks of water used to treat specific ailments. Various guidelines are mentioned regarding drinking water habits which include sources of water, quality of water intake, consumption of water with food, seasonal variation, and water, various types of water, the quantity of water according to *Prakriti*, indication, and contraindication of the kinds of water, time for digestion of water, movement, and contraindication of hot water and cold water, the effect of drinking water in excess quantity⁶. Previous studies have examined numerous health-related outcomes concerning the intake of tea, milk, alcohol, and coffee. However, the correlations between water intake and mortality risks or other chronic diseases have yet to receive much research attention⁷.

Hydration and water are two aspects of the same coin. Water consumption greatly impacts the hydration state in healthy persons, and hydration status depends on water intake. These relationships only apply to people who are unwell⁸. The current study reviews pertinent published research and proposes a novel approach to calculating the daily water requirements of persons of all sexes and life stages⁹. Drinking enough water is a cheap and successfully non-invasive technique for improving personal health. We set out to show how effective water intake interventions could be in static and intensive labor environments. The water intake wellness intervention's health-promoting benefits resembled the butterfly effect. The intervention greatly increased water intake and enhanced other healthy behaviors, enhancing both physical and mental health¹⁰. In the published literature, few studies were observed during the literature review regarding various drinking water habits and Ayurveda principles. According to Ayurveda, the main lacuna was the unavailability of research studies regarding principles and practices of water consumption. There are various misconceptions regarding drinking water habits, so studying them according to Ayurveda and creating awareness about them is necessary. Drinking water habits should be corrected to maintain the health of a person. So, the aim and objective of the study were to understand the domestic cause of lifestyle illnesses associated with improper water consumption habits and to create awareness regarding water consumption practices. The

primary goal of the research is to identify the water consumption patterns linked to lifestyle problems in *Prakriti*.

2. METHODS

2.1 Study design

A cross-sectional observational study using a survey approach in the form of a questionnaire based on a personal interview with a participant who meets the study's eligibility criteria¹¹.

2.2 Source of Data

250 participants were interviewed from the common population having lifestyle disorders in the Wardha district

2.3 Inclusion criteria

The subjects with lifestyle disorders and willing to participate in the study were included in the study, and normal individuals and participants who want to participate with any diseases were included.

2.4 Exclusion criteria

Normal individuals and participants who did not want to participate were excluded.

2.5 Assessment Criteria

The questionnaire-based tool was used for drinking water habits and the *Prakriti* assessment¹²

2.6 Ethical statement

Written consent was obtained from patients to conduct and publish the study. The approval has been taken from the Institutional Ethical Committee IEC, Mahatma Gandhi Ayurved College, Hospital & Research Centre, Salod (H). Reference No. MGACHRC/IEC/June -2021/225

3. STATISTICAL ANALYSIS

Data is collected using a google form questionnaire. Excel sheet retrieved and data analyzed manually by using Microsoft excel.

4. OBSERVATION & RESULT

This cross-sectional study was based on a 250-sample size, among which 40% were male and 60% were female. It was found that most of the population belongs to *Kapha* dominant *Prakriti*, i.e., 149 (59.6%), whereas 45 (18%) and 56 (22.4%) population was of *Vata* & *Pitta* dominant *Prakriti*, respectively. 80.4 % of people drink water in seating positions, and 56% directly swallow water. In addition, 70% of people drink normal water, and 44 % drink clay pot water in summer.

Table No.1: Water intake of participants			
Question	Water intake	Number	Percentage
Water Intake per day	1-2 L	68	27.2
	2-3 L	80	32
	3-4 L	66	26.4
	4-5 L	29	11.6
Water intake as soon as they get up from bed	½ glass	47	18.8
	1 glass	89	35.6
	Two glass	26	10.4
	Three glass	7	2.8
	More than three glass	7	2.8
	Not drink water as soon as you get up from bed	74	29.6
Quantity of Water drink after a meal	½ glass	37	15
	One glass	110	44
	Two glasses	60	24
	Three glasses	10	4
	More than three glass	8	3
	Not drink water after meal	25	10
Quantity of water drink in-between meals	½ glass	61	24.4
	One glass	55	22
	Two glasses	31	12.4
	Three glasses	14	5.6
	More than three glass	7	2.8
	Not drink water in between meals	82	32.8
Quantity of water intake at bedtime	½ glass	55	22
	One glass	123	49.2
	Two glasses	31	12.4
	Three glasses	8	3.2
	More than three glasses	1	0.6
	Not drink water in between meals	32	12.8

59.2 % of participants' intake could have been higher, and only 38% drank adequate water daily. Participants consumed less water at the beginning of the day, i.e., 54.4%. Only 15% of participants' intake was less after a meal, and the rest drank

more water after dinner. Only 24.4% of participants consume the right quantity of water in the meal. 61.6% of participants drink adequate water at bedtime (Table No.1).

Table No.2: Nature of the water			
Question	Type/Nature	Number	Percentage
Type of water drink when getting up from bed	Hot water	18	7.2
	Lukewarm water	53	21.2
	Coldwater	12	4.8
	Normal water	93	37.2
	Do not drink water when you get up from bed	74	29.6
Water drink before a meal and kind of water	Yes, cold water	9	3.6
	Yes, normal water	111	44.4
	Yes, lukewarm water	25	10
	Not drink water before a meal	105	42
Water drink after a meal and kind of water	Yes, cold water	23	9.2
	Yes, normal water	179	71.6
	Yes, lukewarm water	23	9.2
	Not drink water after meal	25	10

Out of 250 participants, 28.4% consume hot water, 4.8% drink cold water, and normal water consumed by 37.2% people (Table No.2).

Table No. 3: Time duration of consumption of water

Question	Time duration	Number	Percentage
Time duration of drinking water before a meal	Just before meal	39	15.6
	Before 10 min	35	14
	Before 15min	27	10.8
	Before 30 min	44	17.6
	Not drink water before a meal	105	42
Duration of water intake after a meal	Just after meal	107	42.8
	After 10 min	31	12.4
	After 20 min	19	7.6
	After 30 min	45	18
	After 45 min	10	4
	After 1 hour	10	4
	After 1 and a half hour	3	1.2
	Not drink water after meal	25	10
Water consumes in-between meals and the kind of water	Yes, cold water	13	5.2
	Yes, normal water	134	53.6
	Yes, lukewarm water	21	8.4
	Not drink water in between meals	82	32.8
Time duration of water intake before going to bed	Just after a meal, drink water & go to bed	79	31.6
	before 10 min	84	33.6
	Before 20 min	34	13.6
	Before 30 min	21	8.4
	Not drink water before going to bed	32	12.8

Most of the population, i.e., 40.4%, consumed water before meals. 62.8% of participants drank water after a small meal duration, and 27.2% drank water after sufficient time. More than 50% of people prefer drinking normal water during meals. In addition, 31.6 participants sleep just after a meal, and before going to bed, 47.2% of people drink water (Table No.3).

5. DISCUSSION

The body of a human being consists of approximately 70 % of water. Water is needed for metabolism, absorption of nutrients, body temperature regulation, and oxygen transport to cells. In short, water has various physiological roles. A human being can survive without food but cannot survive without water. Water is one of the crucial nutrients for all forms of life. Drinking adequate water is necessary, or it leads to dehydration. Dehydration grades vary; mild dehydration occurs when 1-2% of total body fluid is lost; severe dehydration ensues when the body loses more than 5% of its real fluids¹³. Young children, pregnant women, nursing mothers, the elderly, and ill persons have higher water requirements. Ayurveda has revealed how to maintain good health and avoid illness by practicing drinking water habits. Because drinking too little or too much water can be hazardous to one's Health, it should be drunk correctly to keep the body's physiological functions running smoothly. According to the Samhita, one part of the stomach, corresponding to one part water, should be consumed at mealtime⁸. The Samhitas offer detailed explanations of the effects of water on health concerning meal intake⁹. Weight loss occurs when water is drunk before a meal. Intermittently drinking water with food strengthens the body, maintaining its weight and health. Obesity is caused by drinking water right after a meal. Water is drunk on a thirsty impulse or after eating acts as an umbrella⁸. Drinking water in the morning aids in the *Vayasthapan* of healthy people in terms of their constitution, particularly in the *Sama Prakriti* (equilibrium physical and mental constitution). Ayurveda has also described the specific

indication of types of water in particular diseases. Coldwater is indicated in conditions like *Trishna* (thirst), *Madatyaya* (alcoholism), *Chardi* (vomiting), *Klam* (tiredness), *Bhrama* (Vertigo), *Daha* (burning sensation), *Pittaj Vikar*, *Visha*, and *Pittaj Mutrakriccha* (burning micturition)¹⁰. Coldwater drinking should be contraindicated in someone suffering from rhinitis, sore throat, hikka, and pleural effusion. *Ushnodak* (warm water) is indicated in diseases like *Pinasa*, *Rhinitis*, *Hiccup*, *Dyspnoea*, *Kasa*, fever, obesity, after & during *Panchkarma*, disorders of the throat, flatulence, and thirst. *Ushnodaka* causes *Agnideepti*, *Kaphavatahara*, detoxification, improves digestion, reduces weight, increases sweating, and decreases arthritis. It is used as *Anupana* as it helps drugs to spread rapidly in the body. Boiled and then cooled water is advised to take in *Pitta dosha* conditions. Because drinking hot water enhances the nasal mucus velocity, it is preferred over cold water in treating upper respiratory infections¹¹. Drinking water habits and quantity vary for age, gender, and physical work. Drinking water moderately decreases orthostatic tachycardia in patients. Reducing water intake in type 2 diabetes patients causes glucose control to deteriorate¹². Increased water drinking reduces the risk of developing kidney stones¹³. A person who is *Vata* predominant *Prakriti* should drink two pala of water. A person who is *pitta* predominant *Prakriti*, should drink three pala of water. A person who is *Kapha* predominant *Prakriti* should drink one pala of water^{14,15}. The *Madanapal Nighantu* chapter, *Panlyadivarga*, mentioned the time required for water digestion. The water which is not boiled or plain requires three hours for digestion. The cold water requires one and a half hours for digestion. *Ushnodaka* (warm water) requires forty-eight minutes for digestion¹⁶. 250-sample size, among which 40% were male and 60% female. It was found that most of the population belongs to *Kapha* dominant *Prakriti*, i.e., 149 (59.6%), whereas 45 (18%) and 56 (22.4%) population was of *Vata & Pitta* dominant *Prakriti*, respectively. Dey S has a slow metabolism and is more likely to develop lifestyle disorders^{23,24}. 80.4 % of people drink water in seating positions, and 56% directly swallow water. Drinking

water while standing, as recommended by Ayurveda and other health authorities, increases the rate at which water enters the body. How one drinks water can have significant effects on health¹⁹. 70% of people drink normal water, and 44 % drink clay pot water in summer; as a result of drinking water from an earthen pot kept at a cool temperature, animals subjected to heat stress experienced less weight loss, increased metabolic activity, and overall better health²⁰. Type II diabetes is the most common lifestyle disorder. A reduction in water intake triggers type II diabetes. Water is a great drink because it has no calories and no sugar. It may be a good way to reduce calories and sugar, especially if high-mineralized water is also used to replace minerals important for bicarbonate and magnesium. Naumann J. et al. suggested that future research should focus on long-term glycemic parameters and that larger, more rigorous studies are needed to determine if drinking or mineral water can improve glycemic parameters in diabetics and people who don't have diabetes²¹. It has been discovered that people do not immediately drink water after getting out of bed, which causes gradual weakness. People drink water before a meal, which helps them to lose weight. The intake of one glass of water before going to bed reduces *Vata* and *Kapha* and prevents indigestion. Drinking water first in the morning acts as *Vayasthapana* (rejuvenation & delayed aging) in a healthy person's *Prakruti*. Excessive drinking water causes *Ajeerna* (indigestion). Water is the most important nutrient because it maintains fluid and electrolyte balance. Water should be drunk sufficiently, not in excess amounts that induce water toxicity, nor in defective parts that cause dehydration²².

6. CONCLUSION

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The amount of water consumed daily varies depending on the *Agni*, age, gender, food, and individual's physical activity. In different seasons, unique water is specified based on the season and the actual state of *Dosha*. The most common lifestyle disorder is type II diabetes. A decrease in water intake causes type II diabetes. It has been discovered that when people get out of bed, they do not immediately drink water, which causes gradual weakness. People who drink water before meals are more likely to lose weight. One glass of water before bedtime reduces *Vata* and *Kapha* and prevents indigestion.

7. AUTHOR CONTRIBUTION STATEMENT

Dr. Gaurav Sawarkar conceptualized and designed the study, Dr. Madhura collected the data, and Dr. Punam Sawarkar analyzed the data. Dr. Gaurav Sawarkar wrote the final manuscript.

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10. CONFLICT OF INTEREST

Conflict of interest declared none.

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