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Water Intake Patterns

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Abstract

The current research titled, "Water Intake Patterns" is a comparative study aged 16-25 between girls and boys pertaining to overall effects due to inadequate quantity of water intake.A self- developed inventory was used for the research measuring personal, WASH (Water - Sanitation and hygiene), regional water maintenance, water science and water awareness in Mumbai city.

The study was conducted on 200 individuals. Pearson product moment correlation was applied for calculation and the coefficient of correlation was found to be 0.13, this depicts a weak positive correlation between the two variables, i.e. male and female, indicating a subtle inclination for water intake quantity to rise as the gender transitions from male to female. However, the relationship is feeble and is likely not practically meaningful. The weak correlation suggests that both males and females substantially have an adequate amount of daily water intake, yet an awareness of increasing the frequency with which they consume water is a necessity.

Keywords: Water, Awareness, water intake, Hygiene

Introduction

Water, often referred to as the elixir of life, stands as a fundamental element in our existence, playing a pivotal role in numerous biological processes that support our bodies. Despite the tendency to overlook the patterns of water intake in our daily routines, these patterns are indispensable for preserving our health and overall well-being. The current research navigates through the intricate realm of water intake patterns, utilizing definitions, quotes, psychological theories, and concepts to illuminate this crucial aspect of human existence.

This research explores four dimensions concerning water quality and intake, incorporating the following categories of statements:

1. **Personal**: Concerning the individual's water consumption habits, daily exercise routines, reasons for frequent thirst, and related aspects.
2. **WASH (Water - Sanitation & Hygiene)**: Addressing the necessity of water sanitation, potential causes if water lacks hygiene, and similar considerations.
3. **Regional Water Maintenance**: Related to the quality of water supplied in specific regions and the measures taken by local authorities for water maintenance.
4. **Water Science**: Regarding the level of interest the youth has in water related sciences and their knowledge about water.
5. **Water Awareness**: Assesses individuals' knowledge levels regarding water and its essential requirements.

Few terms for consideration in this research include:

Water Intake: Water intake refers to the amount of water an individual consumes daily. This includes water from various sources, such as beverages, food, and metabolic processes, collectively contributing to the overall hydration of the body.

Patterns: Patterns, in the context of water intake, denote the regularity, consistency, and fluctuations in an individual's daily or periodic water consumption. These patterns are influenced by various factors, including personal habits, environmental conditions, and psychological states.

Certain theories that elaborate the theme are mentioned below:-

The study of water intake patterns extends beyond the physical act of drinking water. It also delves into the psychological aspects that govern our behavior and decisions regarding hydration. Several psychological theories and concepts can aid in comprehending the intricacies of water intake patterns:

Theory of Thirst: The theory of thirst was given by Edward Adolph and his colleagues in 1954. Thirst is the body's defense mechanism to increase water consumption in response to perceived deficits of body fluids. The thirst drive and motivation to seek/consume water are vital aspects of the homeostatic regulation of total body water volume and tonicity, in response to intracellular dehydration, increased plasma osmolality, decreased plasma volume, decreased blood pressure, and extracellular hypovolemia.

Health Belief Model: The Health Belief Model (HBM) was developed in the 1950's by social psychologists Hochbaum, Rosenstock and others, who were working in the U.S. Public Health Service. HBM posits that an individual's likelihood of adopting health-related behaviors, such as maintaining proper water intake, is influenced by their perception of the health risks and benefits associated with those behaviors. People are more likely to drink adequate water if they believe it will positively impact their well-being.

Self-Determination Theory: Psychologists Richard Ryan and Edward Deci, developed the Self-Determination Theory (SDT) of motivation, which toppled the dominant belief that the best way to get human beings to perform tasks is to reinforce their behavior with rewards. This theory suggests that individuals are motivated to engage in behaviors, like maintaining proper hydration, when they feel a sense of autonomy, competence, and relatedness. People are more likely to adhere to a consistent water intake pattern when they believe it aligns with their own values and goals.

Behavioral Economics: The economist Richard Thaler, a keen observer of human behavior and founder of behavioral economics, was inspired by Kahneman & Tversky's work. According to Thaler, people think of value in relative rather than absolute terms.Concepts from behavioral economics, such as time inconsistency and present bias, shed light on why individuals may struggle to maintain consistent water intake patterns. People often prioritize immediate gratification over long-term benefits, leading to erratic hydration habits.

Social Influence and Norms:The German Psychologist, Wilhelm Wundt (1832 – 1921) is viewed as the founder of Psychology. He was the first Psychologist to propose social psychology as a branch of general psychology in 1868. Social psychology plays a significant role in water intake patterns. People tend to mimic the behaviors of those around them. Therefore, social norms related to drinking water can impact individual hydration choices.

Cognitive Load Theory: Cognitive Load Theory was developed by John Sweller. He published a paper on the subject in the journal Cognitive Science in 1988. "Cognitive load" relates to the amount of information that working memory can hold at one time.Cognitive load theory suggests that the mental effort required to make decisions can influence behavior. When individuals are overwhelmed with choices

or cognitive demands, they may neglect proper hydration, leading to irregular patterns.

Factors affecting an adequate water intake pattern:

Physical Health: Adequate water intake is crucial for maintaining bodily functions such as temperature regulation, digestion, and circulation. Dehydration can lead to a range of health issues, from minor discomfort to severe medical conditions.

Cognitive Performance: Research indicates that even mild dehydration can impair cognitive performance, affecting memory, attention, and decision-making. Understanding water intake patterns can help optimize mental capabilities.

Emotional Well-being: Dehydration can influence mood and emotional states. It has been linked to increased stress levels and feelings of irritability. By managing water intake patterns, individuals can support their emotional well-being.

Long-Term Health Outcomes: Chronic dehydration has been associated with long-term health issues, including kidney stones and urinary tract infections. Exploring and improving water intake patterns can contribute to better long-term health outcomes

Psychological Resilience: Maintaining consistent water intake patterns can enhance psychological resilience by ensuring that individuals are physically prepared to cope with stress and adversity.

Researchers found that men and women who drank the least amount of water (less than two glasses per day) were at significantly higher risk for depression than those who drank five glasses or more per day. In addition, those with the greatest water intake had lower incidences of depression.

There are two types of thirst namely, Osmotic & Hypovolemic thirst. Osmotic thirst is what we feel when we need more water, whereas Hypovolemic thirst is what we feel when we need minerals and water to replenish blood supply.

Water plays a crucial role in our mental and emotional health. Keeping hydrated promotes better brain health, reduced stress, and enhanced mood. By improving mental clarity and focus, water can help us do better in school, work, and everyday tasks. Just living near water and swimming can do wonders for our well-being.

The psychological significance of water, coined by Wallace J. Nichols is, "Having a pond, fountain, stream not only adds to ambiance of your home and yard, it provides the psychological benefits of water. Being by water promotes calmness, focus, creativity, better sleep quality and something called the blue-mind.

In conclusion, while gender differences in water intake among individuals aged 16-25 are influenced by psychological factors, they should be interpreted cautiously. Individual variations are significant, and socio-cultural, physiological, and behavioral factors also play crucial roles in determining hydration habits. Promoting awareness about the importance of hydration and addressing gender-specific influences can contribute to healthier habits for both boys and girls in this age group. Promoting a holistic approach to hydration education that considers these factors can help establish healthy hydration habits for all individuals, regardless of gender, in this age group. It's essential to recognize that while trends may exist, individuals will exhibit diverse behaviors and preferences regarding water intake.

Methods

The study's hypothesis centered around conducting a comparative analysis among individuals aged 16-25, examining the overall effects of insufficient water quantity between girls and boys.To gather insights for

this study, a mixed approach was employed, incorporating both online and offline data collection methods. Online data collection involved the creation of a Google Form, which was distributed among individuals in various locations. Offline data was gathered by distributing hard copies of the inventory to individuals and requesting them to complete it.
Stringent measures were taken to maintain the confidentiality of individuals submitting the inventory, both in the offline and online modes of data collection.

Participants

The survey included 200 participants within the age range of 16 to 25 years, encompassing individuals from various sectors such as employed, unemployed, and students. Within this group, there were 100 male participants and 100 female participants.

Materials

A self-developed inventory comprising of 31 statements was used for this study, with participants providing responses to the options that they relate with the most. The statements were based on a comparative study aged 16-25 between girls and boys pertaining to overall effects due to inadequate quantity of water intake.

Results

A modest positive correlation has been identified between the male and female populations in the study, which encompassed 100 samples of both genders. The Pearson coefficient correlation was determined to be 0.13.
This implies a subtle inclination for water intake quantity to rise as the gender transitions from male to female. However, the relationship is feeble and is likely not practically meaningful. The weak correlation suggests that both males and females maintain an adequate amount of daily water intake as needed.

Brief Discussion

The research paper titled "Water Intake Patterns" explores the hypothesis, "A comparative study of water intake patterns among individuals aged 16-25, examining gender differences and the overall effects of inadequate water consumption." It investigates the relationship between the impacts of insufficient water intake patterns among girls and boys within the 16-25 age group.
The paper includes personal statements to gather insights into individuals' daily water intake patterns. It then incorporates a WASH section focusing on water sanitation and hygiene. Following this, there are regional water maintenance statements that individuals respond to based on their respective regions, along with water awareness statements aimed at promoting awareness about water and its future.
The Pearson's correlation coefficient ranges from -1 to 1, with 1 signifying a perfect positive correlation, 0 indicating no correlation, and -1 denoting a perfect negative correlation. In this particular study, a correlation value of 0.13 was obtained, suggesting a weak positive correlation. This implies a slight tendency for water intake quantity to increase as gender transitions from male to female, but the relationship is weak and likely lacks practical significance.

Limitations and future research

Because of the restricted time, there's a likelihood of fewer participants joining due to insufficient notice

or the chance for potential attendees to plan their involvement. Time constraints may hinder people from committing to events or activities, leading to a decreased participation rate.

The study of human water intake patterns is crucial, particularly in raising awareness among younger generations to prevent diseases associated with inadequate daily water consumption.

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