



**AWARENESS OF HYDRATION AND CURRENT SITUATION OF
AVAILABILITY OF WATER SUPPLY AT DAFFODIL
INTERNATIONAL UNIVERSITY**

A PROJECT REPORT

BY

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Submitted to the Department Nutrition and Food Engineering in the partial fulfilment of
B.Sc. in Nutrition and Food Engineering

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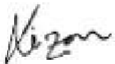
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APPROVAL

This Project titled “**Awareness of hydration and current situation of availability of water supply at Daffodil International University**”, submitted by **Md.Hasanul Haque Banna Sarkar** to the Department of Nutrition and Food Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Nutrition and Food Engineering and approved as to its style and contents. The presentation has been held on

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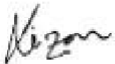


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DECLARATION

I hereby declare that, “Intake of drinking water in Daffodil international University” this project has been done under the supervision of **Dr.Nizam Uddin, Associate Professor & Head, co-supervisor Mr. Abu Saeid, Lecturer (Senior Scale), Department of Nutrition and Food Engineering**, Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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I would like to express my sincere gratitude to the almighty God for His divine blessings, which have enabled me to successfully complete my final year project.

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ABSTRACT

The study was about finding awareness about water born disease and hydration of Daffodil International University. 200 student participated for this nutritional survey. They were given a set of questioner and requested to fill that as per their personal opinion.

Main purpose of this survey was to find out that the university going students were aware or not about water born disease and if they were getting proper amount of pure water from the university and hall as well. This also included their personal consciousness about hydration and their habits of drinking water. It also include the opinion about if the university need more water station or not.

For this survey quantitative survey method had used. Information that could be measured, tallied, or otherwise quantified and assigned a numerical value is referred to as quantitative data. a set of closed-ended or multiple-choice questions addressed to a target audience. After getting their opinion result showed that The majority of pupils (69.5%) were aware of water-borne diseases, and 50% of them were aware of them, according to the results. Ninety percent of students believed that universities provide clean water. Of the 200 students, 83 (or 41.5% of the student body) regularly consumed the required amount of water, consuming six to eight glasses per day. Of the students, 52, or 26%, consumed three glasses or more of water. Just 19 students—or 9.5% of the total—consumed less than three glasses of water, while 46 students—or 23% of the total—consumed more than eight glasses. Twenty-one pupils, or 40.5% of the total number of students, responded in the affirmative when asked how satisfied they were with the availability of drinking water in the hall.

After completing this survey finally we understand most of the students are aware and conscious about their health and safety.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

One developing nation with a large population is Bangladesh. Due to increasing industrialization and urbanization, this nation, like other developing nations worldwide, is also experiencing severe water contamination (Islam et al., 2018; DoE, 2016; Sarker et al., 2019; Islam et al., 2020). Many factors have recently put the quality of water—from both surface and groundwater sources—in jeopardy. (Parvin et al., 2022) One of the planet's most valuable resources is water. Every year on March 22, the world observes World Water Day to encourage everyone to have access to safe drinking water and to use water responsibly. (2010) Participants said that tank water (43.3%) and tap water (32%), respectively, were their primary sources of drinking water. Standards for water quality quantify the state of the water in relation to pollutants. Taste (48.7%), odor (35%), appearance (34.7%), and color (32%), as shown by the water consumption profiles, were given precedence, indicating a lack of awareness of the water quality criteria. (Benameur et al., 2021).

Less than 1% of the water that covers more than 70% of Earth's surface is fresh water, and it is not spread equally around the planet. Worldwide, the number of people who lack access to safe drinking water is over one billion, or one thousand million, primarily in poor countries. There is a shortage of drinkable water in addition to arsenic contamination in the groundwater, which about 90% of the population uses. With an estimated 30–35 million people affected in Bangladesh, the WHO claims that the levels of arsenic have contributed to the greatest mass poisoning in history. (Gonchigdorj et al., 2023).

Water is available to 97% of the population, although the quality of the water is never guaranteed. (Hasan et al., 2019) Ninety percent of the population depends on groundwater due to contaminated surface waters in the area. In Bangladesh, UNICEF and the World Bank made an effort to increase access to water. Approximately four million tube wells were installed between 1960 and 1970 thanks to the funding provided by these organizations, which also aimed to increase the amount of water available for agricultural use. Groundwater became accessible across the nation thanks to the tube wells. (Thelwell, 2021) As urbanization grew, public water supplies, which had already been established in antiquity, gained significance.

They were undoubtedly helpful in supplying water of consistent quality, but a lot of people were at danger of negative consequences if the water was unsuitable to drink. (1977) Nearly 150 bottled water firms operate throughout Bangladesh.

Hundreds of millions of people worldwide do not now have access to clean water. (Wayland, 2017)

Waterborne infections can have a negative impact on one's health if the water is contaminated. Salmonellosis, giardiasis, dysentery, typhoid fever, diarrhea, and E. Coli infection are a few frequent water-related disorders. Pain in the neurological, reproductive, and gastrointestinal systems, among other symptoms, can be an adverse health impact. Prolonged exposure can have detrimental effects on one's health. Pathogens, including bacteria, viruses, and parasites, are the source of waterborne diseases. These infections are transmitted by direct contact with contaminated water sources or human waste, as well as improper handling of food and beverages later. These can also spread by direct contact with contaminated objects and by being near or in close proximity to contaminated people. The primary cause of the spread of waterborne infections is a disregard for basic sanitation and hygiene.

According to WHO estimates, diarrheal illness kills 2.1 million people annually, with children in developing nations accounting for the majority of these deaths. Of these deaths, 65% can be avoided with proper water, hygiene, and sanitation practices. (2004). Research have revealed that cognitive and memory issues result

from losing 1% to 2% of body weight without replenishing lost fluids. Headaches, agitation, and tiredness result from a 4% shortage. Dehydration may make chronic pain issues worse.

Building a piped water supply system, 11,900 water alternatives, and 36,000 sanitary latrines that help 948,000 people in rural regions have all been made possible by funding from the Bangladesh Rural Water Supply and Sanitation Project.

In total, 1,199,000 people are anticipated to have access to improved water sources and hygienic latrines by 2017. This includes 924,000 people who are expected to have improved water sources, 14,000 community water points that have been built or renovated, 28,000 new piped household water connections, and 275,000 people who are expected to have healthy latrines.

For the benefit of the city's 3.5 million residents, the Dhaka Water Supply Project renovated 12 canals and constructed two storm water pumping stations with a combined 40 cubic meter capacity. Enhancing the utility's ability to plan investments, the initiative has also assisted in the creation of Dhaka City's master plans for sewerage and drainage. (2016) Strengthening institutional capacity by creating new institutions or enabling current ones to provide services sustainably was a key component of all new Water GP loan activities in FY22. (Hutton, 2022) In an effort to strengthen the government's regulatory role and increase the ability of local and national institutions for water quality monitoring, UNICEF also assists the government in creating a system for managing data on water quality. Together with piped water systems in rural and urban areas, UNICEF is also active in the creative design of water facilities and treatment technology. (Davis, 2003)

1.2 Background of the study

Regardless of nationality, religion, color, wealth, or creed, everyone has the fundamental human right to obtain clean drinking water. Diseases including cholera, diarrhea, dysentery, and polio can spread due to contaminated drinking water and inadequate sanitation (WHO 2018). Customers' health is being negatively impacted by low-quality drinking water. According to WHO (2018), at least 2 billion people drank water from sources tainted with human waste worldwide. The situation has marginally improved as a result of the key public health goals that many developing nations have set in recent years: the reduction of waterborne diseases and the development of safe water supplies. Nonetheless, the state of affairs is far from ideal, especially in rural regions, and this marginally better state of affairs can potentially be jeopardized by the rise in water demand and fall in water supply brought on by population expansion and economic development (Li and Qian 2018a). A essential prerequisite for making informed decisions about managing and protecting drinking water quality is knowledge of the state of the quality of the water and the health concerns that are linked with it. It is essential to employ a practical and efficient drinking water quality evaluation approach in order to get accurate results that support informed decision-making. Numerous techniques for assessing water quality have been put out since Horton created the first Water Quality Index (WQI) in the 1960s (Tian and Wu 2019; Su et al. 2019).

Water quality is now better understood, either through a more nuanced interpretation of its

properties or by the rapid development of methods for assessing it. In an effort to better understand the overall state of drinking source water quality in rural communities as well as the overall contribution of drinking water to dietary element intakes, Abtahi et al. (2015, 2016) suggested two drinking water quality indexes.

The evaluation of hazards to human health, in contrast to the rapid advancement of methods for assessing water quality, primarily depends on the USEPA model or updated USEPA models (Adimalla and Wu 2019; He and Wu 2018; He et al. 2018; Li et al. 2016; Wu and Sun 2016; Zhang et al. 2018a, b). To identify the uncertainties in the health risk estimating processes, Chen et al. (2018), for instance, incorporated triangular fuzzy numbers into the health risk assessment model. This gave rise to fresh insights into the resolution of water management issues.

The practices of health risk assessment have continued despite the assessment model's slow development, as evidenced by the growing number of studies conducted on the subject over the past three decades.

This is because researchers have come to understand the critical role that public health risk assessment plays in both protecting consumers from waterborne diseases and managing water quality in a sustainable manner. In the case of strontium (Sr) and organophosphate pesticide in drinking water, for instance, Zhang et al. (2018b) and Ali et al. (2018) evaluated the non-cancer hazards using the USEPA model. In particular, 11 drinking water contaminants—selenium (Se), mercury (Hg), thallium (Tl), lead (Pb), aluminum (Al), NH_4^+ , Fe, Mn, As, and NO_3^- —may have deleterious effects on human health. Soldatova et al. (2018) conducted a very thorough health risk assessment study. According to Joshi et al. (2018), drinking water quality is one of the main determinants of enteroviral diseases in children. They evaluated the relationship between meteorological factors and drinking water quality and the incidence of enteroviral diseases among children in seven metropolitan provinces of Korea. Mitra et al. (2018) discovered, however, that the most significant factor influencing the incidence of kidney stone illness in West Bengal, India, was the amount of water consumed, not the quality of the water. The longevity phenomenon was shown to have a good correlation with slightly alkaline drinking water that has trace element enrichment, according to Deng et al.'s (2018) investigation into the correlations between mineral and trace element levels in drinking water.

1.3 Objective of the study

- To identify the awareness about hydration and water born disease among Daffodil International University.
- To find out that the student of Daffodil International University are getting pure water supply or not from university and the hall.
- To find out that there are any need of extra pure water station at university or not.

CHAPTER-2

LITERATURE REVIEW

2.1 Scope of the study

Environmental science, public health, engineering, chemistry, biology, policy, and other fields are all involved in the study of drinking water. Studying drinking water has a wide range of applications and is essential to guaranteeing populations have access to clean, safe drinking water. The following are some crucial elements and possible research topics in this field

Water Quality Assessment and Monitoring: checking that water satisfies legal and health requirements by analyzing its physical, chemical, and biological characteristics. Searching for new compounds, toxins, and pollutants in drinking water.

Drinking Water Distribution and Infrastructure: examining how water distribution networks are built, maintained, and managed to maximize effectiveness, reduce losses, and guarantee that consumers receive water in a safe manner.

Public Health and Epidemiology: searching for solutions to reduce risks through efficient treatment and management techniques and looking into the effects of low water quality on health. Examining the preventative methods for waterborne illnesses.

Social and Behavioral Aspects: investigating the beliefs, attitudes, and actions of the general people around the use of drinking water and personal cleanliness. Investigating methods for community involvement and educational initiatives to encourage the use of safe water

Technological Innovation and Data Analysis: looking at the management and real-time monitoring of drinking water systems by the use of cutting edge technology like data analytics, artificial intelligence, and sensors. Utilizing big data analysis to forecast trends in water quality and enhance water treatment procedures.

Waste and Wastewater Management: investigating effective techniques for wastewater management and treatment in order to minimize pollution and safeguard water supplies.

The scope of studying drinking water is continually evolving with emerging technologies, environmental changes, and evolving societal needs. Collaboration and multidisciplinary approaches are crucial for addressing the complex challenges associated with providing safe and sustainable drinking water to all.

2.2 Limitation of the study

Understanding the consequences and potential advantages of drinking water is crucial to comprehending its significance for human health. Still, research on drinking water usage has inherent limits, just like any other scientific study. The following are some typical restrictions linked to these kinds of studies

Sample Size and Diversity

A small sample size or a lack of participant variety may be seen in many research. This may restrict the findings' applicability to larger populations.

Selection Bias

Results from drinking water studies may be skewed if participants are self-selected or selected in a non-random way.

Self-Reported Data

Research frequently use self-reported water use information. Recall bias or participant misreporting may cause inaccuracies.

Short-Term vs. Long-Term Effects

There's a chance that certain studies just record the immediate consequences of water consumption, leaving out any long-term advantages.

External Factors

A number of environmental factors, including lifestyle, nutrition, and general health, may have an impact on the effects of drinking water; these factors might not have been sufficiently controlled for or taken into consideration in the study design.

Confounding Variables

It is difficult to separate the benefits of water consumption from the influence of other variables (such as food and exercise) that may also have an impact on health outcomes.

Ethical Constraints

Conducting controlled trials cannot always be morally acceptable, particularly when the investigation entails adjusting water consumption levels.

Heterogeneity of Water Sources

It can be challenging to generalize results since different kinds and sources of water—such as tap water, bottled water, and mineral water—may have different compositions and possible health impacts.

Compliance and Adherence

Reliability of the findings may be impacted by the difficulty of maintaining participants' regular adherence to the recommended water intake during the trial.

Health Outcomes Complexity

It can be difficult to pinpoint particular impacts of water consumption alone since the health outcomes associated with drinking water might be complex and influenced by a wide range of connected factors.

Time Frame of Study

Especially for chronic illnesses that take a long time to develop, the study's duration might not allow for the observation of meaningful changes in health that are associated with drinking water.

Resource Limitations

Funding, schedule, or logistical limitations may restrict studies, which could have an impact on the research's breadth, depth, and design. (*World Water Day*)

2.3 Significance of the study

A multidisciplinary approach involving multiple professions like public health, environmental science, medicine, engineering, and more is required to study the importance of drinking water in a university setting. In a university setting, drinking water research involves the following important components

Public Health and Safety

Public health requires an understanding of drinking water quality. Universities carry out studies to guarantee that the supplied drinking water is pure, safe, and devoid of pollutants that could endanger public health.

Waterborne Diseases and Prevention

Researching drinking water can help find possible causes of waterborne illnesses and teach us how to stop epidemics. Research might concentrate on filtration systems, efficient disinfection techniques, and community education campaigns regarding the safety of drinking water.

Infrastructure and Engineering

Academic institutions examine the engineering and infrastructure needed to guarantee a steady and dependable supply of potable water. This involves studies on distribution networks, plumbing, water treatment facilities, and maintenance to increase productivity and cut down on waste.

Environmental Impact and Sustainability

It's critical to evaluate how water use affects the ecosystem and look into sustainable methods. Research may concentrate on methods to reduce the environmental impact of drinking water consumption, water conservation, and the effective use of available water resources.

Policy and Regulations

This field of study looks at laws and rules pertaining to safety requirements, enforcement, monitoring, and drinking water quality. Gaining knowledge of and influence over policy can help to strengthen the legislative framework that guarantees everyone has access to clean drinking water.

Water Access and Equity

It is imperative to look into the fair distribution of clean drinking water. Universities do research on underprivileged or marginalized groups' access to safe drinking water with the goal of closing accessibility gaps and advancing social justice in the delivery of water.

Human Behavior and Health Education

Effective health education programs can be created with an understanding of how people behave and perceive water. Studies could explore the variables affecting patterns of water consumption and strategies for promoting healthier options.

Technological Innovations

Universities frequently do research to create and advance technology for water purification, sensor systems for monitoring water quality, and intelligent water management systems to maximize resource use and improve overall water quality.

Emergency Response and Disaster Preparedness

The goal of this field of study is to make sure that there is a strong reaction to emergencies or natural catastrophes that could impact supplies of drinking water. The research focuses on three main areas: planning, infrastructure resilience, and timely response measures.

Interdisciplinary Collaboration

Academic institutions offer a forum for multidisciplinary cooperation, uniting specialists from several domains to collaborate on issues pertaining to potable water. This cooperative method promotes thorough comprehension and practical answers to intricate water problems.

2.4 Hydration and its importance:

Drinking enough water is crucial for preserving general health and wellbeing. It entails keeping the body's water balance in check to guarantee optimal operation. The following are some main arguments on why being hydrated is crucial:

Cellular Function and Metabolism

Every cell, tissue, and organ in the body is made primarily of water. It is vital to many different biochemical activities, including as waste elimination, nutrition absorption, and metabolism.

Regulation of Body Temperature

By evaporating and sweating, water helps control body temperature. Sweating is how the body releases water to cool off when exercising or being in the heat. The body can sustain a steady internal temperature if it is well hydrated.

Joint Lubrication and Shock Absorption

Maintaining proper hydration lowers the chance of injury by cushioning and lubricating the joints. Additionally, it helps absorb shock, particularly during high-impact activities.

Digestion and Nutrient Absorption

Water is necessary for the body's nutrient delivery, absorption, and digestion. Food is broken down, nutrients are dissolved, and the food is moved through the digestive system with its assistance.

Cognitive Function and Mental Clarity

Cognitive performance, focus, and concentration can all be negatively impacted by dehydration. Maintaining fluid intake promotes overall brain health, attention, and mental clarity.

Skin Health and Appearance

Adequate hydration maintains skin hydrated and improves its suppleness, which are two factors that lead to healthy, radiant skin. Dehydration can aggravate skin disorders like eczema and acne and cause dry, flaky skin.

Detoxification and Waste Removal

Through sweat and urine, the kidneys and liver remove waste and poisons from the body with the help of water. Drinking enough water promotes effective detoxification procedures.

Prevention of Dehydration and Associated Risks

Kidney stones, constipation, cramping in the muscles, heat exhaustion, heatstroke, and urinary tract infections are just a few of the health problems that can result from dehydration. These conditions can be avoided by drinking enough water.

Exercise Performance and Recovery

Those who participate in physical exercise, especially athletes, must stay hydrated. After strenuous activity, it promotes quicker recuperation, maintains energy levels, and improves performance.

Overall Health and Longevity

Staying hydrated is essential for longevity and overall health. Prolonged dehydration can lower

general quality of life and be a factor in long-term health problems.

It's important to listen to your body and drink water throughout the day to maintain adequate hydration levels. The amount of water needed varies based on factors like age, sex, activity level, climate, and overall health. It's advisable to consult with a healthcare professional for personalized hydration recommendations. (Benameur et al., 2021)

CHAPTER 3 METHODOLOGY

3.1 Study design:

Using a mixed-methods approach, the research has used a variety of procedures to collect data that is both quantitative and qualitative. A cross-sectional survey of 200 persons enrolled in universities that carried out among a sample of these individuals in order to collect quantitative data. This cohort of college students are be the study's target audience.

3.2 Participants

The male and female students registered at Daffodil International University, which is situated in Daffodil Smart City, Ashulia, Dhaka, between the ages of 18 and 25 make up the study's population.

3.3 Area of the study

Students between the ages of 18 and 25 from a variety of departments at Daffodil International University Smart City, Ashulia participated in the study. The analysis only included students who gave their permission to share their data.

3.4 Data collection method

To start, a typical questionnaire was made to gather information. In order to administer the questionnaire and collect data from students in different departments at Daffodil International University Smart City, Ashulia, Dhaka, in-person interviews were then carried out.

3.5 Study period

June 2023 to August 2023

3.6 Period of data collection

July 2023 to August 2023

3.7 Sampling strategy design. The team created a questionnaire that was used in the study in order to gather data via survey methodology. As the study's title suggests, Daffodil

International University was the research site and its students were the study's subjects. A predetermined sample size of DIU students was selected for the investigation.: This study aims to investigate participant demographics, water consumption patterns, and health effects through a quantitative, cross-sectional, exploratory

3.8 Sample size calculation

$$\text{Sample size} = \frac{z^2 pq}{e^2}$$

$$= \frac{(1.96)^2 * 0.5 * (1-0.5)}{0.0693^2}$$

$$= \frac{3.8 * 0.5 * 0.5}{0.00480249}$$

$$= 199.73(200)$$

()

Here,

e= margin of error

p=proportion of success

q=1-p

z=z-score

3.9 Ethical consideration

All participants were provided with complete information regarding the goal and design of the study prior to their involvement. They signed to consent to become involved in the research only after they had a clear knowledge of the specifics.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Water consumption

In total 200 students from Daffodil International University participated in this research. And result shows that amongs 200 students,83 students consume 6-8 glasses of water which means 41.5% students consume proper amount of water regularly.52 students consume water 3-5 glasses which is 26%.46 students consume water more than 8 glasses which is 23% and finally only 19 students drink water less than 3 glasses which is the lowest 9.5%.

Table 4 1: Water consumption

Category	Frequency	Percentage
Less than 3 glasses	19	9.5
3-5 glasses	52	26.0
6-8 glasses	83	41.5
More than 8 glasses	46	23.0
Total	200	100

4.2 Importance of hydration

Students were asked that how aware they are of the importance of staying hydrate through the day.74 students are moderately aware which stands 37%.60 students means 30% are fully aware.53 students somewhat aware which is 26.5% and finally 13 students means 6.5% students are totally not aware about importance of staying hydration.

Table 4.2: Importance of hydration

Category	Frequency	Percentage
Not aware	13	6.5
Somewhat aware	53	26.5
Moderately aware	74	37.0
Fully aware	60	30.0
Total	200	100

4.3 known about water born disease

Students were asked about knowing water born disease. 56 students means 28% students are neutral. 139 students means 69.5% students know about water born disease and 5 students means 2.5% students don't know about water born disease.

Table 4.3: known about water born disease

Category	Frequency	Percentage
Yes	139	69.5
No	5	2.5
Neutral	56	28
Total	200	100

4.4 Awareness about water born disease

Students were asked about their awareness for water born disease. Result shows that 80 students means 40% students are neutral. 100 students means 50% students are aware about it and 20 students means 10% students are not aware about water born disease.

Table 4.4: Awareness about water born disease

Category	Frequency	Percentage
Yes	100	50
No	20	10
Neutral	80	40
Total	200	100

4.5 Water dispensers

In Daffodil International University most of the students stay in hall. The hall students were asked how often they drink water from the water dispensers in hall. 83 students report that they drink water from water dispensers in hall a few times a week which means 41.5% of students. 60 which is 30% students use multiple time a day. 38 students rarely drink water from the water dispensers in hall and 19 students, 9.5% drink once a day from water dispenser from hall.

Table 4.5: Water dispensers

Category	Frequency	Percentage
Multiple time a day	60	30.0
Once a day	19	9.5
A few times a week	83	41.5
Rarely or never	38	19.0
Total	200	100

4.6 Availability of drinking water

When the students are asked about how satisfied they are with the availability of drinking water in hall, 81 students agreed that they are satisfied means 40.5% of students. 68 students which means 34% students are strongly agreed, 30 which is 15% students are neutral and finally 21 students means 10.5% students disagree with this opinion.

Table 4.6: Availability of drinking water in hall

Category	Frequency	Percentage
Strongly agree	68	34.0
Agree	81	40.5
Neutral	30	15.0
Disagree	21	10.5
Total	200	100

4.7 Getting pure water from your university

Students were asked what is their opinion about getting pure water from university. 20 students means 10% students are neutral. 180 students means 90% students think that they get pure water from university and nobody have any negative opinion.

Table 4.7: Getting pure water from your university

Category	Frequency	Percentage
Yes	180	90
No	0	0
Neutral	20	10
Total	200	100

4.8 Drinking water station

At Daffodil hall 32 students means 16% students strongly believe that there is a need for drinking water station in hall. 43 which is 21.5% students agree with the thing. 71 means 35.5% students are neutral and finally 54 in percent 27% students disagree with the statement.

Table 4.8: Drinking water station

Category	Frequency	Percentage
Strongly agree	32	16.0
Agree	43	21.5
Neutral	71	35.5
Disagree	54	27.0
Total	200	100

4.9 Carry a water bottle

When students are asked that how often they carry a water bottle with them to campus, 54.5% of students, in number which is 109 students always carry a water bottle with them, 19.5% of students means 39 students carry occasionally, 16% of students means 32 students rarely carry it. And 10% of students means 20 students never carry a water bottle in campus.

Table 4.9: Carry a water bottle

Category	Frequency	Percentage
Never	20	10.0
Rarely	32	16.0
Occasionally	39	19.5
Always	109	54.5
Total	200	100

4.10 Increased availability of drinking water stations

The students of Daffodil International University 15.5%, in number 31 students strongly think that there is a need for increased availability of drinking water station within the university premises. 25% of students, in number 50 students agree with this topic. 16.5% of students means 33 students are neutral. 16% of students disagree with this. On the other hand 27% of students means 54 students strongly disagree with this opinion.

Table 4.10: Increased availability of drinking water stations

Category	Frequency	Percentage
Strongly disagree	54	27.0
Disagree	32	16.0
Neutral	33	16.5
Agree	50	25.0
Strongly agree	31	15.5
Total	200	100

4.11 Health issues due to inadequate water intake

This survey shows that, among 200 students 99 students which is 49.5% students experienced dehydration on health issues due to inadequate water intake on the other hand 101 students which is 50.5% students never faced any issues because when they are asked that if they have ever experienced dehydration or any health issues due to inadequate water intake.

Table 4.11: Health issues due to inadequate water intake

Category	Frequency	Percentage
Yes	99	49.5
No	101	50.5
Total	200	100

4.12 Descriptive Statistics results from the study:

Table 4.12: Descriptive statistics

Variables	N	Mean	Std. Deviation
How many glasses of water do you typically consume in a day?	200	2.78	.909
How aware are you of the importance of staying hydrate through the day?	200	2.90	.906
Do you know about water born disease?	200	.70	.642
Are you aware about water born disease?	200	.74	.491
How often do you drink water from the water dispensers in your hall?	200	2.50	1.112
How satisfied are you with the availability of drinking water in your hall?	200	2.73	1.030
What do you think do you get pure water from your university	200	.90	.301
Do you believe there is a need for additional water dispensers or drinking water station in your hall?	200	2.02	.956
How often do you carry a water bottle with you to campus?	200	3.19	1.037
Do you believe there is a need for increased availability of drinking water stations within the university premises?	200	2.86	1.449
Have you ever experienced dehydration or any health issues due to inadequate water intake?	200	1.51	.501

CHAPTER 5

CONCLUSION

Potable water, often known as drinking water, is defined as water that is safe to eat whether it is prepared for food or sipped directly. The quantity of water needed for drinking to stay healthy varies and is influenced by factors such as age, physical activity level, health conditions, and environmental factors.

This study include approximately how many students maintain right amount of water intake daily to stay healthy. It is also a survey of the demand of extra pure water station at university. All the question and answer is done with 200 students of Daffodil International University. Result shows that, most of the students(69.5%) know about water born disease and most of them(50%) are aware of it.90% students feel that they get pure water from university. Out of 200 students, 83 drink six to eight glasses of water, or 41.5% of the student body, routinely consuming the recommended amount of water.52 pupils, or 26%, drink three or more glasses of water. Only 19 students drink less than three glasses of water, which is the lowest amount at 9.5%, and 46 students drink more than eight glasses of water, representing 23% of the total. When asked how satisfied they are with the availability of drinking water in the hall, 81 students (or 40.5% of the student body) said that they are satisfied.68 students, or 34% of the student body, strongly agreed with this statement; 30 students, or 15% of the student body, were neutral; and 21 students, or 10.5% of the student body, disagreed.

Safe drinking water is scarce for between one and two billion people. In Disease vectors can travel across water. Unsafe water kills more people than conflict does. Water keeps you hydrated, revitalizes you, enhances concentration, boosts mental clarity, and supports physical and mental well-being, among many other benefits. Water is necessary for several essential bodily processes. Water is used by our kidneys and liver to clear out waste items, detoxifying our system. Water is necessary for joints and cartilage to remain pliable. Studies have even shown that getting adequate water can help avoid heart disease and cancer.

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SYNOPSIS

Introduction: In Bangladesh, a densely populated country with 90% of its population dependent on groundwater, rising water contamination, including arsenic, is a matter of concern. (Gonchigdorj et al., 2023). Initiatives such as the Bangladesh Rural Water Supply and Sanitation Project and the Dhaka water supply project have been implemented by UNICEF and the World Bank, recognising the scale of the problem (Li and Qian 2018a). These efforts aim to provide clean water sources and improve infrastructure, addressing both rural and urban challenges. In cooperation with the Government, UNICEF stresses water quality monitoring and infrastructure development in order to recognise the essential role played by access to water for public health. On occasions such as World Water Day, the efforts are aligned with a global focus on safe access to water (Hutton, 2022).

Research Objectives:

- To identify the awareness about hydration and water born disease among Daffodil International University.
- To find out that the student of Daffodil International University are getting pure water supply or not from university and the hall.
- To find out that there are any need of extra pure water station at university or not.

Methodology: This research uses a combination of quantitative and qualitative data collection methods, using the combined method approach. Two hundred participants aged 18 to 25 years from Daffodil International University, Smart City, Ashulia participated in a crosssectional study. From June to August 2023, the study period was extended by data collected from inperson interviews conducted between July and August of that year. Participants, who provided consent, answered a structured questionnaire. For a representative group, the sample size calculation was intended to result in 200 participants. Ethical considerations ensured that participants received full information and had their consent before they were involved. This study offers a comprehensive overview of the chosen university's student population, focusing on demographic characteristics, water consumption and health effects.

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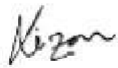


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QUESTIONNERE

PROJECT TITLE: AWARENESS OF HYDRATION AND CURRENT SITUATION OF AVAILABILITY OF WATER SUPPLY AT DAFFODIL INTERNATIONAL UNIVERSITY

Consent Letter

Place hare

Intake of drinking water in Daffodil students

Hall: _____(Please fill in the name of the specific Daffodil hall)

1. How many glasses of water do you typically consume in a day? a) Less than 3 glasses
b) 3 to 5 glasses c) 6 to 8 glasses d) More than 8 glasses
2. What is your preferred source of drinking water? a) Tap water b) Bottled water c) Filtered water d) Other (please specify): _____
3. How aware are you of the importance of staying hydrated throughout the day? a) Not aware at all b) Somewhat aware c) Moderately aware d) Fully aware
4. How often do you drink water from the water dispensers in your hall? a) multiple times a day b) once a day c) A few times a week d) Rarely or never
5. How satisfied are you with the availability of drinking water in your hall? a) very satisfied b) satisfied c) neutral d) dissatisfied
6. Are you aware of any issues or concerns related to the quality or taste of the drinking water in your hall? a) yes b) no
7. Do you believe there is a need for additional water dispensers or drinking water station in your hall? a) strongly agree b) agree c) neutral d)disagree
8. How often do you carry a water bottle with you to campus? a) Never b) Rarely c) Occasionally d) Always
9. Do you believe there is a need for increased availability of drinking water stations within the university premises? a) Strongly disagree b) Disagree c) Neutral d) Agree e) Strongly agree
10. Have you ever experienced dehydration or any health issues due to inadequate water intake? a) Yes b) No
11. Do you think the university should organize awareness campaigns regarding the benefits of drinking water? a) Yes, definitely b) Yes, to some extent c) No, not necessary
12. Are you familiar with the environmental impact of single-use plastic water bottles? Do you support initiatives to reduce their usage? a) Yes, I'm familiar and support initiatives b) Yes, I'm familiar but do not support initiatives c) No, I'm not familiar d) I don't have an opinion
13. How can the university encourage students to drink more water and maintain good hydration habits? a) Install more water stations b) Provide reusable water bottles to students c) Conduct awareness programs on hydration d) Offer incentives for drinking water e) Other (please specify): _____

14. Are you willing to actively participate in initiatives related to promoting drinking water and hydration? a) Yes, definitely b) Yes, if it aligns with my schedule c) No, not interested If you answered "Yes" to the previous question, please provide details: _____

15. Any additional comments or suggestions regarding the availability or use of drinking water Please feel free to share your thoughts: