

# A Survey of Total Water Consumption among People of Bhagwanpur-II Block

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**Abstract-** A survey was made on status of total water consumption at Bhagwanpur –II Block. It was found that 63% people were consuming sufficient amount of total water and water drinking was maximum at 8 to 9 p.m. Maximum people were taking their drinking water from within 100 m distance. In this area only in 4% family had water purifier at their home. Maximum people were taking their drinking water from submersible followed by Tara pump. Only few people knew that drinking sufficient water had health benefit. Female were consuming more sufficient water as compare to male. Among different age groups, adults were maximum in percentage, in consuming sufficient total water. Among different occupation, employees and retired employees were maximum in percentage, in consuming sufficient water.

**Keywords –** Water Consumption, Bhagwanpur-II Block, Survey, Awareness

## I. INTRODUCTION

In our life water is an essential nutrient [1]. The National Research Council had recommended a daily water intake of approximately 1 mL/kcal of energy expended. The daily water volume consumed will also determine the consumption of any minerals that it contains. An assumed water intake of 2 liters per day for adults is commonly used by WHO and regulators in computing drinking water guidelines and standards. Physical exertion, especially in extreme heat, can significantly increase water requirements [2]. Sweat rates can reach 3 – 4 liters per hour, with variations in rate depending upon work/exercise intensity and duration, age, sex, training, heat acclimatization, air temperature, humidity, wind velocity, cloud cover, clothing etc [3]. The US Army has established hourly water intake in relation to heat categories and has also concluded that liquid intake should not exceed 1.03 liters/h or 11.35 liters/day [4].

Humans consume water as plain drinking water, water in other beverages, and water in food (inherent, and/or added during preparation) and they also get some water from metabolism of food. Approximately one third of the daily average fluid intake is thought to be derived from food [3]. The rest water requirement must be met from consuming fluids. Availability, ambient temperature, flavor, beverage temperature, and even beverage container have all been shown to impact total intake. Cultural variations are also known to impact the types of beverages consumed. The total daily intake of both potentially harmful contaminants and beneficial elements will be directly associated with the total amount and type of water that is being consumed. Some of the important benefit of water consumption are it reduces headache, loses

weight, improves digestion, reduces constipation, enhances work activity, relieves fatigue, and maintains good mood [5].

Bhagwanpur – II Block is a rural area situated in Purba Medinipur, West Bengal, India, having 179.23 sq.km area and having population of 192130 (in year 2011). Cultivation is the main source of income of the people of this area. For proper education several Primary School, Jr. High School, High School, Higher Secondary School, two General colleges and one B. Ed. College are situated here [6]. With the above information it can be assumed that though Bhagwanpur – II Block is situated in rural area but the area is developing very fast.

The objective of the study was to survey the status of total water consumption among people of whole Bhagwanpur – II Block.

## II. MATERIAL AND METHOD

In this project work Bhagwanpur-II Block was visited and collected different information such as sex, age, occupation, quantity of water consumption, times of water consumption, awareness of health benefit of water consumption, availability of drinking water, distance of drinking water form residence, and availability of water purifier at home.

**No. of respondents in the survey: 350**

### Total water consumption

Assumption of total water intake/consumption = Drinking water + water in beverages + water in food (it can be assumed that 20% recommended water comes from food) [7].

### Graphs and Statistics

All the graphs (pie and column) used in this project were made by Excel. The data obtained was represented as mean  $\pm$  standard error.

## III. RESULTS AND DISCUSSION

Total water consumption in Bhagwanpur –II Block was surveyed. It was found that 63% people were consuming sufficient amount of total water rest of the people were consuming insufficient water (fig-1).

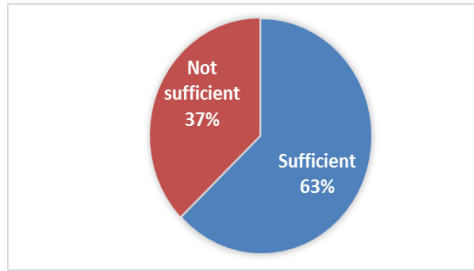


Fig. 1 Total water consumption of people at Bhagwanpur –II Block

The time of water drinking of participants was carried out. It was found that maximum people were drinking water from 8 to 9 p.m. (fig-2).

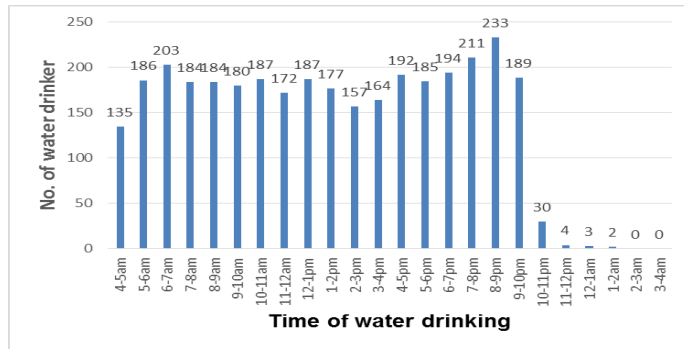


Fig. 2 Time of water drinking

It was noticed that 86% people were taking their drinking water from within 100 m distance, rest 14% people taking drinking water from 100-200 m distance (fig-3). Due to development of this Bhagwanpur-II Block now the drinking water was available at very near distance. It has been surveyed that nobody was drinking boiled water at Bhagawanpur-II Block (fig-4).

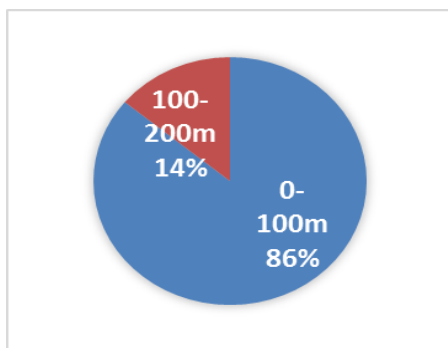


Fig. 3 Distance of availability of drinking water from residence

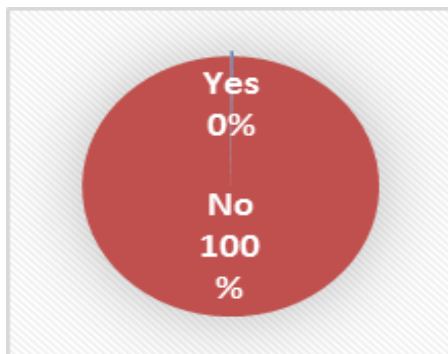


Fig. 4 Drinking boiled water

In this area only in 4% family have water purifier at their home (fig-5). It was noticed that 74% people were taking their drinking water from submersible. Rest of the people were taking it from Tara pump (fig-6).

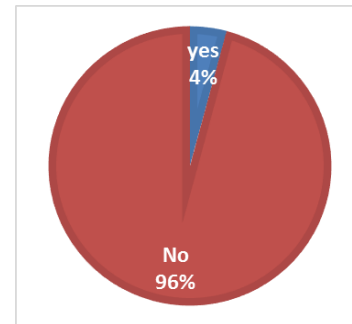


Fig. 5 Water purifier present in the family

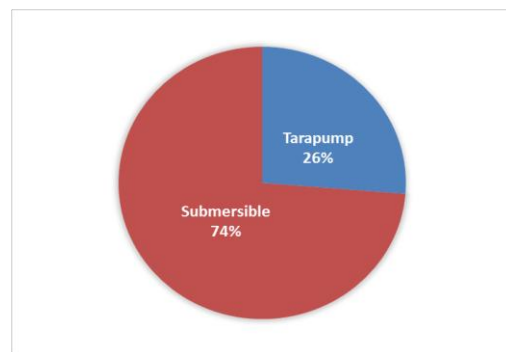


Fig. 6 Source of drinking water

The respondents were asked about their awareness of health benefit of sufficient water drinking. It was found that only 1% people knew that drinking water had health benefit. So proper education should be given to the people of this area regarding health benefit of water drinking (fig-7).

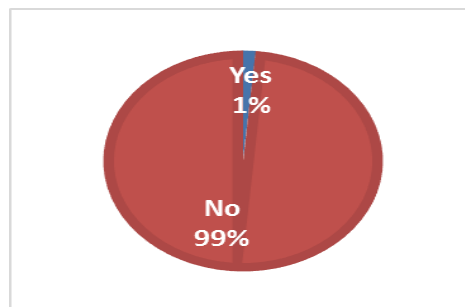


Fig. 7 People were aware related to health benefit of sufficient water drinking

In this area 60% male were consuming sufficient amount of total water, whereas 66% female were consuming sufficient amount of total water (fig-8).

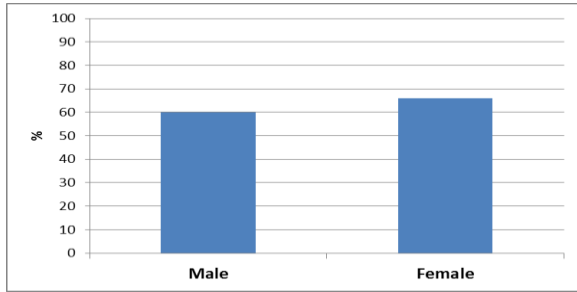


Fig. 8 Status of sufficient total water consumption among different genders

When total water consumption among different age groups was surveyed, it was found that 40% participants in pre-school age (1-6 years) group, 46% participants in school going age (7-12 years) group, 57% in adolescents age (13-17 years) group, 86% participants in adult age (18-60 years) group, 66% participants in geriatric age (>60 years) group was consuming sufficient water (Fig. 9).

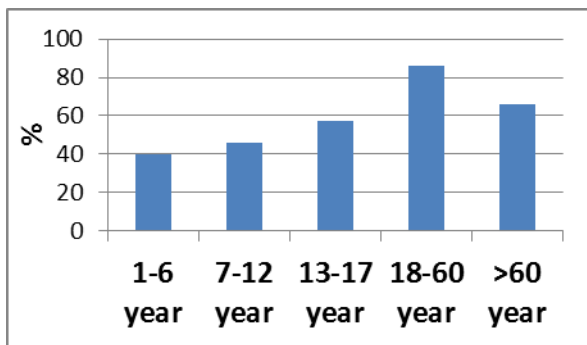


Fig. 9 Percentage of sufficient total water consumption among different age groups

When the status of total water consumption among people of different occupation were surveyed, we found among total students 46% students, among employees 100% employees, among self-employees 75% self-employees, among total house wives 69% house wives, among total retired employees 100% retired employees was consuming sufficient total water (Fig. 10).

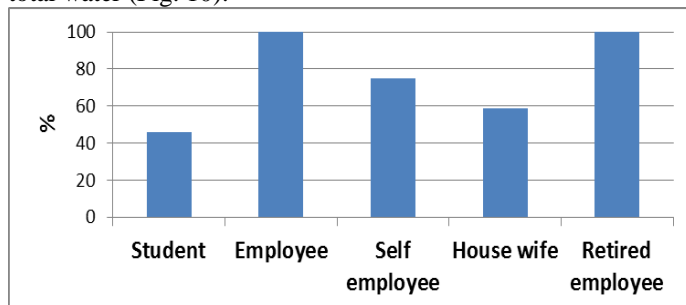


Figure 10: Status of percentage of sufficient total water consumption among people of different occupation

### CONCLUSION

The efforts were made to find out the status of water consumption at Bhagwanpur Block-II area. From the finding it can be concluded that only 63% people consuming sufficient

water. Due to development of the Block the drinking water was available within 200 m distance of each family. Nobody was drinking boiled water. Maximum people were taking drinking water from submersible. People were not aware of health benefit of drinking sufficient water.

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