

# “A Descriptive Study to Assess the Knowledge of people regarding prevention of water borne diseases in selected rural area of Gurugram”.

Dr. Khiumajuli Abonmai<sup>1</sup>, Neha Kashyap<sup>2</sup>, Reena<sup>3</sup>, Vedamurthy.R<sup>4</sup>

<sup>1</sup>Assistant Professor, Faculty of Nursing, SGT University, Gurugram, Haryana, India

<sup>2</sup>Nursing Tutor, Centre of Excellence in Nursing Education and Research, AIIMS Rishikesh

<sup>3</sup>Nursing Tutor, Centre of Excellence in Nursing Education and Research, AIIMS Rishikesh

<sup>4</sup>**Corresponding Author:** <sup>4</sup>Professor, Teerthanker Mahaveer College of Nursing, TMU

DOI: [https://doi.org/10.63001/tbs.2026.v21.i01.S.I\(1\).pp963-972](https://doi.org/10.63001/tbs.2026.v21.i01.S.I(1).pp963-972)

<p><b>Keywords:</b></p> <p><i>Knowledge, Water borne diseases, Prevention</i></p> <p><b>Received on: 28-02-2026</b></p> <p><b>Accepted on: 13-03-2026</b></p> <p><b>Published on: 24-03-2026</b></p>	<p><b>ABSTRACT</b></p> <p><b>Introduction:</b> The most important natural resource in the planet for all living things is water. Deaths, most of which are preventable, largely occur among the estimated 1.2 billion people worldwide without access to safe and reliable drinking water and the 2.5 billion without access to sanitation services. Pathogenic bacteria, which often spread in contaminated crisp water, are the cause of water borne infections. Showering, washing, consuming intoxicating mixtures, or using food that has been infected in this way all contribute to tainting.</p> <p><b>Objectives:</b> The main objective of this study is to assess the level of knowledge of people towards prevention of water borne diseases and to find out the association of knowledge of people towards prevention of water borne diseases with selected demographic variables.</p> <p><b>Methodology:</b> The sample for present study comprised of selected people living in Sultanpur, Gurugram where the Sample size were 100 people of age group above 17 years of age. The convenient sampling technique was used to select the study participants. Data was collected by using structured knowledge questionnaire in which Tool A consists of socio demographic variables and Tool B consist of structured knowledge questionnaire.</p> <p><b>Result:</b> The findings of the study revealed that 18% of the participants had poor knowledge, 69% of the participants had moderate knowledge and 13% of the participants had good knowledge regarding prevention of water borne diseases.</p> <p><b>Conclusion:</b> The study attempted to assess the knowledge of people towards prevention of water borne diseases in selected rural area of Gurugram. The findings of study showed that 18% of the participants had poor knowledge, 69% of the participants had moderate knowledge and 13% of the participants had good knowledge regarding prevention of water borne diseases.</p>
--	---

## Introduction

The most important natural resource in the planet for all living things is water.<sup>1</sup> Its chemical formula is H<sub>2</sub>O, meaning that each of its molecules contains one oxygen and two hydrogen atoms connected by covalent bonds. Water is the name of the liquid state of H<sub>2</sub>O at standard ambient temperature and pressure.<sup>2</sup>

Water is an excellent solvent for a variety of chemical substance.<sup>3</sup> Deaths, most of which are preventable, largely occur among the estimated 1.2 billion people worldwide without access to safe and reliable drinking water and the 2.5 billion without access to sanitation services. Despite ongoing efforts, the 2002 Millennium Development Goal of halving the population

without clean water or sanitation is unlikely to be achieved.<sup>4</sup> The extent to which disease organisms occur in specific fresh water sources depends on the amount of human and animal excreta that they contain.<sup>5</sup> Contaminated surface water sources and large poorly functioning municipal water distribution systems contribute to transmission of water borne bacterial disease.<sup>6</sup> Pathogenic bacteria, which often spread in contaminated crisp water, are the cause of water borne infections. Showering, washing, consuming intoxicating mixtures, or using food that has been infected in this way all contribute to tainting.<sup>7</sup> Ample of research paper has been conducted on water borne disease around the globe but few study has conducted in Gurugram. So, the current study will assess the knowledge of rural people on prevention of water borne diseases.

### **Research methodology**

Quantitative research approach using Descriptive study design is used to assess the knowledge among people regarding prevention of water borne diseases in selected rural area. The sample of this study were selected 100 people living in Sultanpur, Gurugram, Haryana. The convenient sampling techniques was used to select the study participants who were living in Sultanpur, Gurugram, Haryana.

### **Data Collection Method**

The research investigator obtained ethical clearance and formal administrative permission from the Sarpanch of Sultanpur Village, Gurugram to collect data for the study. A written consent was obtained from participants before starting data collection. Commitment was given to each participant that the confidentiality of each individual was be maintained. Health education was administered at the end of pretest. Data collected was tabulated and analyzed.

### **Data Analysis and Interpretation**

The data was analyzed by calculating the score in terms of frequency, percentage, mean, median, standard deviation, and chi-square. Analysis and interpretation of data was done according to objective and by using descriptive and inferential statistics. The level of significance was selected at 0.005.

**Figure 1:** Frequency (f) and percentage (%) wise distribution of people according to their selected socio demographic variable N =100

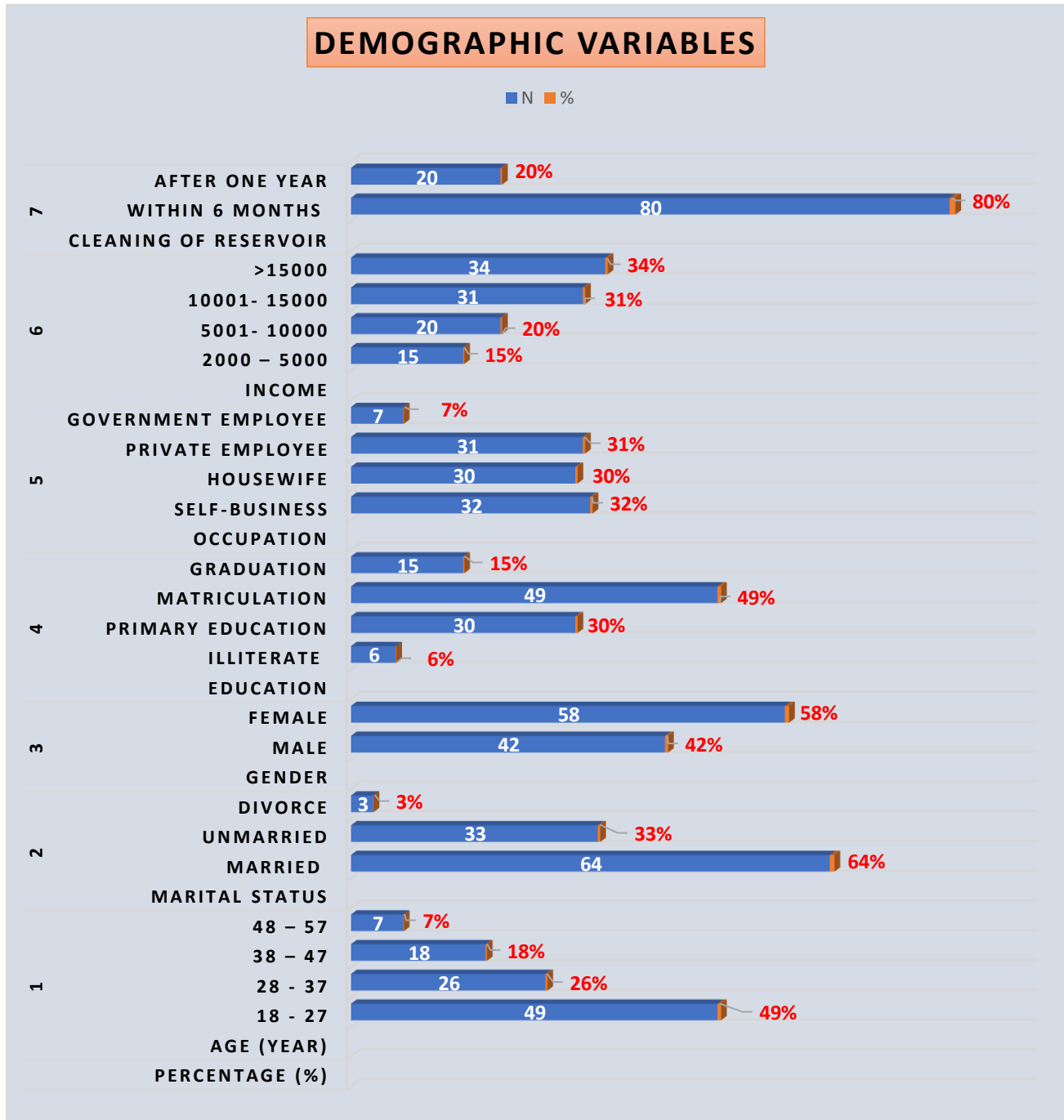


Figure 1 reveals that almost half **49%** of the participants of the total samples were in the age group between 18 – 27 years of age, **26%**

of the participants were in the age group between 28 – 37 years of age. **18%** of the participants were in the age group between 38

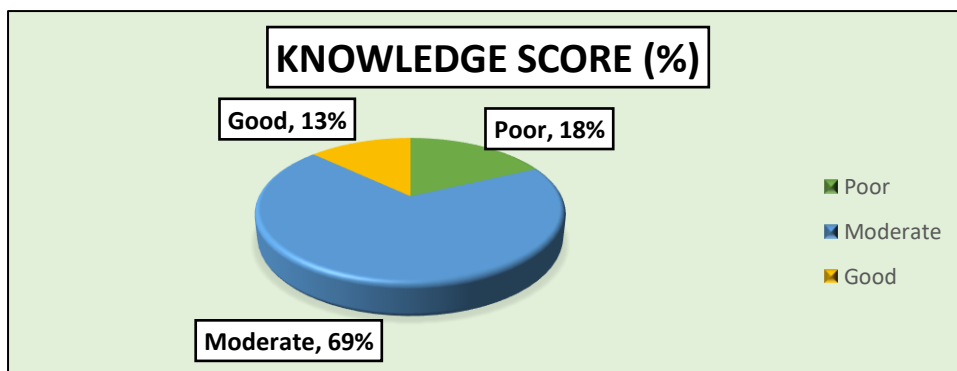
– 47 years of age and **7%** of participants were in the age group between 48– 57. Majority **60%** of the participants were married, **33%** of the participants were unmarried and **3%** of the participants were divorced. **42%** of the participants were male and **58%** participants were female. **6%** of the participants were illiterate, **30%** of the participants were having primary school education, **49%** of the participants were having high school education and **15%** of the participants were graduate. **32%** of the participants were having self-business, **30%** of the participants were housewife, **31%** of the participants were private employee and **7%** of the participants were government employee. **15%** of the participants were having income between 2000 – 5000, **20%** of the participants were having income between 5001 – 10000, **31%** of the participants were having income between 10001 – 15000 and **34%** of the participants were having income between 15001 – 20000. **80%** the participants were doing cleaning the reservoir within 6 month and **20%** the participants were doing cleaning the reservoir after 1 year.

**Table 1: Frequency and percentage distribution of knowledge score about water borne diseases**

The knowledge of the people regarding prevention of water borne diseases was assessed by a structured questionnaire consisting of 35 items. Each correct response was given score of one. According to total score obtained by each participant knowledge was classified into three categories. N=100

Level of knowledge	Score range	Knowledge score (n)	Knowledge score (%)
<b>Poor</b>	0 – 11	18	<b>18%</b>
<b>Moderate</b>	12 – 23	69	<b>69%</b>
<b>Good</b>	24 - 35	13	<b>13%</b>

The findings of the study revealed that 18% of the participants had poor knowledge, 69% of the participants had moderate knowledge and 13% of the participants had good knowledge regarding prevention of water borne diseases.



**Figure 2:** - Pie diagram shows the knowledge score about prevention of water borne diseases

**Table 2:** - Mean Median and Standard Deviation of knowledge score about prevention of water borne diseases: \_

N = 100

	MEAN	STD. DEVIATION	MINIMUM (m)	MAXIMUM (m)
<b>TOTAL</b>	<b>16.95</b>	<b>5.596</b>	<b>5</b>	<b>30</b>

This table reveals that the mean was 16.95 with the standard deviation of 5.596. The minimum range of the score was found to be 5 and the maximum score was 30.

**Table 3: Level Of Association Between the Mean Knowledge Score and Selected Socio Demographic Variables**

Socio demographic variable	Poor	Moderate	Good	Chi-square value	Significant
<b>AGE</b>					
18 – 27	7	34	8		
28 – 37	6	18	2	.789	NS
38 – 47	4	11	3		
48 - 57	1	6	0		
<b>Marital status</b>					
Married	14	44	6	.426	NS
Unmarried	3	23	7		
Divorce	1	2	0		
<b>Gender</b>					
Male	11	26	5	.340	NS
Female	7	43	8		
<b>Education</b>					
Illiterate	3	3	0		
Primary Education	6	21	3		
Matriculation	7	37	5	.320	NS
Graduate	2	8	5		
<b>Occupation</b>					
Self-business	5	21	6		
Housewife	4	21	5		NS
Private employee	9	22	0	.529	
Govt. employee	0	5	2		
<b>Income</b>					
2000 – 5000	2	10	3		
5001 – 10000	3	16	1		
10001 –15000	8	22	1	.401	NS
15001 –20000	5	21	8		
<b>Cleaning of reservoir</b>					
Within 6 months	9	58	13		
After 1 year	9	11	0	.012	S*

NS – Not significant, S\* – significant

The data in table no. 4 depicts that the knowledge of people regarding prevention of water borne diseases not found to be having any significance association with their selected demographic variables, except cleaning of reservoir at 0.05 level of significance.

### **MAJOR FINDING OF THE STUDY: -**

#### **Findings related to selected demographic variable:**

- Almost half 49% of the participants of the total samples were in the age group between 18 – 27 years of age, 26% of the participants were in the age group between 28 – 37 years of age. 18% of the participants were in the age group between 38 – 47 years of age and 7% of participants were in the age group between 48 – 57.
- Majority 60% of the participants were married, 33% of the participants were unmarried and 3% of the participants were divorced
- 42% of the participants were male and 58% participants were female.
- 6% of the participants were illiterate, 30% of the participants were having primary school education, 49% of the participants were having high school education and 15% of the participants were graduate.
- 32% of the participants were having self-business, 30% of the participants were housewife, 31% of the participants were private employee and 7% of the participants were government employee.
- 15% of the participants were having

income between 2000 – 5000, 20% of the participants were having income between 5001 – 10000, 31% of the participants were having income between 10001

- 15000 and 34% of the participants were having income between 15001 – 20000.
- 80% the participants were doing cleaning the reservoir within 6 month and 20% the participants were doing cleaning the reservoir after 1 year.

#### **Findings related to level of knowledge of people regarding prevention of water borne diseases:**

The findings of the study revealed that 18% of the participants had poor knowledge, 69% of the participants had moderate knowledge and 13% of the participants had good knowledge regarding prevention of water borne diseases. The mean knowledge scores is 16.95.

The knowledge of water borne illness management and prevention was evaluated quantitatively. The study's findings showed that the majority of the study sample (58.63%) had average knowledge of water-borne diseases, with 71.5% of the sample knowing about their causes and risk factors, 68.22% knowing how to prevent them, and 70.36% knowing how to manage them.<sup>8</sup>

#### **Findings related to association between levels of knowledge with their selected demographic variable:**

There was not much found to be having significant association between the level of knowledge of people regarding prevention of water borne diseases with selected demographic variable via, age, marital status, gender, education, occupation, and income except cleaning of reservoir (0.12,  $p > 0.05$ )

Chi – square was performed to final association between knowledge score with selected demographic variables. There was no significant association between knowledge score with their selected demographic variables except cleaning of reservoir. In same to these studies a quantitative study was conducted on 150 samples using a quantitative descriptive research design. It was shown that most of the 67% of students knew about water-borne illnesses on average. Select demographic factors (age, parents' educational status, and prior awareness of water-borne illnesses) and degree of knowledge of water-borne diseases were substantially unrelated.<sup>9</sup>

**CONCLUSION:** -This chapter present conclusion drawn based on the present study. The study attempted to assess the knowledge of people towards prevention of water borne diseases in selected rural area of Gurugram. The findings of study showed that

- Almost half 49% of the participants of the total samples were in the age group between 18 – 27 years of age, 26% of the participants were in the age group between 28 – 37 years of age. 18% of the participants were in the age group between 38 – 47 years of age and 7% of participants were in the age group between 48 – 57.
- Majority 60% of the participants were married, 33% of the participants were unmarried and 3% of the participants were divorced
- 42% of the participants were male and 58% and 58% participants were female.
- 6% of the participants were illiterate, 30% of the participants were having

primary school education, 49% of the participants were having high school education and 15% of the participants were graduate.

- 32% of the participants were having self-business, 30% of the participants were housewife, 31% of the participants were private employee and 7% of the participants were government employee.
- 15% of the participants were having income between 2000 – 5000, 20% of the participants were having income between 5001 – 10000, 31% of the participants were having income between 10001- 15000 and 34% of the participants were having income between 15001 – 20000.
- 80% the participants were doing cleaning the reservoir within 6 month and 20% the participants were doing cleaning the reservoir after 1 year.

The findings of the study shows that there is significant association between knowledge score with selected demographic variables such as age, marital status, gender, education, occupation, income and cleaning of reservoir.

There was not much found to be having significant association between the levels of knowledge of community people with selected demographic variables via. Age, gender, marital status, education, occupation and income status except cleaning of reservoir.

In this study showed that the structured teaching programme improving the knowledge of people regarding prevention of water borne diseases.

## LIMITATION

**The following limitations in this study are worth noting:**

- i. The size of the sample was small. Hence, it restricted the generalization.
- ii. The study duration was limited.
- iii. The samples were drawn only from
- iv. Sultanpur village, Gurugram so the wider generalization was limited.
- v. Only knowledge was assessed and no attempt was made to identify other attributes like attitude and practices.

- Another study can be conducted with experiment study.
- A study can be conducted to assess the knowledge and practice of people towards prevention of water borne diseases in selected rural area of Gurugram.
- Comparative study can be done between the people living in rural area and people living in urban area.

#### RECOMMENDATION: -

- A study can be replicated on a large sample to validate the findings and make generalizations.

---

#### REFERENCES

- <sup>1</sup> United States Department of Agriculture (.gov), Water, Air, and Soil | US Forest Service. Available at: <https://www.fs.usda.gov/science-technology/water-air-soil>.
- <sup>2</sup> Gleick, P.H., ed. (1993). *Water in Crisis: A Guide to the World's Freshwater Resources*. Oxford University Press. p. 13, Table 2.1 "Water reserves on the earth". Archived from the original on 8 April 2013.
- <sup>3</sup> *Water Vapor in the Climate System* Archived 20 March 2007 at the [Way back Machine](#), Special Report, [AGU], December 1995 (linked 4/2007). *Vital Water UNEP*. Archived 8 July 2009 at the [Way back Machine](#)
- <sup>4</sup> Palmgren C, Small MJ. Risk Anal. Something in the water? A health impact assessment 2000 Aug; 20(4):495-511.
- <sup>5</sup> Waterborne diseases and population reports [Internet]. 1998 Sep. Available from: <http://www.Info.k4health.org/pr/m14> chapter 5-1-shtm.
- <sup>6</sup> Causes of water borne diseases [Internet]. 2011 April 29. Available from: <http://www.Wrongdiagnosis.com>.
- <sup>7</sup> Water Borne Diseases | List of High Impact Articles, SciTechnol. Available at: <https://www.scitechnol.com/scholarly/water-borne-diseases-journals-articles-ppts-list.php>
- <sup>8</sup> N Kapadiya Manthankumar (2021) A descriptive study to assess the knowledge regarding prevention and management of water borne diseases among mothers of under five children in selected areas of Mehsana, Asian Journal of Nursing Education and Research, Volume : 11, Issue : 3, page :381 to 383, ISSN : 2231-1149. Online ISSN : 2349-2996DOI : 10.52711/2349-2996.2021.00091

---

<sup>9</sup> Arya A, Bisht V, et al (2019) Knowledge regarding Water Borne Diseases and its Prevention, Asian Journal of Nursing Education and Research, Volume : 9, Issue :

4, page : 501-503, ISSN : 2231-1149. Online ISSN : 2349-2996, DOI : 10.5958/2349-2996.2019.00105.8