Galore International Journal of Applied Sciences and Humanities
[Indexed, Peer Reviewed Journal]
Vol. 9; Issue: 2; April-June 2025
Website: www.gijash.com
Research Paper *P-ISSN: 2456-8430*

A Descriptive Study to Assess the Level of Knowledge Regarding Safe Drinking Water Among Rural Populations in Primary Health Centre (PHC)

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DOI: https://doi.org/10.52403/gijash.20250217

ABSTRACT

Objectives: 1) To assess the level of knowledge regarding safe drinking water among rural populations in Primary Health Centre (PHC). 2) To find out association of knowledge among rural populations with their selected demographic variables.
Method: Descriptive study with a assess the level of knowledge regarding safe drinking water and quantitative approach was carried out on 200 Rural residents aged 18 and above selected by a non-probability convenience sampling technique. The data was collected by using structured questionnaire consisting of 20 items.
Result: Average knowledge score was 13.10 with standard deviation of 3.12. The minimum score of knowledge was 3 with maximum score of 20.

Keywords: Assess, knowledge, safe drinking water, primary health Centre.

INTRODUCTION

Worldwide, 844 million people lacked access to improved drinking water, and out of them, 564 million reside in India Around 79% of the rural population in the world was deprived of safe drinking water. Whereas, in developing countries, 22% of healthcare facilities have no water service, 21% no sanitation service, and 22% no waste management service, and globally half of the population will be facing water-stressed conditions by the year 2025. The mortality rate in India from infectious diseases was 417 per 1,00,000 population in 2016.[1]

Water is the basic need for survival for all creatures including humans. Safe water fit for consumption can reduce chances of occurrence of disease thereby reduces mortality and morbidity. Whereas polluted and infected water has opposite effect. India has made considerable progress in recent years in improving water supplies in both rural and urban settings. However, only 12% of the rural population is served by a household connection. Surveys of microbial water quality throughout India have shown extensive fecal contamination of drinking water supplies. Such practices prompt waterborne diseases like diarrhoea, cholera, typhoid etc. In India there are resources of water broadly divided into two categories: surface water and ground water. Surface water is available in river, lakes ponds, streams etc. This water is found above the ground. On other side, the ground water is the water that seeps below the earth's

surface and is found in the cracks and spaces in soil and rocks.[2]

Objectives

1. To assess the level of knowledge regarding safe drinking water among rural populations in Primary Health Centre (PHC).
2. To find out association of knowledge among rural populations with their selected demographic variables.

MATERIALS & METHODS

Research Design

Descriptive research design will be used to assess the level of knowledge regarding safe drinking water among rural populations.

Research Approach

Quantitative research approach

Setting of the Study: - Rural area

Population

The population will include all adult residents living in the rural communities served by the selected PHCs.

Target Population

All adults aged 18 years and above residing in rural villages covered by the selected PHCs.

Accessible Population

Adults from the target population who are available and willing to participate during the data collection period at the selected PHCs.

Sampling Technique

Non-probability convenience sampling Technique

Sampling Size: -200 Rural people

STATISTICAL ANALYSIS

The data collected of the study was classified, organized and analyzed under following sections:

SECTION I

Deals with analysis of demographic data of rural populations at Primary Health Centre in terms of frequency and percentage.

SECTION II

Deals with analysis of data related to assessment of level of knowledge regarding safe drinking water among rural populations in Primary Health Centre (PHC) in terms of frequency and percentage.

SECTION III

Deals with analysis of data related to the association between knowledge score regarding safe drinking water among rural populations in Primary Health Centre with their selected demographic variables.

SECTION I

Deals with analysis of demographic data of rural populations at Primary Health Centre in terms of frequency and percentage.

Table 1: Frequency & percentage distribution of rural populations at Primary Health Centre

Sr. No.	Variable	Groups	Frequency	Percentage
1	Age (in years)	21-30	47	23.50
		31-40	46	23.00
		41-50	63	31.50
		51-60	44	22.00
2	Gender	Male	111	55.50
		Female	89	44.50
		Other	0	0.00
3	Educational Qualification	No formal education	64	32.00
		Primary education	54	27.00
		Secondary education	50	25.00
		Higher secondary	21	10.50
		Graduate and above	11	5.50

4	**Occupation**	Farmer	86	43.00
		Homemaker	72	36.00
		Student	38	19.00
		Government employee	1	0.50
		Private employee	3	1.50
		unemployed	0	0.00

Table 2: Frequency & percentage distribution of rural populations at Primary Health Centre

Sr. No.	Variable	Groups	Frequency	Percentage
5	**Monthly Family Income (in Rs)**	Less than Rs 5000	74	37.00
		Rs 5001 - 10000	40	20.00
		Rs 10001 - 20000	27	13.50
		Rs 20001 - 30000	31	15.50
		Above 30000	28	14.00
6	**Type of family**	Nuclear	43	21.50
		Joint	80	40.00
		Extended	77	38.50
7	**Source of drinking water**	Tap water	59	29.50
		Hand pump	33	16.50
		Bore well	52	26.00
		Open well	38	19.00
		River / Pond	12	6.00
		Other	6	3.00

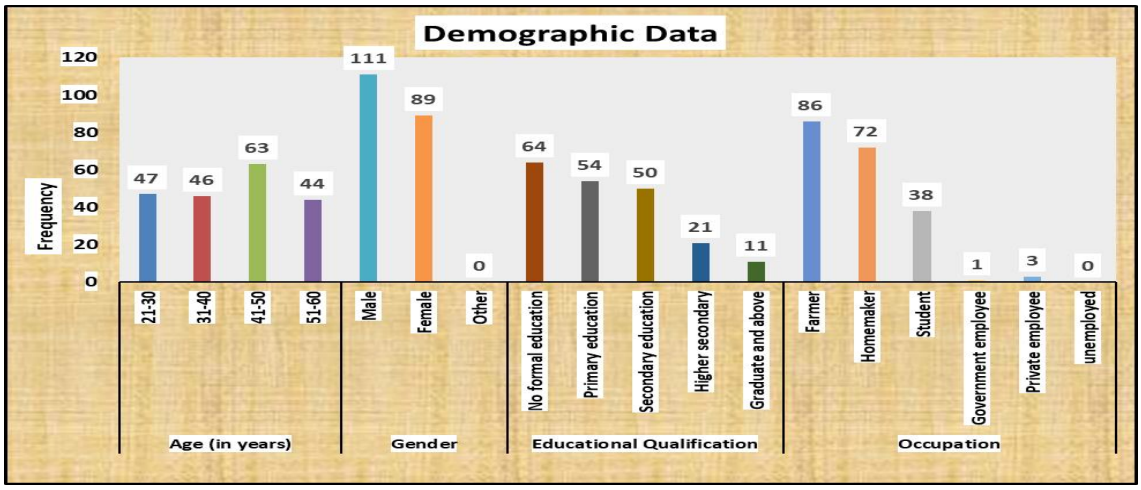

Figure No-1: Distribution of rural populations at Primary Health Centre

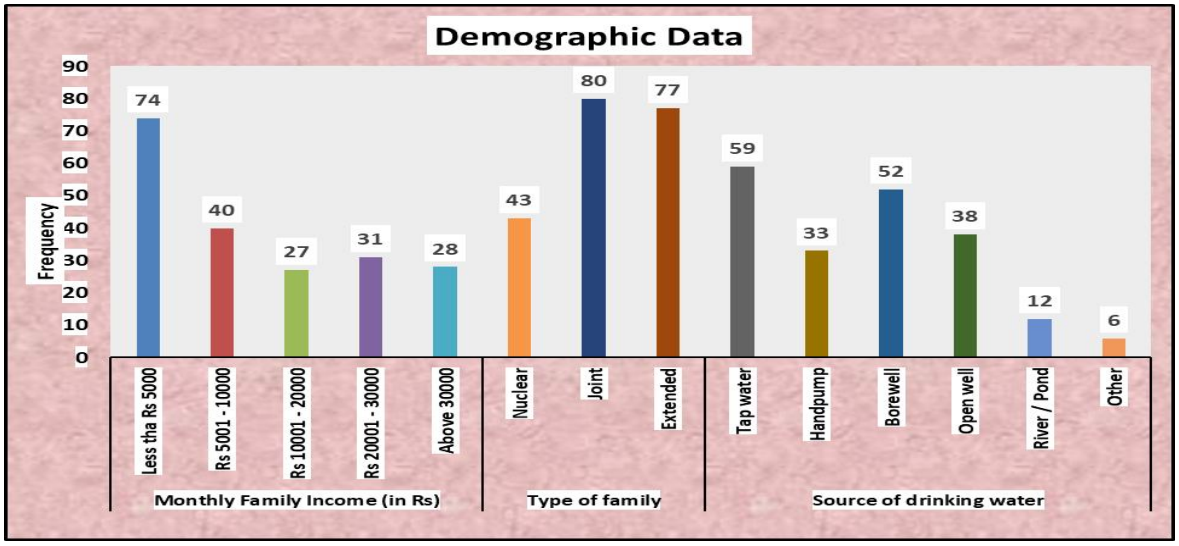

Figure No-2: Distribution of rural populations at Primary Health Centre

SECTION II

Deals with analysis of data related to assessment of level of knowledge regarding safe drinking water among rural populations in Primary Health Centre (PHC) in terms of frequency and percentage.

Table 3: General assessments of Knowledge regarding safe drinking water among rural populations in Primary Health Centre

Variable	Groups	Score	Frequency	Percentage
KNOWLEDGE	Poor	0-7	6	3.00
	Average	8-14.	130	65.00
	Good	15-20	64	32.00
KNOWLEDGE	Minimum		3	
	Maximum		20	
	Average (SD)		13.10 (3.12)	

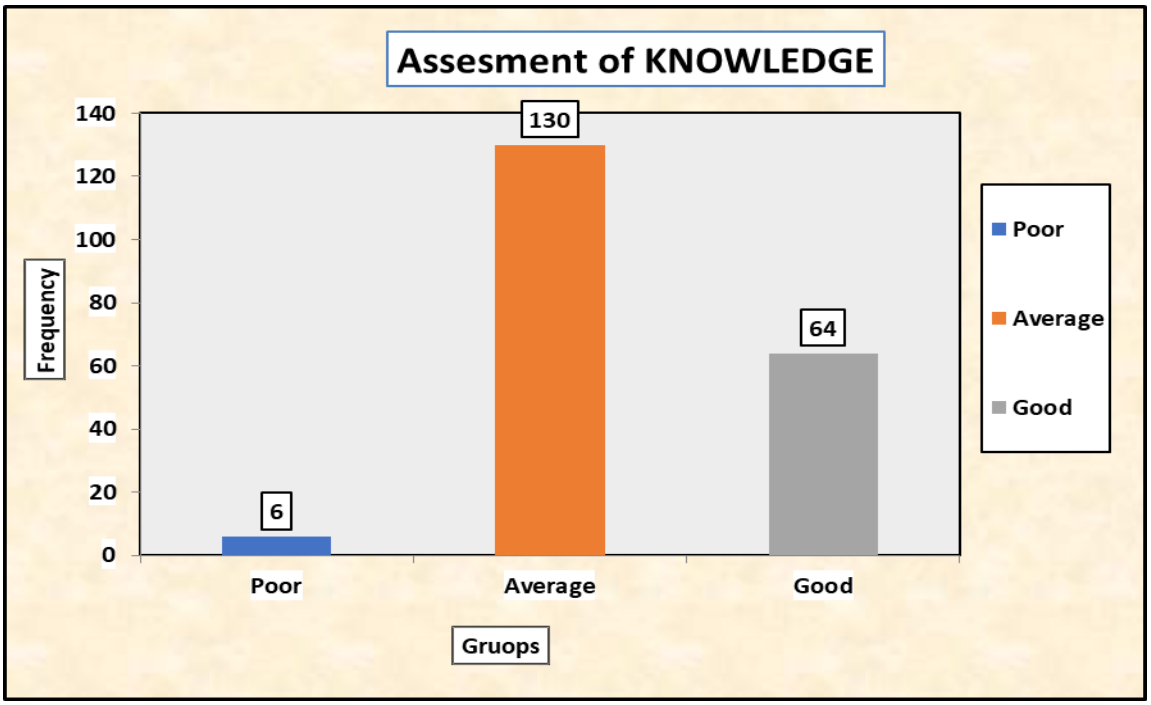

Figure No-3: General assessments of Knowledge regarding safe drinking water among rural populations

GENERAL ASSESSMENTS OF KNOWLEDGE REGARDING SAFE DRINKING WATER AMONG RURAL POPULATIONS

For assessment purpose the total score of knowledge regarding safe drinking water among rural populations in Primary Health Centre (PHC) was divided in to three groups like poor (0-7 score), average (8-14 score) and good (15-20 score).

Assessment of knowledge regarding safe drinking water among rural populations in Primary Health Centre (PHC) shows that, 3% of population had poor, 65% average knowledge and 32% of them had good knowledge.

Average knowledge score was 13.10 with standard deviation of 3.12. The minimum score of knowledge was 3 with maximum score of 20.

SECTION III

Deals with analysis of data related to the association between knowledge score regarding safe drinking water among rural populations in Primary Health Centre with their selected demographic variables.

ASSOCIATION OF KNOWLEDGE SCORE IN RELATION TO DEMOGRAPHIC VARIABLES

Table 4: Association of Knowledge with demographic variables

Variable	Groups	KNOWLEDGE		Chi Square	d. f.	p value	Significance
		below Md	Above Md				
Age (in years)	21-30	13	34	41.81	3	0.000	Significant
	31-40	32	14				
	41-50	46	17				
	51-60	39	5				
Gender	Male	68	43	1.53	1	0.22	Not Significant
	Female	62	27				
	Other	0	0				
Educational Qualification	No formal education	50	14	37.69	4	0.000	Significant
	Primary education	37	17				
	Secondary education	37	13				
	Higher secondary	5	16				
	Graduate and above	1	10				
Occupation	Farmer	61	25	34.53	4	0.000	Significant
	Homemaker	57	15				
	Student	10	28				
	Government employee	0	1				
	Private employee	2	1				
	unemployed	0	0				

Table 5: Association of Knowledge with demographic variables

Variable	Groups	KNOWLEDGE		Chi Square	d. f.	p value	Significance
		below Md	Above Md				
Monthly Family Income (in Rs)	Less than Rs 5000	37	37	12.03	4	0.017	Significant
	Rs 5001 - 10000	31	9				
	Rs 10001 - 20000	20	7				
	Rs 20001 - 30000	22	9				
	Above 30000	20	8				
Type of family	Nuclear	26	17	2.29	2	0.31	Not Significant
	Joint	57	23				
	Extended	47	30				
Source of drinking water	Tap water	39	20	7.13	5	0.21	Not Significant
	Hand pump	24	9				
	Bore well	33	19				
	Open well	25	13				
	River / Pond	4	8				
	Other	5	1				

ASSOCIATION OF KNOWLEDGE SCORE IN RELATION TO DEMOGRAPHIC VARIABLES – PRE TEST

The chi square test was used to see association between knowledge score regarding safe drinking water among rural populations in Primary Health Centre with their selected demographic variables.

The test was conducted at 5% level of significance.

Significant Association:

For demographic variables, age, educational qualification, occupation and monthly family income, p value of the association test with knowledge was less than 0.05. That means, the knowledge regarding safe drinking water among rural populations in Primary Health Centre was associated with these demographic variables.

Concludes that, there was significant association of these demographic variables with the pretest knowledge.

No Significant Association:

For demographic variables, gender, type of family and source of drinking water, p value of the association test with knowledge was more than 0.05. That means, the knowledge regarding safe drinking water among rural populations in Primary Health Centre was not associated with these demographic variables.

Concludes that, there was no significant association of these demographic variables with the pretest knowledge.

DISCUSSION

The present study was undertaken to assess the level of knowledge regarding safe drinking water among rural populations in Primary Health Centre (PHC). Water is the basic need for survival for all creatures including humans. Safe water fit for consumption can reduce chances of occurrence of disease thereby reduces mortality and morbidity. Whereas polluted and infected water has opposite effect. India has made considerable progress in recent years in improving water supplies in both rural and urban settings.

CONCLUSION

Concludes that, for demographic variables, age, educational qualification, occupation and monthly family income there was significant association of these demographic variables with the pretest knowledge. For demographic variables, gender, type of family and source of drinking water, there was no significant association of these demographic variables with the pretest knowledge.

Declaration by Authors

Ethical Approval: Approved

Acknowledgement: None

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

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How to cite this article: Piyush Wagh (Associate Professor), Priyanka Gawai (Assistant Professor), Rashmi Temburne (Associate Professor), Roshani Bhagat (Tutor), Suraj Khawate (Tutor), Nilesh Shirsath (Tutor) et.al. A descriptive study to assess the level of knowledge regarding safe drinking water among rural populations in primary health centre (PHC). *Galore International Journal of Applied Sciences & Humanities*. 2025; 9(2): 135-140. *DOI: https://doi.org/10.52403/gijash.20250217*

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