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A study to assess the knowledge regarding selected waterborne diseases among selected urban areas of Pune city

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Abstract
Waterborne diseases are caused either by contaminated water with micro-organisms or by fresh water with pathogenic microorganisms.
Objectives: 1. To assess the knowledge regarding selected waterborne diseases.
2. To associate the knowledge with selected demographic variables.
Methodology: Quantitative research approach with descriptive design was adopted in the study. In this study, 100 samples were selected using non-probability convenient sampling method. People who were above 21 years of age and below 60 years of age were selected. A structured questionnaire was prepared to assess the knowledge regarding selected waterborne diseases among people. Data collection was carried out in selected urban areas of Pune city.
Results: Knowledge regarding waterborne disease:-13% of people had poor knowledge, 75% of people had average knowledge and 12% of people had good knowledge. Knowledge regarding diarrhoea:-21% of participants w had poor knowledge, 63% had average knowledge and only 16 % had good knowledge. Knowledge regarding typhoid:-19% of participants had poor knowledge, 59% had average knowledge and 22% had good knowledge. The participants knowledge regarding Hepatitis A:-38% poor, 54% average, 8% good. As P value was less than 0.05, there was association of knowledge with education and occupation.
Conclusion: Majority of participants had average knowledge regarding selected waterborne diseases. So community health nurse and nursing staff should provide health education regarding prevention of waterborne diseases and create awareness.

Keywords: knowledge, waterborne diseases, people

1. Introduction
Worldwide 3.4 million individuals die every year due to waterborne diseases. Out of that one billion people does not have availability of potable water. This is widely an issue in developing and under developed countries [1]. Within 40,000 and 50,000 children aged under five year die each year from waterborne disease, i.e., diarrhea [2].
The Maharashtra state has enrolled registered 5,175 cases and 7 death in 2015 as against 7,303 cases and 15 death in 2014, 5000 people were hospitalized [3]. In last 6 month there have been 69 outbreaks of waterborne diseases in which 8,705 people diseased and 41 died [4]. In Pune, 5000 people were hospitalized in 2015, 5175 cases registered, 7 deaths in 2015, 15 deaths in 2014. In 2015, diarrhoea was the biggest worry with 3511 infection results by gastroenteritis which affected 1094 people.

2. Materials and Methods
Quantitative research approach with descriptive design was adopted in the study. In this study, 100 samples were selected using non-probability convenient sampling method. People who were above 21 years of age and below 60 years of age were selected. A structured questionnaire was prepared to assess the knowledge regarding selected waterborne diseases among people. Data collection was carried out in selected urban areas of Pune city.

3. Results

Section I - Demographic variables

Table 1: Distribution of people according to their demographic variables n=100

Sr. No	Demographic Variables		Frequency	Percentage
1	Age	21years-30 Years	47	47%
		31years-40 Years	24	24%
		41years-50 Years	18	18%
		51years-60 Years	11	11%
2	Gender	Male	50	50%
		Female	50	50%
3	Educational Status	Primary Education	17	17%
		Secondary Education	51	51%
		Graduate	29	29%
		Post Graduate	3	3%
4	Occupation	Self Employee	26	26%
		Private Employee	5	5%
		Government Employee	15	15%
		Others	54	54%
5	Water Sources	Own Well	0	0%
		Corporation Water	100	100%
		Bore Well	0	0%
		Others	0	0%
6	Monthly Family Income	<Rs.5000	25	25%
		Rs.5001-Rs.10000	42	42%
		Rs.10001-Rs.15000	25	25%
		Rs.15000 And Above	8	8%

Table no: I shows that 47% of participants were belongs to 21-30 years of age group, 50% male and 50% female were the participants, 51% participants were secondary educated, 54% of participants were had occupation other than the self-employee, private employee, government employee. All the participants were using corporation water. 42% of participants were earned monthly family income of Rs.5001 to 10000.

Section II Level of knowledge regarding selected waterborne diseases.

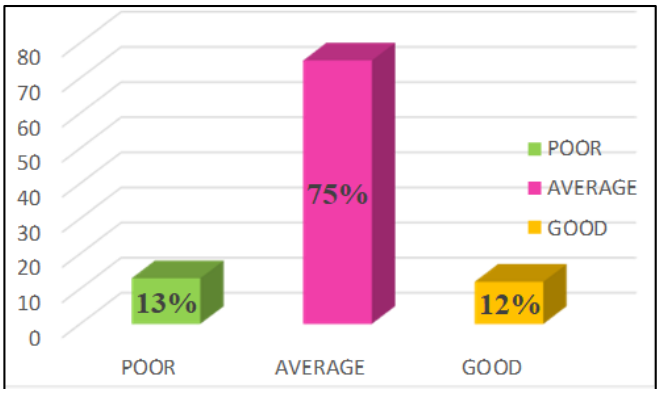

Fig 1: 010-9= POOR; 10-18=AVERAGE; 19-30=GOOD

Distribution of participants as per the level of knowledge regarding selected waterborne diseases

The participants in this study shows 75 (75%) had good knowledge score, 13 (13%) had average knowledge and 12 (12%) had poor knowledge score.

Table II: Distribution of participants as per level of knowledge regarding Diarrhea, Typhoid and Hepatitis A n=100

Waterborne Diseases	POOR (0-3)	AVERAGE (4-6)	GOOD (7-10)
Diarrhea	21%	63%	16%
Typhoid	19%	59%	22%
Hepatitis A	38%	54%	8%

Table no: II shows that 21% of participants were had poor knowledge, 63% had average knowledge and only 16 % had good knowledge regarding diarrhea. In typhoid, 19% of participants had poor knowledge, 59% had average knowledge and 22% had good knowledge. The participants knowledge level on Hepatitis A were 38% poor, 54% average, 8% good.

Section-III Association of the knowledge regarding selected waterborne disease with selected demographic variables

Table III: Association of the knowledge regarding selected waterborne disease with selected demographic variables using fisher's exact test.

Demographic Variable	Knowledge Score			P value	Significant/Not Significant
	Poor	Average	Good		
Age in years					
(a)21-30	7	34	5	0.931	Not Significant
(b)31-40	3	18	4		
(c)41-50	1	15	2		
(d)51-60	2	8	1		
Gender					
(a) Male	7	38	5	0.809	Not Significant
(b)Female	6	37	7		

Education					
(a)Primary education	6	10	1	0.019	Significant
(b)Secondary education	5	43	4		
(c)Graduate	2	19	7		
(d)Post graduate	0	3	0		
Occupation					
(a)Self-employee	5	20	2	0.009	Significant
(b)Private employee	6	7	2		
(c)Government employee	0	5	0		
(d)Others	2	43	8		
Monthly Family Income					
(a)<Rs.5000/-	5	18	5	0.466	Not Significant
(b)Rs.5001-10000/-	6	31	3		
(c)Rs.10001-15000	1	19	4		
(d)Rs.15001 and above	1	7	0		

This table no: III deals with the association of the knowledge regarding selected waterborne diseases with selected demographic variables. It shows knowledge is associated with education and occupation.

4. Discussion

The study done by Amir Abdollah Ghasemi shows that 24.7% had poor knowledge,46% had average knowledge and only 28.8% had good knowledge which supports the findings of this study as it shows only 16% had good knowledge about diarrhoea.

The previous study done by Ms. Athulya Ravi, reveals that 49% had poor knowledge, 35% had average knowledge, and only 16% had good knowledge about typhoid. This also supports the findings as only 22% had good knowledge about typhoid.

5. Conclusion

In this study 75% of participants had average knowledge, only 12% of participants had good knowledge, 13% of participants had poor knowledge regarding waterborne diseases. 21% of participants were had poor knowledge, 63% had average knowledge and only 16 % had good knowledge concerning diarrhoea. In typhoid, 19% of participants had poor knowledge, 59% had average knowledge and 22% had good knowledge. The participants knowledge level on Hepatitis A were 38% poor, 54% average, 8% good respectively. There is significant association between knowledge with education and occupation. This study shows that only less participants had good knowledge regarding selected waterborne diseases. So there is a need to provide education to people about waterborne diseases.

6. Recommendation

1. A study can be done on a particular waterborne disease in larger group.
2. The similar study can be done in rural areas.
3. The study can be replicated on large number of sample

7. Acknowledgement

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