International Journal of Advance Research in Community Health Nursing

Jupudi Anusha
Assistant Professor,
Department of Community
Health Nursing, Narayana
College of Nursing, Nellore,
Andhra Pradesh, India

Latha P
Professor, Department of
Obstetrics & Gynecology
Nursing, Narayana College of
Nursing, Nellore, Andhra
Pradesh, India

Dr. Indira
Professor& Principal,
Department of Medical &
Surgical Nursing, Narayana
College of Nursing. Nellore,
Andhra Pradesh, India

Knowledge regarding water purification among school children in Saraswathi Nagar, Nellore, Andhra Pradesh

Jupudi Anusha, Latha P and Dr. Indira

Abstract
Background: Water purification is the process of removing undesirable chemicals, materials and biological contaminants from water. The goal is to produce water bit for a specific purpose. Most water is purified for human consumption but water purification may also be designed for a variety of other purposes including meeting the requirement of chemical and institutional application.
Aim: The aim of the study was to assess the knowledge regarding water purification among school children.
Objectives: 1. To assess the level of knowledge regarding water purification among school children. 2. To find out the association between regarding water purification with their selected socio demographic variables.
Methodology: 100 School children 6-12 years aged studying in Sravanthi English Medium High School, Saraswathi Nagar were selected by using Non-probability convenience sampling technique method.
Results: Regarding water purification among 100 school children, 7(7%) had A+ grade, 31(31%) had A grade, 13(13%) had B+ grade, 10(10%) had B grade, 15(15%) had C grade, 24(24%) had D grade knowledge.

Keywords: Knowledge, water purification, school children

Introduction
Water purification is the process of removing undesirable chemicals, materials and biological contaminants from water. The goal is to produce water bit for a specific purpose. Most water is purified for human consumption but water purification may also be designed for a variety of other purposes including meeting the requirement of chemical and institutional application [1].

Water purification may remove particulate sand, suspended, particles of organic material, parasite, giardia, crypto sporidium, bacteria, algae, virus, fungi, such as mineral, calcium, silica and magnesium etc. Some purification may be elective in the purification process including smell, tastes and appearance [2].

The popular method for purifying water are boiling, filtering, distillation, reverse osmosis, desalination, ceutoityes method. There is no pure water in nature as if can contain up to 90 possible unacceptable contaminant. Every industrial or pharmaceutical plant related to health product must rely on appropriate water purification system, allowing if to need its particular requirement [3].

Filtration is found to be one of the most effective methods of purification which removes nearly 98 to 99% of the bacteria apart from other impurities. There are two types of filters commonly used, slow sand and rapid sand filtration [4].

Chlorination is one of the greatest advances in water purification. However actual the process of filtration, it does not ensure satisfactory bacterial removal, although it removes fragility, color and odor. Chlorine unwanted compounds debris and bacteria from organic and inorganic materials can cause various type of illness for members of the household if specific contaminants are not removed from the supply. Through various channels, there impurities can find their way into the water supply that serves the home [5].

Corresponding Author:
Jupudi Anusha
Assistant Professor,
Department of Community
Health Nursing, Narayana
College of Nursing, Nellore,
Andhra Pradesh, India

Need for the Study
According to WHO (2017), 1.1 billion people lack access to an improved drinking water supply 8% [6].

In Andhra Pradesh in (2014) JK government of Andhra Pradesh had taken a policy decision wise view to reduce the incidence of water bone disease [7].

A cross-sectional study was done among mothers to increase awareness at the household level about certain hygienic practices and to develop chemical and biological water quality was analysis as well as residential behavioral aspects related to hygiene practices before and after intervention. A questionnaire was used to evaluate the housewives knowledge and practices regarding hygienic practices and water use, followed by face-to-face health education and awareness sessions to the selected housewives. After 3month, another assessment was conducted using the same questionnaire to measure improvement in their knowledge on these and practices. The water quality was tested to ensure the water quality. Based findings the chosen method can improve the water quality in the household level [8].

A descriptive study was conducted regarding domestic water purification. Sample size is total 2,236 and learners 5,588 (40%) were interviewed 8 urban and rural schools findings showed that 100% of the schools had a toilet facility but differed in the technology used. The majority (75%) of the schools had access to pit latrines, whilst 25% of the schools (mostly from urban areas) had access to flush toilet facility, 73% of the schools had access to pit latrines. A total of 2,236 learners (grades 8-12) were interviewed of which 34.90±1.98% of the respondents were from rural schools and 65.10±1.98%, from urban schools. In terms of gender, 46.30±2.01% of the respondents was male while 53.70±2.07% of respondents was female. It concluded learners have sufficient knowledge about safe hygienic practices [9].

Statement of the Problem
A study to assess the knowledge regarding water purification among school children in Saraswathi Nagar, Nellore, Andhra Pradesh.

Objectives
- To assess the level of knowledge regarding water purification among school children.
- To find out the association between regarding water purification with their selected socio demographic variables.

Delimitations
- Children between 6-12 years of age
- Children who are willing to participate.
- Sample size of 100.

Methodology
Research Approach
A quantitative approach was adopted to determine the research study.

Research Design
The present study was conducted by using descriptive research design

Setting of the Study
The study was conducted in Sravanthi English Medium High School, Saraswathi Nagar.

Target Population
The target population for the present study includes school children 6-12 years of age.

Accessible Population
The target population for present study includes selected school children 6-12 years aged residing in Saraswathi Nagar, Nellore.

Sample
The sample for the present study was school children.

Sample Size
The samples consist of 100 school children.

Sampling Technique
Non-probability convenience sampling technique was adapted for the study.

Criteria for Sampling Selection
Inclusive criteria
- Children who are available at the time of data collection
- The children who is willing to participate in the study

Exclusive criteria
- The children's who are not willing participate
- Children who not present at the time of data collection

Description of Tool
Part-I: Socio demographic variables of school children. It includes age, sex, type of family, economic status, area of residence, standard of education and religion.

Part-II: Deals with questionnaire on knowledge of water purification.

Data Analysis and Discussion

Table 1: Frequency distribution of level of knowledge among school children. (N=100)

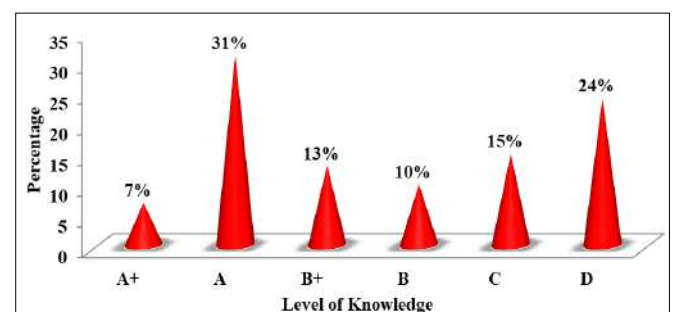| Level of knowledge	School Children	
	Frequency(F)	Parentage (%)
A+	7	7%
A	31	31%
B+	13	13%
B	10	10%
C	15	15%
D	24	24%
Total	100	100%

Fig 1: Percentage distribution of school children based on level of knowledge.

Table 2: Mean and standard deviation of knowledge score among staff nurses. (N=100)

Level of knowledge	Mean	SD
School children	20.94	5.99

Table 3: Association between level of knowledge regarding water purification among the school children with socio demographic variables. (N=100)

Demographic Variables	A+		A		B+		B		C		D		Chi-Square
	f	%	f	%	f	%	f	%	f	%	f	%	
Age													C =24.5 df=5
a)8-10 yrs	-	-	4	4	4	4	7	7	9	9	14	14	T=11.07
b) 11-12yrs	7	7	27	27	9	9	3	3	6	6	10	10	*P*<0.05 S*
Type of Family													C =39.95
a)Joint	3	3	8	8	5	5	3	3	4	4	5	5	df=10
b)Nuclear	4	4	21	21	8	8	5	5	9	9	15	15	T=18.31
c)Extended	-	-	2	2	-	-	2	2	2	2	4	4	*P*<0.05 S*
Economic Status													C =27.48
a)5,000	1	1	11	11	5	5	1	1	4	4	2	2	df=10
b)<5,000-10,000	6	6	17	17	5	5	4	4	11	11	12	12	T=18.31
c)>10,000	-	-	3	3	3	3	5	5	-	-	10	10	*P*<0.05 S*
Area of Residence													C =15.69
a)Rural	-	-	13	13	5	5	6	6	7	7	15	15	df=10
b)Urban	7	7	17	17	7	7	4	4	8	8	7	7	T=15.31
c)Hill areas	-	-	1	1	1	1	-	-	-	-	2	2	*P*<0.05 S*

Major Findings of the Study

- Regarding water purification among 100 school children, 7(7%) had A+ grade, 31(31%) had A grade, 13(13%) had B+ grade, 10(10%) had B grade, 15(15%) had C grade, 24(24%) had D grade knowledge.
- The mean knowledge score of school children was 17.59 and standard deviation was 5.87.
- Regarding association, age, type of family, economic status and area of residence had significant association with level of knowledge at *P*<0.05 level.

Conclusion

The study concluded that significant percent of school children, 31(31%) had A grade knowledge regarding water purification.

References

1. Basavanthappa. Community Health Nursing, Published By Jaypee Brothers, 134-136.
2. Dr. Kasthari Sundar Rao, Foundations of Community Health Nursing, 3rd Edition Bi Publications, 335-337.
3. Dr. Sridhar Rao, Principles of community medicine, 4th edition, aitbs publishers, 90-91.
4. Parks K, Text Book of Preventive and Medicine, 7th Edition, By Bankarisadas Bakon Publishers, 174-176.
5. Mc Gupta Bk Mahajan (Psm), Text Book Of Preventive and Social Medicine, 3rd Edition, Jaypee Publications, 112-114.
6. Kamala S. Text Book Preventive and Social Medicine 1st Edition by Jaypee Publication, 2004, 56-58.
7. Stanhope Lancaster, Foundations of Community Health Nursing, 6th edition, Mosby publications, 2002, 224-227.
8. American Journal of Public Health, November, 2004, 43-46.
9. Esrey Sa *et al*. The Risk of Infection Due To Drinking Water Supply, Use of Water, and Latrines among Preschool Children In Rural Lesotho. International Journal of Epidemiology, 2018, 248-253,
10. Sunil Kumar, Saritha Rego, Health Action, February. Conserving Water, 2015, 44-46.
11. Zambia, Water Law, Water Rights and Water Supply in Zambia – Issues and Perspectives, Warfsa/Water Net Symposium: Sustainable Use of Water Resources, Maputo. 2019; 1-2:207-11.