A Study to Assess the Knowledge and Practice Regarding Water Sanitation and Its Impact on Health among the People in a Selected Rural Community

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Abstract:
Sanitation is the hygienic means of promoting health through prevention of human contact with the hazards of wastes; in particular via the treatment and proper disposal of human excrement, often mixed into wastewater, these hazards may be physical, chemical microbiological, biological agents of disease. The study was to assess the knowledge and practice regarding water sanitation and its impact on health among the people in a selected rural community. A survey research design was used to collect data from 200 house holds those who were selected by convenient sampling technique. The result of the study was the knowledge score of people that 50.5% (105) having moderate knowledge, 25% (50) having adequate knowledge, and 24.5% (45) having inadequate knowledge. The mean is 15.05 and standard deviation is 3.23 for knowledge. With regards to practice, 56% (112) were having inadequate practice and 44% (88) were having adequate practice. The mean is 4.63 and Standard deviation is 1.72. The study concludes that most of the people rural community having moderate knowledge and less practice on water sanitation.
Key words: *knowledge, practice, water sanitation, impact on health, rural community.*

I. Introduction

The world health organization defines water sanitation as "the control of all those factors in man's physical environment, which exercise or may exercise a deleterious effect on physical development, health & survival. "India is lagging behind compared to other countries in the field of water sanitation. The basic problem of safe water supply & sanitary disposal of human excreta is yet to be solved.[1]

Sanitation is the hygienic means of promoting health through prevention of human contact with the hazards of wastes; in particular via the treatment and proper disposal of human excrement, often mixed into wastewater, these hazards may be physical, chemical microbiological, biological agents of disease.[2] Wastes that can cause health problems include human and animal excreta, solid wastes, domestic wastewater (sewage or grey water), industrial wastes, and agricultural wastes, hygienic means of prevention may involve engineering solutions (e.g., sanitary sewers, sewage treatment surface runoff management , solid waste management excreta management), simple technologies (e.g., pit latrines, dry toilets, urine diverting dry toilets, septic tanks), or even simply by behavior changes in personal hygiene practices such as hand washing with soap.[3]

Disease Burden in India related to Water Borne Disease

A recent report by the United Nations says that, In India, over one lakh people die of water- borne diseases annually. It is reported that groundwater in one-third of India's 600 districts is not fit for drinking purpose. A World Resources Report says about 70 per cent of India's water supply, is seriously polluted with sewage effluents. Water-borne diseases like cholera, gastroenteritis, diarrhea erupt every year during summer and rainy seasons in India due to poor quality drinking water supply and sanitation. Towns and cities with an abundance of water struggle to manage the water efficiently, often leading to water collecting in potholes and or in the surrounding areas and going un-used. This can have severe consequences as water-borne diseases, such as cholera, malaria and diarrhea can spread as a result of improper management of the water supply as well as discharge. These diseases are a common cause of death[4].

Water contamination often occurs due to inadequate and incompetent management of resources as well as inflow of sewage into the source. It is estimated that around 37.7 million Indians are affected by waterborne diseases annually; 1.5 million children are estimated to die of diarrhea alone and 73 million working days are lost due to waterborne disease each year. The resulting economic burden is estimated at $600 million a year. The problem of chemical contamination is also prevalent in India with 1, 95,813 habitations in the country are affected by poor water quality.[4]

Objectives
1. To assess the level of knowledge regarding water sanitation and its impact on health among the people in Rural Areas
2. To assess the level of practice on water sanitation among people in Rural Areas.
3. To find out the association between the level of knowledge with the selected demographic variables.
4. To find out the association between the level of practice with the selected demographic variables

Hypothesis
H1: there is a significant level of knowledge on water sanitation and its impact on health among the people in rural areas.
H2: there will be significance level of practice on water sanitation among the people in rural areas.

II.   Methodology

Research Approach
The research approach for the study was **Quantitative approach.**
Research Design
The research design adopted for this study is **Survey research design**
Population
The population under study is selected **rural community people**.
Sample
The present study was conducted among the rural community people.
Sampling Technique
The **convenient sampling technique** was used to select the sample
Sample Size
200 households of rural community people were selected as samples.
Description of Tools
The tool was developed through extensive review of book. The structured questionnaire comprised of three section -
Section 1 consists of Demographic data of the samples like Age, Gender, Educational Status, Sources of drinking water, Excreta disposal, Drainage system and using of any Water Purification Method
Section 2 consists of Structured questionnaire with 25 multiple choice items to assess the knowledge regarding water sanitation. Each correct answer carry (1) mark and each wrong answer carry (0) mark. Total 25 marks.

Scoring:

Level of Knowledge	Range	Percentage
Inadequate knowledge	0 – 13	0 – 52
Moderately Adequate Knowledge	14 – 20	56 - 80
Adequate Knowledge	20 - 25	Above 80

Section 3 consists of Check list containing 10 questions related to practice on water sanitation for Each question, yes answer carrying (1) mark and each no answer carrying zero (0) mark.

Scoring:

Level of Practice	Range	Percentage
Inadequate practice	0 - 5	0 - 50
Adequate practice	6 - 10	50 - 100

III.   Result:

The study result was described in following sections
Section A: Analyzing the level of Knowledge regarding water sanitation among people
Section B: Analyzing the level of Practice regarding water sanitation among people
Section C: Association between the level of knowledge with the selected demographic variables.
**Section D:** Association between the level of practice with the selected demographic variables

Section A:
Table 1: Level of Knowledge regarding water sanitation among people in rural areas

(N = 200)

Level of knowledge	Frequency	Percentage %
Inadequate knowledge	45	24.5
Moderately Adequate Knowledge	105	50.5
Adequate Knowledge	50	25

DISTRIBUTION OF KNOWLEDGE

50.50%

24.50%

25%

- Inadequate
- Moderate
- Adequate

Inadequate   Moderate   Adequate
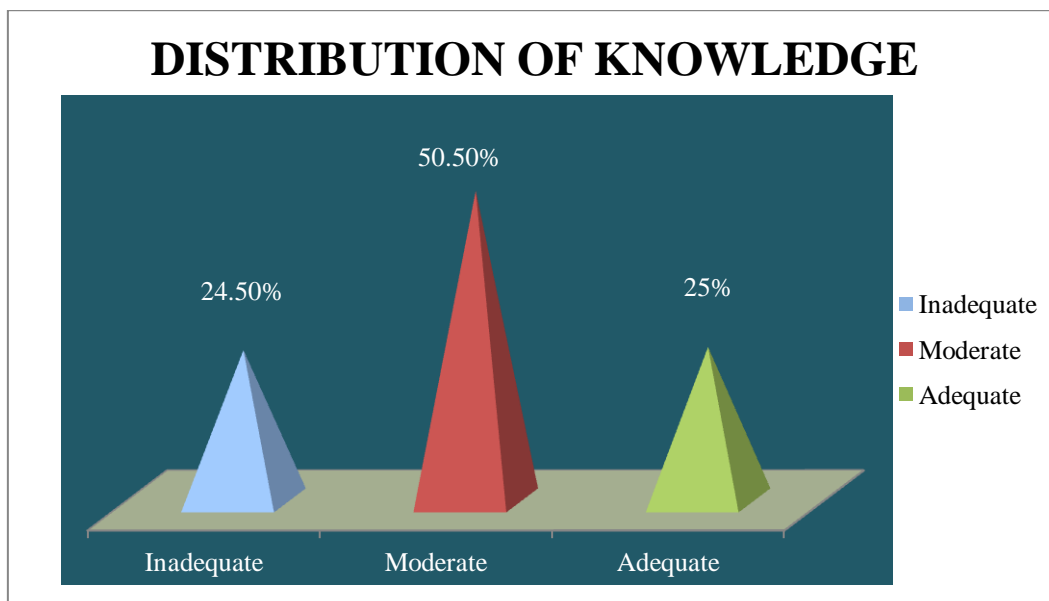
Fig: 1 Cone diagram represents the level of knowledge regarding Water Sanitation

(Table and Fig 1) represent the knowledge score of people that 50.5% (105) having moderate knowledge, 25% (50) having adequate knowledge, and 24.5% (45) having inadequate knowledge.

Table: 2 Mean and Standard deviation of knowledge level of People regarding Water Sanitation

(N= 200)

Variable	Mean	Standard deviation
Knowledge	15.05	3.23

Table.2 depicts the analysis of knowledge score through mean is 15.05 and standard deviation is 3.23.

Section: B

Table 3: Level of Practice regarding water sanitation among people in rural areas

(N = 200)

Level of practice	Frequency	Percentage %
Inadequate practice	112	56%
Adequate practice	88	44%

DISTRIBUTION OF PRACTICE

56%

44%

- Inadequate
- Adequate

Inadequate   Adequate
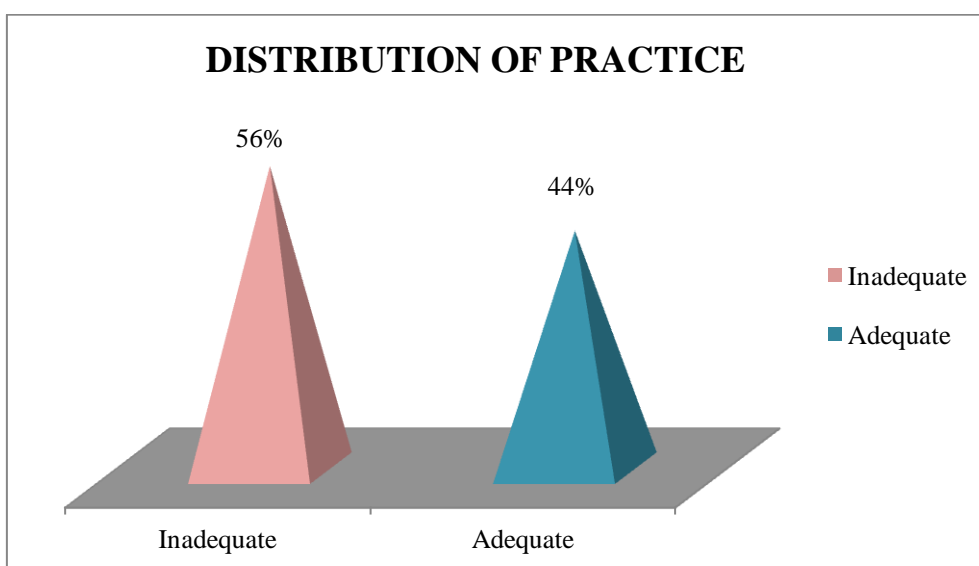
Fig. 2 Conical Diagram represents the level of practice regarding water sanitation.

(Table 3. Fig 2) represent the practice score of people, 56% (112) were having inadequate practice and 44% (88) were having adequate practice.

Table:4 Mean and Standard deviation of Practice level of People regarding Water Sanitation

(N = 200)

Variable	Mean	Standard deviation
Practice	4.63	1.72

Table 4. depicts the analysis of practice score, Mean is 4.63 and Standard deviation is 1.72.

Section C: Association of Knowledge Level of Rural Community People with Their Demographic Varibles
Association between the level of knowledge regarding water sanitation and the demographic variables of the sample shows non significance.

Section D: Association between the level of practice with the selected demographic variables
Association between the level of practice regarding water sanitation and the demographic variables of the sample shows non significance.

Implementation
In this context, the health professionals , especially the nurse have a major role in providing information about Water sanitation, which is one of the most effective weapon to decrease morbidity and mortality due to water borne diseases.

Nursing Practice
Nurses integrate the science and art of nursing into there practice, the quality of care provided to client is at a level of excellence that benefits clients in innumerable ways. The finding of the present study emphasize the importance of water sanitation, which can put in to nursing practice which can be helpful while preventing water borne diseases.

Nursing Education
This study helps the nursing students to improve the knowledge about water sanitation and its importance as a part of nursing curriculum. Students may understand the importance and also will educate others to improve health status.

Nursing Administration
As a nursing administrator much can be done at grass route level to improve knowledge of staffs and patients regarding water sanitation and its importance. Nurse administrator has a role in planning the policies for imparting health information to the target population.

Nursing Research
The research findings may be beneficial to the students researchers and others to carryout there research work. The methods used for the study can follow by the students for their investigation, analysis and interpretation.

IV.   CONCLUSION
The study to assess the knowledge and practice of rural community people regarding water sanitation was conducted as survey research design shows that there is a moderate level of knowledge for 50.5% of people and 56% of people have inadequate practice. The study concludes that most of the people rural community having moderate knowledge and less practice on water sanitation hence it is more important to provide education for them so that it will decrease the incidence of disease occurring from water contamination.

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