



## International Journal of Advance Research in Nursing

Volume 2; Issue 1; Jan-Jun 2019; Page No. 24-27

Received: 11-11-2018  
Accepted: 15-12-2018

Indexed Journal  
Peer Reviewed Journal

### A study to assess the knowledge and practice on prevention of waterborne diseases among mothers of children below five years of age in selected urban area in a view to prepare information booklet

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#### Abstract

A study to assess the knowledge and practice on prevention of waterborne diseases among mothers of children below five years of age in selected urban area in view to prepare information booklet. The study aimed at assessing the knowledge and practice of mothers about prevention of waterborne diseases. In this study the samples were selected from Phulenagar of Bhosari PCMC area. A structured questionnaire was prepared to assess the knowledge of mothers regarding waterborne diseases. Also, a checklist was prepared to assess the practices of mothers on prevention of waterborne diseases. The content validity was determined by the experts and 60 sample collection was done from 06/04/2017 to 09/04/17, 11.66% (7) of mothers were having excellent knowledge, 28.33% (17) of mothers were having good knowledge, 56.66% (34) of mothers were having average knowledge and 3.33% (2) of mothers were having poor knowledge about waterborne diseases. 55% (33) of mothers followed adequate practice measure for prevention of waterborne diseases, 38.33% (23) mothers followed moderately adequate practices and 6.66% (4) mothers took inadequate practices to prevent waterborne diseases in children. It can be concluded that the majority of study population have average knowledge about waterborne diseases and majority of samples follow adequate practice measures to prevent waterborne diseases.

**Keywords:** assess, knowledge, practice, prevention of waterborne diseases, mothers of children below five year of age

#### Introduction

Water-borne infections are among the most emerging and re-emerging infectious diseases throughout the world. Waterborne diseases are an ever-present threat to the health of nearly one billion people worldwide; a fact that has gained increasing international attention in recent weeks after a cholera outbreak was reported in Haiti. As of November 4, more than 440 Haitians had died from the highly infectious disease that is transmitted through contaminated water; at least 6,740 cases had already been reported. Today, 37.7 million Indians are affected by waterborne diseases annually, 1.5 million children are estimated to die of diarrhoea alone. Neither until the 10th Five Year Plan, Neither the State itself, nor in partnership with private players has made it a priority to deliver safe drinking water to the country's 700 million rural population. Water-borne diseases are caused by ingestion of contaminated water from pathogens contained in human or animal excreta. SSAs population suffers markedly from water-borne infections due to lack of safe and sanitary water supply and disposal. Water and disease related issues are major roadblocks to sustainable development. As noted by Toepfer, disease statistics are stark and tragic: 80% of illness and death in the developing world is water-related; half of the world's hospital beds are occupied by people with water-related diseases; diarrhea and malaria are by far the largest causes of mortality in children <5 years of age

(34%) in Africa; and the number of deaths from water-related disease approaches 5 million annually, most of them children. These 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 by 2015 is unlikely to be achieved.

#### Research Materials and Methods

**Research Approach:** Quantitative Research Approach Is Used.

**Research Design:** Descriptive survey research design is used.

**Variables: Dependent variable:** knowledge and practice on prevention of waterborne diseases among mothers of children below five years of age.

**Independent variables:** Age, educational qualification, occupation, income, source of information.

**Hypotheses: H1-** There will be significant difference between knowledge and practice regarding prevention of waterborne diseases among mothers of children below five

years of age in a selected urban area at Phulenagar.

**H2:** There will be significant association between knowledge and practice regarding prevention of waterborne diseases among mothers of children below five years of age in a selected urban area at Phulenagar.

**Assumption:** Parents may have some basic knowledge regarding waterborne diseases and their prevention.

**Setting of the study:** Phulenagar area of PCMC, PUNE.

**Population:** mothers of children below 5 years of age in selected urban areas.

**Sample:** mothers of children below 5 years of age.

**Sample Size:** 60 mothers from Phulenagar.

**Sampling Techniques:** convenient sampling technique.

#### **Inclusion Criteria**

1. The mothers of children below five years of age may have some knowledge and practice regarding prevention of waterborne diseases.
2. The mothers who are residing in urban area having some knowledge and practice regarding prevention of waterborne diseases compare to mothers in rural areas.
3. Mothers may have some knowledge regarding maintenance of water-borne diseases.
4. Information booklet will help to improve the knowledge and practice of mothers regarding water-borne diseases.

#### **Exclusion criteria**

1. Those mothers living in selected rural area of Phulenagar
2. Mothers of below five year child.

**Data collection techniques:** Structured questionnaire based on knowledge of waterborne diseases and checklist based on practices regarding prevention of waterborne diseases were asked to mothers between 18-40 years of age group.

#### **Development of tool**

1. Review of research and non-research literature was used.
2. Opinions and suggestions are taken from experts.
3. Investigation own exposure to the clinical field helped in the development of instrument.

#### **Description of final tool**

The structured questionnaire consists of the following:-

**Section I:** Comprises of 7 items on socio-demographic data including age of child, age of mother, education, family type, monthly income, etc.

**Section II:** Comprises of 20 items regarding knowledge about waterborne diseases.

**Section III:** The checklist consists of 15 items on the practices regarding prevention of waterborne diseases.

**Validity:** In the present study the tool had been given to 14 experts for content validity, from that 11 experts have given their valuable suggestions. After doing the corrections the tool has been finalized by our guide.

**Procedure for data collection:** Permission was taken from the corporator of PCMC, written consent taken from each sample; data was collected in Phulenagar, Pimpri, and Pune-18 from 06/04/2017 to 09/04/2017. Each sample was given a set of demographic variables, questionnaire and checklist to be answered.

**Plan for Data Analysis:** After data collection it was analyzed according to-

1. Demographic characteristics by frequency and percentage in table form
2. Distribution of knowledge scores in frequency and percentage by using pie diagram
3. Distribution of practice scores in frequency and percentage by using pie diagram.

#### **Analysis and interpretation of data**

The analysis is the categories ordering, manipulating and summarizing of data obtained answer of research questions. The purpose of analysis is to reduce the data to interpretable form so that the relation of research problem can study and test.

#### **Organization of the Data**

The analyzed data has been organized and presented in the following sections:-

**Section I:** Description of sample according to demographic variables.

**Section II:** Analysis of data related to knowledge level of mothers regarding waterborne diseases of children below five years of age.

**Section III:** Analysis of data related to practice scores of mothers regarding prevention of waterborne diseases.

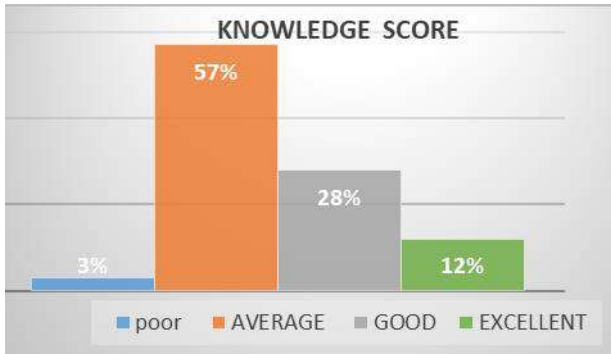
#### **Section –I**

Description of samples according to demographic characteristics by frequency and percentage.

All 60 samples were from Phulenagar area. The above study shows that majority of 35% (21) samples were from age group 4 to 5 years and 31.66% (19) were from 2 to 3 years age group in children. In age of mother majority of 41.66% (25) samples were from 21 to 30 years and 5% (3) were from age group above 40 years. In education of mother 40% (24) sample had done 11th to graduation course and 5% (3) had done course above graduation. There were 55% (33) samples from joint family and 3.33% (2) lived in an extended family. Majority of 36.66% (22) sample had a monthly family income between 10,001 to 15,000 rupees and 6.66% (4) samples had monthly income more than 20,000. 65% (39) of samples had previous information about waterborne diseases and 35% (21) samples did not have knowledge about the disease. In sources of knowledge 40% (24) got knowledge from mass media (TV, Radio) and 8.33 % (5) got knowledge from newspapers and magazines.

**Section II**

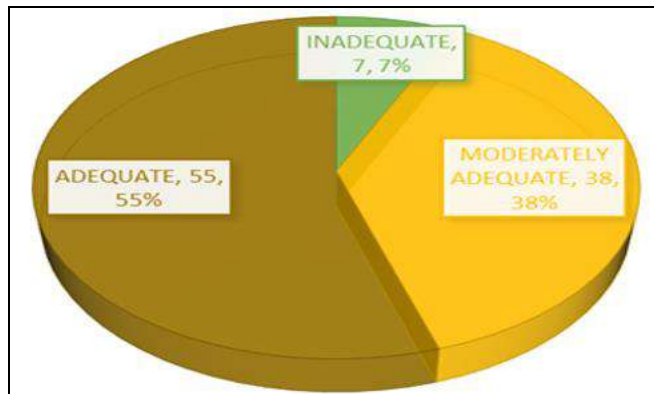
Analysis of data related to knowledge level of mothers regarding waterborne diseases of children below five years of age.



**Fig 1:** Pie diagram of knowledge scores in frequency and percentage obtain from mother.

The above figure indicates the distribution of knowledge scores obtained from mothers about waterborne diseases. It shows that 56.66% (34) had average knowledge about the disease and 3.33% (2) samples had poor knowledge.

**Section III:** Analysis of data related to practice scores of mothers regarding prevention of waterborne diseases



The above figure shows the practice scores of mothers on prevention of waterborne diseases. It shows 55% (33) samples use adequate practices on prevention of waterborne diseases and 6.66% (4) samples have inadequate practices for waterborne diseases prevention

**Result**

**Major findings of the study**

**1) Findings related to sample characteristics of mother**

- The present study was conducted on the 60 samples from Phulenagar, Bhosari of PCMC area.
- The study sample of 35% in children’s age group were from 4 to 5 years, 31.66% were from 2 to 3 years and 33.33% were from birth to 1 year age group.
- In age of mother 41.66% samples were from 21 to 30 years, 23.33% were below 20 years, 30% were from age group 31 to 40 years and 5% were above 40 years age.
- 18.33% samples were educated up to 5th standard, 36.66% completed their education in 6h to 10th standard, 40% had completed their 11th to graduation

and 5% had their education above graduation.

- 41.66% samples lived in nuclear type of family, 55% samples have a joint family and 3.33% live in an extended type of family.
- 28.33% samples had monthly income between 5,000 to 10,000 and 15,001 to 20,000. 36.66% samples had income between 10,001 to 15,000. 6.66% had more than 20,000 income.

**2) Analysis related to knowledge regarding waterborne diseases in mothers of children below five years of age**

- The study shows that 65% had previous knowledge about waterborne diseases and 35% did not know about waterborne diseases.
- In source of knowledge 40% samples got information from mass medias (T.V., radio), 25% gathered information from family members and friends. 8.33% samples had newspapers and magazines as their source of information whereas 26.66% mothers were give knowledge by health care workers.
- According to the study, it has been found that 56.66% samples had average knowledge about waterborne diseases, 28.33% had good knowledge, 11.66% had excellent knowledge and 3.33% had poor knowledge.

**3) Analysis related to practices regarding prevention of waterborne diseases in mothers of children below five years of age**

On calculating the practice scores, the data indicates that 6.66% followed inadequate practices, 38.33% had moderately adequate practices and 55% took adequate practice measures to prevent waterborne diseases.

**Nursing Implications**

This chapter presents its implications for nursing practice, education, administration and research.

**1) Nursing Practices**

Nursing is a process of action, reaction, interaction and transaction whereby nurses assist individual of any age group to meet their basic needs of health status at some particular point in their life cycle. The nurse should have in depth knowledge about waterborne diseases and its prevention. The nurse can use this knowledge to improve the health related problems of children as well as she can modify nursing practices. She can improve health care given to children with waterborne diseases.

**2) Nursing Education**

The study has proved that improving knowledge regarding waterborne diseases in children below five years of age among mothers is essential to identify the complications and recovery. As a nurse educator she should motivate the nursing staff to involve in various education activities regarding waterborne diseases in children below five years of age. It will be helpful for the nurses to train the community people to implement in healthy practices in their day to day life.

**3) Nursing Administration**

Nursing as a profession is unique because it addresses the response of individual and facilities to actual or potential in

humanistic and holistic manner. Nurses have many role such as care giver, decision maker, advocate and teacher; because of diversity of nursing roles, nurses need a philosophy of nursing to guide their practices. As a nurse, she should organize workshops, conferences on waterborne diseases and its preventive measures to ensure keep nurses knowledge up-to-date as per with recent development in nursing practices.

#### 4) Nursing research

Research is systematic search for answer to questions about facts and relationship between facts. So there is strong indication that every nurse should be involved in research. Progress in any field is directly linked with research in those fields. Research is an essential aspect of nursing as it develops new nursing norms and a body of knowledge. The expand role professional nurse emphasize those activities which promote the health maintenance behavior among the people. This study also brings about fact that more studies are needed to be done in different settings, which is culturally acceptable as better teaching strategies of education.

#### Recommendations

1. A similar study to assess the knowledge and practice on prevention regarding waterborne diseases among mothers of children below five years of age can be done on a large sample size.
2. A comparative study of knowledge of level in urban and rural family can be done.
3. A quasi experimental study to assess the effect of health education on waterborne diseases among parents of children below five years of age can be done.

#### Conclusion

Waterborne diseases being the major health problem in children below five years of age and most of the mothers are unaware about its first aid home management and leads to complications. The study was done to assess the knowledge and practice on prevention of waterborne diseases among mothers of children below five years of age. It can be concluded that the majority of study population have average knowledge about waterborne diseases and majority of samples follow adequate practice measures to prevent waterborne diseases. More emphasis should be given for health education to create awareness about waterborne diseases.

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