EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND PRACTICE REGARDING PREVENTION OF SELECTED WATER BORNE DISEASES AMONG SCHOOL CHILDREN IN SELECTED SCHOOLS , AT DHARAPURAM ,TIRUPUR DIST.

2008 - 2010

Certified Bonafide Project Work

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COLLEGE SEAL

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CHAPTER – I

INTRODUCTION

"What is done to children

They will do to the society "

Karl Meninger

BACKGROUND OF THE STUDY

"Water, the elixir of life, is the second most vital need for the survival of mankind after the air"

Safe drinking water can be a vital link between life and death. A recent report from Washington, world watch Institute has declared that one of the first and fore most basic changes that lengthen life expectancy is the clean water. Every Indian face every day the problem of obtaining safe and portable water.

Priyar, R. and Sanjay Kumar Singh., (2005)

Safe water is one of the most important felt needs in public health in developing countries in the twenty first century. The year 2005 marked the beginning of "International Decade for Action : Water for Life" and renewed effort to achieve the Millennium Development Goal to reduce by

half the proportion of the world's population without sustainable access to safe drinking water and sanitation by 2015.

Srila, G et.al.,(2008)

Better hygiene and access to drinking water and sanitation will accelerate progress toward two Millennium Developmental Goals: "Reduce under five child mortality rate by 2/3 between 1990 and 2015" and "By 2015 halve the proportion of people without sustainable access to safe drinking water and basic sanitation". Meeting the latter goal will require infrastructure investments of about US$23 billion per year, to improve water services for 1.5 billion more people (292,000 people per day) and access to safe sanitation for 2.2 billion additional people (397,000 per day). Fewer than one in five countries are on track for meeting this target.

Rachel, K., (2007)

World War II culminated with fast growing industrialization and urbanization in developing countries . The holy Ganges flowing in the most populated North India has been declared as unfit even for bathing. The city of Varanasi is on the bank of this river and 50% of the water for

consumption of its inhabitants is drawn from it . The high value of the multiple correlation of incidence of water borne enteric diseases in the city.

Manju, P.,(2000)

Surface water quality has declined in developing countries due to rapid industrialization and population growth. The microbiological quality of river Ganga, a life-sustaining surface water resource for large population of northern India, is adversely affected by several point and non-point sources of pollution. Further, untreated surface water are consumed for drinking and various household tasks in India making the public vulnerable to water-borne diseases and out breaks.

Pushpa latha , R et.al., (2009)

Drinking water has to be visually acceptable, being clear and colourless, and without disagreeable taste or odour. It should also be safe, more human diseases, for example, typhoid, cholera & other diarrhoal diseases and viral hepatitis A are water borne. Those pathogens reach water sources through faecal or sewage pollution. It is essential to prevent such contamination, treat the water suitably to remove or

destroy micro-organisms, and also to ensure the safety of such protected water supplies by regular bacteriological surveillance.

Hiremath, D.A and Lalitha D. Hiremath.,(2005)

In India estimated burden of diarrhoeal diseases in 2001, 122,336460 (16.5%) cases in rural and 35,493,735 (12.4%) cases in urban among the age of 0-6 years. 619,323,833 (83.5%) cases in rural and 249,861,219 (87.6%) cases in urban among the age of >6 years.

Zaidi, A et.al.,(2004)

Water pathogens usually enter water supplies through animal or human fecal contamination and frequently cause enteric diseases .They include viruses,bacteria and protozoans. The most important water borne diseases are cholera,hepatitis-A, typhoid fever and bacillary dysentery.

Stanhope, M., and Jeanette Lancaster., (2000)

Children are the most vulnerable group to water borne diseases. Pupils must therefore not only learn to use and manage waste materials wisely , they should also understand and appreciate the risks involved in the care less ways of disposing waste materials. Thus , personal hygiene

and good environmental sanitation that could reduce or eliminate the level of water pollution should be emphasized among school children.

Akinbote, S., (2007)

Man's health may be affected by the ingestion of contaminated water either directly or by use of contaminated water for the purpose of drinking ,personal hygiene and recreation.

Park, K., (2005)

A report given by Water Management India(2000) stated that, globally 1.10 billion people consume unsafe contaminated and polluted drinking water. 220 million people in India do not have access to safe drinking water. Above 86% of diseases in the country directly or indirectly related to poor quality of drinking water.

The world health organization says, water related illness claim up to 3 million lives a year. WHO released a report coincide with World Water Day on 22nd of March. The report says most of those who die are children due to unsafe supply of water. People in developing world are particularly at risk for water borne diseases, About 2.2 million people die of diarrhea caused by contaminated water supply. "Diarrhea can be reduced by 26%

when basic water, hygiene and sanitation are supplied". The report states. "Yet… 40% of world population have no acceptable means of sanitation, and more than 1 billion people draw their water from unsafe sources," according to the WHO.

WHO(2001)

A report given by Department of Information and Public Relationship(2004) stated that, Himachal Pradesh government has initiated preventive measures to control communicable diseases, especially water borne such as jaundice, gastroenteritis, and diarrhea during the summer & monsoon. In its endeavor to ensure proper hygiene & sanitation, there by reducing the causes of communicable diseases, the water sources are being chlorinated & properly cleaned . More and more stress is being given on educating masses about proper hygiene & sanitation. People are also being educated &persuaded to maintain private drinking water supply & ensure personal hygiene during the summer & monsoon. Usually it is felt that most of the cases of water borne diseases affects children. School children should be educated about causes & prevention of water borne diseases.

NEED FOR THE STUDY

Global water and sanitation assessment report(2000) stated that, water is essential for life. Unfortunately for people in developing countries has lack of access to clean water and around 2.4 billion people still have no access to safe water supply. In India about 80% of communicable diseases are due to unsafe water supply. An estimated 4 billion cases are affected with water borne disease every year and causing 3 million to 4 million deaths world wide mostly among children.

The World Health Organization has reported that , water borne diseases kill more people than any other diseases in the World. 1.1 billion people globally lack basic access to drinking water resources. While 2.4 billion people have inadequate sanitation facilities, which accounts for many water related and chronic diseases. Some 3.4 million people, many of them young children, die each year from water-borne diseases, such as intestinal diarrhea (cholera, typhoid fever and dysentery), caused by microbically-contaminated water supplies.

Alawneh, M., (2007)

National Health Profile (2008) had estimated that in India , 191616 cases of typhoid fever, 11231036 cases of acute diarrhoeal diseases and 2680 cases of cholera were reported in the year of 2008. In Tamil Nadu , it is estimated that ,during 2008, 482860 cases of acute diarrhoeal diseases ,86178 cases of typhoid fever ,990 cases of cholera and 1939 cases of viral Hepatitis were reported.

According to 10th 5-year plan (2002-07), more than 80% of diseases in India are water related including typhoid, hepatitis, cholera, amebiasis, dysentry etc. Over 4 lakh children die in India every year due to unsafe drinking water. Water borne diseases are the largest killer of children. It has been estimated by the World Bank that loss of Rs.19,995 crores annually accrues to India on account of water pollution alone.

To day out of the world population of 6.5 billion, 1.0 billion people lack access to improved drinking water, and 2.5 billion people have no prosperous sanitation, WHO estimates that 3.2% of deaths per year, 1.8 million, and up to 10% of diseases burden world wide are attributed to unsafe water and lack of sanitation and hygiene.

WHO (2004)

Typhoid fever occurs in all parts of the world where water supplies and sanitation are sub standard. World wide typhoid fever affect about 17 million people with more than 6,00,000 deaths a year. In India typhoid fever incidence about 6,53,580 cases with 417 deaths in 2005.

Park, K., (2008)

World wide a total of 1,31,943 cases and 2,272 deaths were reported from 52 countries in 2005. During 2005 in India , the larger endemic foci of cholera were found in Delhi 945 cases, Tamilnadu 724 cases, and one death, Maharashtra 724 cases, and one death, West Bengal, 235 cases, Andhra Pradesh 165 cases, Karnataka 214 cases and one death, Kerala 27 cases and one death, and Gujarat 92 cases and 2 deaths. Total number of cases reported were 3156 with 6 deaths, a case fatality rate of 0.19 percent.

Park, K., (2008)

In India amoebiasis affects about 15% of Indian population.The prevalence rate is about 15% ranging from 3.6 to 47.4% in different areas.

Park, K., (2008)

According to Central Bureau of Health Intelligence Report(2004), among all reported communicable diseases 29% shared by diarrhoeal

diseases, In 2003 there were 10.5 million cases of diarrhea with 4709 deaths. In the same year there was 2,893 cholera cases. India belongs to high endemic country of enteric fever. Amebiasis is very common in India. Viral hepatitis cases in 2002 was more than 4 lakes in India.

In India , about one-fourth of deaths among (age 5-14 years) can be prevented by adaptation of hand washing behaviors. An analysis of deaths among children in India has reveled that about 27% of the deaths are due to diarrhea. Schools are a good place to learn the behavior of hand washing with soap before eating. These practices, once learnt at school, can be inculcated into the household practice of hand washing before eating and after defecation.

Fewtrell, E et.al.,(2005)

The Pilot project to promote safe use of water for drinking purposes in Krishnagiri district aimed at improving the level at safe drinking water & hygiene awareness among school children. Student committees formed under School Sanitation Hygiene Education will be ensured with filling of water, monitoring and maintenance of the kits. Children will educate their parents on the importance of the safe drinking water.

UNICEF (2007)

Every year, water borne diseases like diarrhea, cholera & typhoid claim the lives of million of children in developing world. Water & sanitation related disease are one of the major causes of underfive mortality in the world. Every day around 5,000 children die from diarrhea related causes alone. The good news is that by providing access to clear water, basic sanitation & Hygiene education, the diseases which cause these children to become ill and die can be prevented.

UNICEF(2009)

Today's children are tomorrows citizen. Healthy children will develop a healthy youth, and healthy citizen will be productive for the nation. Health education plays an important role in teaching healthy habits to school children, so that they can practice the same at home and teach others. The goal of health education should bring the desired change in healthy behavior, attitude, practice and knowledge among children.

Sunita Patney, A., (2005)

The school serves as the agent for transmitting the values of the society to each succeeding generation of children and as the setting for many relationship with peers.

Wongs, S. Donnel., (2004)

School health programme is a part of community health programme through which comprehensive care of the health and well-being of the children throughout the school years is taken care by health workers. It is part of educational programme through which changes are brought about in knowledge, skills & behaviors for a healthy living.

Kamalam, S.,(2005)

The school age children account for about 25% of the population in India. School provides a captive population for health surveillance, prevention of disease and handling and the promotion of health, school becomes the ideal location for preventing illness and including awareness of hygiene and health practices.

Gopi, O. P., and Piyush gupta., (2003)

Children are the future back bone of every nation and hence their current health and education are of paramount importance. It is reasonable suitable conditions for healthy living and learning. School should provide sound nutrition education and should be an entry point for promoting children as well as the entire community health. The health promoting

schools which focus on creation of comprehensive school based activity to improve health.

WHO (2005)

"All citizens – All health workers" – as per this slogan, the investigator selected the children as health promoters in improving their knowledge and practice regarding prevention of water borne diseases which in turn help them to develop the confidence in carrying the message to the community.

The investigator, during her posting observed that many children were absent with the complains of fever , vomiting and diarrhea. This made the investigator to create an awareness regarding preventive measures for water borne diseases among the school children.

The investigator felt that, there is a need for structured teaching program which will improve the knowledge &practice on prevention of water borne diseases to promote healthy living.

STATEMENT OF THE PROBLEM :-s

A study to assess the effectiveness of Structured Teaching Programme on knowledge & practice regarding prevention of selected water borne diseases among school children in selected schools at Dharapuram, Tirupur District.

OBJECTIVES :-

1. To assess the pre test knowledge & practice scores regarding prevention of selected water borne diseases among school children.
2. To assess the post test knowledge & practice scores regarding prevention of selected water borne diseases among school children.
3. To compare the pre test and post test knowledge and practice scores regarding prevention of selected water borne diseases among school children.
4. To correlate post test knowledge & practice scores regarding prevention of selected water borne diseases among school children .
5. To find out the association between the post test knowledge scores with their selected demographic variables regarding prevention of selected water borne diseases among school children.

6. To find out the association between the post test practice scores with their selected demographic variables regarding prevention of selected water borne diseases among school children.

OPERATIONAL DEFINITIONS :-

EFFECTIVENESS:-

Producing an intended result. In this study, it refers to determine the extent to which the structured teaching program has brought about the results in pre and post test which is measured by using statistical measurement .

STRUCTURED TEACHING PROGRAMME:-

"It is a planned, orderly framed content to educate an individual or group purposefully ". In this study, it is a systematically developed instruction and teaching designed to provide information on prevention of water borne diseases regarding definition, causes, common types and preventive measures for 45 minutes by using DVD with Television.

KNOWLEDGE:-

Information gained through experience or education. In this study, it refers to the knowledge in terms of written response of the children about

prevention of selected water borne diseases which is measured by self administered knowledge questionnaire and its scores.

PRACTICE:-

It means way of doing something. In this study it refers to the knowledge on practice in terms of written response of the school children about prevention of selected water borne diseases which is measured by self administered practice dichotomous questionnaires and its scores.

PREVENTION :-

It is stopping something from happening. In this study ,it refers to the action taken to remove the possibility of water borne diseases occurring in school children by creating awareness to the school children regarding prevention of water borne diseases.

SELECTED WATER BORNE DISEASES :-

Many diseases that can be spread through contaminated water, which are called as water borne diseases. In this study, it refers to typhoid , cholera, hepatitis-A, ameobic and bacillary dysentery are choosen to inculcate knowledge and practice among school children.

SCHOOL CHILDREN :-

Children who are going to an institution for basic education. In this study, it refers to children who are studying 7th, standard between the age group of 11-12 years.

HYPOTHESES :-

H_1 - The mean post test knowledge scores is significantly higher than the mean pre test knowledge scores.

H_2 - The mean post test practice scores is significantly higher than the mean pre test practice scores.

H_3 - There will be a significant correlation between the post test knowledge and practice scores regarding prevention of selected water borne diseases.

H_4 - There will be a significant association between the post test knowledge scores with their selected demographic variables among school children.

H_5 - There will be a significant association between the post test practice scores with their selected demographic variables among school children.

ASSUMPTION :-

- The school children may have some knowledge regarding mode of transmission and prevention of water borne diseases.
- Structured Teaching Programme can help the school children to acquire knowledge & practice regarding water borne diseases.

DELIMITATION :-

The study is limited to

- 200 samples.
- 4 weeks

PROJECTED OUTCOME :-

- The structured teaching programme will be effective in improving the knowledge and practice of the school children to consume safe water, which will enable them to have safe practices and prevent them from getting affected by water borne diseases.

CONCEPTUAL FRAME WORK

Nola J Pender's Health Promotion Model (2002-Revised)

The health promotion (HPM) proposed by Nola J Pender (1982; revised,2002) was designed to be a "Complementary counterpart to models of health protection". It defines health as a positive, dynamic state not merely the absence of disease. Health promotion is directed at increasing a client's level of well being. The health promotion model describes the multi dimensional nature of persons as they interact within their environment to pursue health.

The model focuses on the following areas.

- Individual characteristics &experiences
- Behavior specific knowledge and affect
- Behavior out come

INDIVIDUAL CHARACTERISTICS / EXPERIENCES

i). Prior related behavior:-

According to the theory, prior related behavior describes frequency of the similar behavior in the past. Direct and indirect effects on the likelihood of engaging in health promoting behaviors.

In this study, school children's sex, religion, occupation of the father, educational status of the mother, type of family, type of water facilities for drinking, type of latrine facilities and basic knowledge and practice about prevention of water borne diseases are assessed.

ii). Personal factor:-

According to the theory, personal factors are categorized as biological, psychological and socio-cultural. These factors are predictive of a given behavior being considered.

In this study, school children personal factors are assessed in the aspect of hygiene, ignorance and their interest to prevent the water borne diseases.

BEHAVIOR SPECIFIC COGNITIONS AND AFFECT

a). Perceived Benefit:-

According to the theory, anticipated positive out comes that will occur from health behavior.

In this study after structured teaching programme, school children will gain knowledge practice regarding prevention of selected water borne diseases to avoid water borne diseases and to maintain holistic health.

b). Perceived barriers:-

According to the theory, perceived barriers action are anticipated, imagined or real blocks and personal costs of understanding a given behavior.

In this study, school children are capable of practicing the preventive measures to prevent the water borne diseases, lack of knowledge, lack of practice, ignorance and lack of motivation are acting as a barriers.

c). Perceived self efficacy :-

According to the theory, judgment of personal capability to organize and execute a health –promoting behavior. Perceived self efficacy influences barriers to action so higher efficacy result in lowered perceptions of barriers to the performance of the behavior.

In this study, the school children realize the importance of safe water to prevent the water borne diseases.

d). Activity related affect :-

According to the theory, activity related affect describes subjective positive or negative feelings that occur before, during and following behavior based on the stimulus properties of the behavior itself. Activity-

related affect influences perceived self-efficacy, which means the more positive the subjective feeling, the greater the feeling of efficacy. In turn, increased feelings of efficacy can generate further positive affect.

In this study , it is conceptualized that the school children will maintain the water hygiene and personal hygiene, that in turn will prevent the water borne diseases.

e). Inter personal influences :-

According to the theory, Cognition concerning behaviors, belief, or attitudes of the others. Interpersonal influences include: norms (expectations of significant others), social support (instrumental and emotional encouragement)and modeling (various learning through observing others engaged in a behavior). Primary sources of interpersonal influences are families, peers, and health care providers.

In this study, researcher influencing the school children to attend the Structured Teaching Program on prevention of selected water borne diseases (Definition, causes, common types and preventive measures) . Researcher teaches on prevention of water borne diseases using DVD with TV for 45 minutes.

f). Situational influence:-

According to the theory, personal perceptions and cognitions of any given situation or context that can facilitate or impede behavior.

In this study, the school children are in need to maintain the health status in order to avoid water borne diseases.

BEHAVIORAL OUTCOME

i). Immediate change of practice low control to high control:

According to the theory, Competing demands are those alternative behavior over which individuals have low control, because there are environmental contingencies such as work or family care responsibilities. Competing preferences are alternative behavior over which individual exert relatively high control, such as choice of ice cream or apple for a snack.

In this study, the school children may accept to follow the measures to prevent the water borne diseases.

ii) Commitment to plan action:-

According to the theory, the concept of intention and identification of a planned strategy leads to implementation of health behavior.

In this study, the school children will make decision to follow the healthy measures to prevent the water borne diseases.

iii). Health promoting behavior :-

According to the theory, health promoting behavior is an endpoint or action outcome directed toward attaining positive health out comes such as optimal well-being, personal fulfillment and productive living.

In this study , the school children are gained knowledge, and practice regarding prevention of water borne diseases which is assessed by post test knowledge and practice scores.

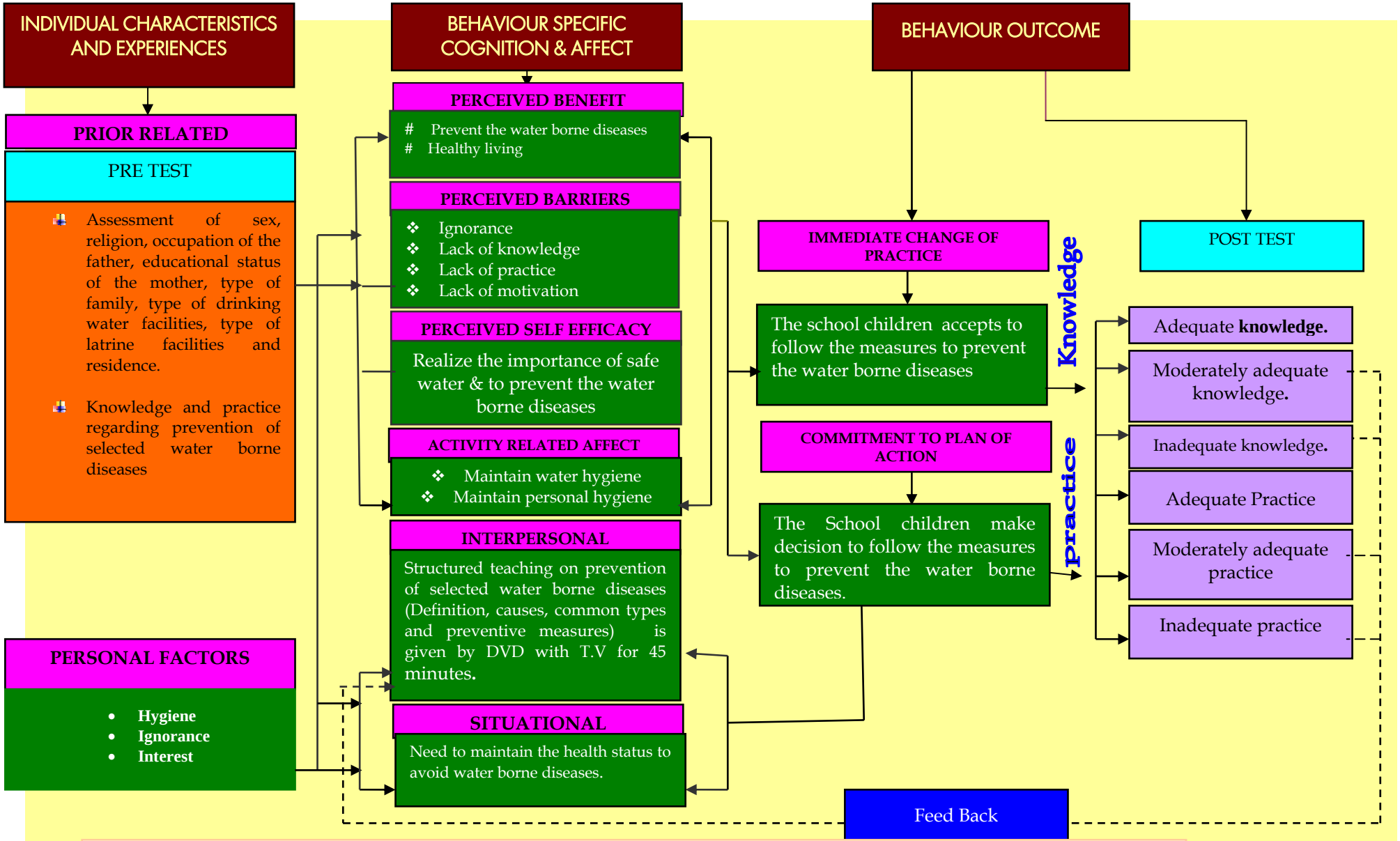


Fig.1: MODIFIED, PENDERS HEALTH PROMOTION MODEL[REVISED (2002)]

CHAPTER – II

REVIEW OF LITERATURE

The review of literature for the present study has been organized under the following heading,

The literature was collected based on the following headings

PART- I :-

Overview of water borne diseases

PART- II :-

A. Studies related to causes of water borne diseases
B. Studies related to incidence of water borne diseases
C. Studies related to prevention of water borne diseases
D. Studies related to Structured Teaching Program
E. Significance of Media(CD/DVD) in the educational program.

PART –I

OVERVIEW OF WATER BORNE DISEASES

Introduction :-

Man's healthy may be affected by the ingestion of contaminated water either directly or through food, and by the use of contaminated water for purpose of drinking, hygiene and recreation.

Definition :-

Diseases acquired by drinking contaminated water and its source or in the distribution system. Water-borne diseases results from infection with pathogenic microorganisms or chemical poisoning.

Gupta,M. C., and Mahajan, B. K.,(2003)

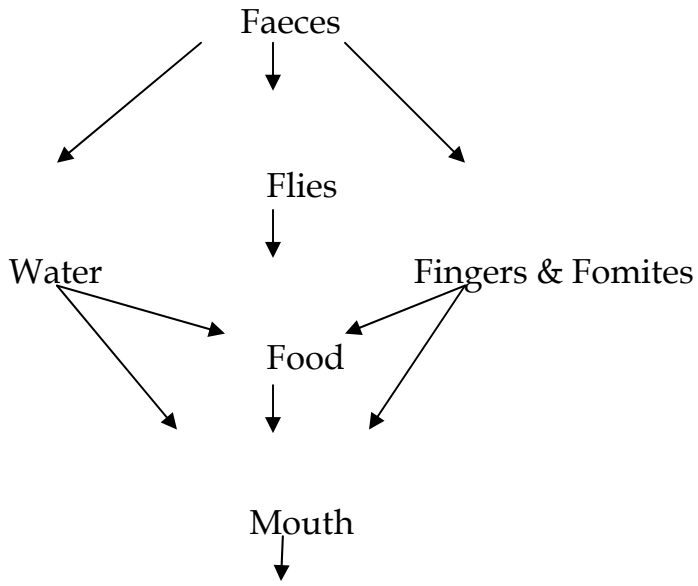
Causes of the water borne disease:-

Water borne diseases are spread by many ways. They are :

- Contaminated water
- Poor environmental hygiene
- Poor personal hygiene
- Poor food hygiene

Meenakshi, M.,(2002)

Water Borne Diseases Cycle



Water borne diseases

* Contamination of water:-

- Mixing factory waste in to water sources
- Fecal matter mixed in to water sources
- Putting dirty hands or unclean vessels to take drinking water
- Storing the water in open tank
- Mixing of drainage water in to water sources
- Storing the water in the unclean vessels
- Defecate near to water sources

*Poor Environmental Hygiene:-

- Keep the surrounding areas unclean
- Defecate in open field
- Stagnation of water near to water sources & More flies

*Poor Personal Hygiene:-

Not taking bathe daily

Not cutting your nails regularly

Not wearing slipper while going to toilet.

Not washing hands with soap and water after defecation & before eating

Not washing hands after playing in the mud

Poor Food Hygiene:-

- Not washing the vegetables before cooking.
- Not washing the fruits before eating
- Not covering the Cooked foods
- Eating uncovered foods from street
- Unboiled milk

Classification of water borne diseases :-

Following diseases are caused by presence of an infective agent.

a) Viral = Viral hepatitis A, Hepatitis, Poliomyelitis, rotovirus diarrhea in infants.

b) Bacterial = Typhoid, & paratyphoid fever, bacillary dysentery, E coli, cholera

c) Protozoal = Amoebiasis, giardiasis

d) Helminthic = Round worm

e) Leptospiral = Weill's disease

Park, K., (2008)

According to 10th 5 year plan >80% of diseases in India are water related including, typhoid, hepatitis, cholera, amoebiasis and dysentery etc.

Prevention of water borne diseases :-

It means that, avoiding the occurrence of the water borne diseases. It can be,

- Primary prevention,
- Secondary Prevention and Tertiary Prevention.

Meenakshi, M.,(2002)

*Primary Prevention:-

- HEALTH PROMOTION ACTIVITIES

➢ Health Education

Providing education regarding mode of transmission of the water borne disease. Health education will be given by following headlines:

- Water hygiene
- Personal hygiene
- Environmental hygiene
- Food hygiene

❖ Water hygiene

Drinking water should be free from micro organism, it is called as the safe water

- Drinking water should be disinfected by the chlorination
- If the chlorination is not available means, make the water boiled for 5 to 10mts and make it cool.
- Water should be filtered before drinking.
- Cleaned vessels should be used for storing the drinking water and vessels should be closed.

❖ Personal hygiene

- Bath daily
- Brush your teeth twice per day (morning & night).
- Cut your nails regularly
- Wear slipper while going to toilet.
- Hands should be washed with soap and water
    - Before eating
    - before cooking
    - after defecation
- Wash your hands after playing in soil.

❖ Environmental hygiene

- Maintain clean the surrounding areas
- Use the sanitary latrines for the defecation
- Pour the water before & after defecation
- Wash the hands with soap & water after defecation
- Avoid open filed defecation
- Prevent the stagnation of water near to home
- Prevent mixing of drainage water into drinking water

- Clean the area surrounding the water sources

❖ Food hygiene

- Should not eat uncovered food items
- Wash the fruits before eating
- Wash the raw vegetable before eating

SPECIFIC PROTECTION

Vaccination for typhoid, viral hepatitis A & cholera is available.

*Secondary Prevention:-

-- Early diagnosis

-- Complete treatment

*Tertiary Prevention:-

If a person has any complications of water borne diseases, the person should sent to doctor for treatment without delay.

PART – II

A) STUDIES RELATED TO CAUSES OF WATER BORNE DISEASE :-

Ako, A. A et.al., (2009). has conducted study on Water quality and occurrence of water-borne diseases in the Douala 4th District, Cameroon. The monthly occurrence and mean age distribution of water-borne diseases in the Douala 4th District, Cameroon (1995-2006) were studied and probable causes of diseases spread were established. Diseases of interest included gastroenteritis, amoebic dysentery, typhoid fever and cholera. Water-borne disease occurrence was observed to follow a seasonal pattern with peaks occurring between the months of January and May followed by drops between June and October and rose again from November. Children below 5 years were found to be more vulnerable to diarrhoea, gastroenteritis, amoebic dysentery while persons between 15-44 years were more vulnerable to typhoid and cholera. Physico-chemically, water samples had turbidities varying between 5.5-86 NTU, pH values between 4.2 and 7.1 and zero residual chlorine. Bacteriological analysis showed that the total coliform count was averagely 74/100 ml, the faecal colform count was 43/100 ml and the faecal streptococci count was 27/100 ml. Lack of access to potable water, absence of sanitation facilities

and environmental factors could be advanced as the probable causes of water-borne disease spread.

Grace E. El Azar., et al.,(2009). has conducted study on Effect of Women's Perceptions and Household Practices on Children's Waterborne Illness in a Low Income Community in New York. In this study total of 280 women were randomly selected and interviewed using a structured questionnaire. Data were collected on 712 children between the ages of 6 and 14. The study instrument included determinants of diarrhea such as socio demographic characteristics, water, sanitation, hygiene practices, gender variables, and behavioral risk factors. This study reveled the prevalence of diarrhea is 5%. Female children are more likely to suffer from diarrhea than male children (OR = 2.58; 95% CI: 1.19–5.62). Treatment of drinking water at the household level and the use of drinking water for cooking and the preparation of hot beverages are protective against diarrhea (OR = 0.15; 95% CI: 0.03–0.65). The findings suggest that diarrhea is a gendered health problem. Female children, who are generally more involved in household activities than male children, are at higher risk of suffering from diarrhea.

Banda, K et.al., (2007). has conducted study to assess the knowledge, attitude and practices of water handing, sanitation, defecation practices in rural Tamilnadu, India. A village divided into an upper caste Main village and a lower caste Harijan colony. Their survey showed that all households stored drinking water in wide mouthed containers. This study reveled that among 97 households interviewed, 30 (30.9%) had toilets but only 25(83.3%) used them. Seventy-two (74.2%) of respondents defecated in fields. Hand washing with soap after defecation and before meals was common only in children under 15 years (86.4%). After adjusting for other factors, perception of quantity of water received ($P<0.001$), stated causation of diarrhoea ($P<0.02$) and low socio-economic status ($P<0.001$) were significantly different between the Main village and Harijan colony.

Lewin, S et.al.,(2007). has study on estimating the burden of diseases attributable to unsafe Water and lack of Sanitation and Hygiene(WSH) in South Aferica in 2000. This study revealed that, 13,434 deaths were attributable to WSH accounting for 2.6% of all deaths in South Aferica in 2000. The burden was especially high in children under five years, accounting for 9.3% of total deaths in this age group and 7.4% of burden diseases. High priority needs to be given to the provision of safe and

sustainable sanitation and water facilities and to promoting safe hygiene behaviors, particularly among children.

Dhadwal, B. S. and Shetty, R .A.,(2005). has conducted study on outbreak of typhoid fever among school children of a school in military station in centrals India. It comprises of 98 students out of which 87 students were from one school. Detailed epidemiological case sheets were filled for cases and active case finding surveys were conducted among school students during the period (30 Aug 2005 to 8 Nov 2005) of the study, it included 3313 students of the affected school. Attack rate of the affected school was 2.62%. Blood samples were found to have salmonella typhi in 5.4%. Eighty six blood samples (87.75%) were positive for Widal test. Sanitary survey reveled fecal contamination of water supply leading to the outbreak.

Kanimozhi, D.,(2005). has conducted study to assess the knowledge of mothers of under five children regarding selected water borne diseases in kumaramangalam area under Namakkal district. The results of this study reveled that 60% of mothers were in the age group of 21-30 years, 90% were Hindu, 40% were illiterate, 53.3% were house wives, 72% belong to nuclear family, 40% of subjects had monthly income between Rs 2001-

3000, 76.7% families were using tap water for drinking. This study reveled that there is a significant relationship between the mothers knowledge on water borne diseases with educational status(5.96), family income(12.2) and Previous episode(4.7).

Kang, G et.al.,(2001). has conducted Epidemiological and laboratory investigation of out breaks of diarrhea in rural south India: implications for control of diseases. Examination of stools from a 20% age-stratified random sample of population of one of the villages after the epidemic found 22.9% of asymptomatic subjects excreted bacterial enteric pathogens. This study reveled that attack rates were 10.03 and 15.53 per 100 population and the isolation rates for shigellae, enteropathogenic Escherichia Coli and Shiga-toxin producing E. coli were significantly higher ($P<0.001$, $P<0.02$, $P<0.05$) during the epidemic. The epidemics may have been caused by faecal contamination of well water following rain. Point of use techniques for water disinfection may be most effective for preventing such outbreaks.

B) STUDIES RELATED TO INCIDENCE OF WATER BORNE DISEASES :-

Ochiai, R.L et.al., (2008). a study of typhoid fever in five Asian countries. Among the 159 856 such persons under surveillance in the five sites, 273 typhoid cases were detected. The overall incidence was 170.8 cases per 100 000 person-years, ranging from 24.2 to 493.5 for the sites in Viet Nam and India, respectively ($P < 0.0001$ for the overall difference of incidence among the five sites). The rates were significantly higher ($P < 0.0001$) in the south Asian sites (Pakistan and India) than in the south-east and north-east Asian sites (Viet Nam, Indonesia and China). They suggested that there was an inverse correlation between typhoid incidence and the mean age of typhoid cases in the five sites (Spearman □: –0.8; $P = 0.1$;). The prevalence of typhoid-positive blood cultures among 5–15 year-olds was 24.7 per 1000 febrile episodes, and ranged from 4.7 to 61.4 per 1000 ($P <$ □0.0001). The prevalence of positive cultures was significantly ($P < 0.0001$) higher in the three sites with the highest incidence (India, Indonesia, and Pakistan) than in the other two sites.

Salama, I. I et.al.,(2007). has conducted study on Seroprevalence of hepatitis A among children of different socioeconomic status(SES) in Cairo. They carried out a cross-sectional study on 426 children aged 3-18 years from low socio-economic status areas and 142 from high socio-economic status areas. This study reveled that a significantly higher prevalence of anti-HAV in relation to age was observed in the low SES children, 64% among those <6 years, 85.5% among those aged 6-10 years, and 90.3% among those aged 11-15 years and 90% among those age older children (>15 years)($P<0.05$). Seroprevalence of anti-HVA antibodies was 86.2% overall, 85.3% among males and 86.9% among females with no statistically significant different($P>0.05$). Seropositivity to anti-HAV antibodies was significantly higher among children with low and very low SES, 90%, compared to children of high SES, 50%. Water supply and sewage disposal were the most significant risk factors for HAV seropositivity in children in low SES.

Jibonkumar Singh, S et.al.,(2006). has conducted study of water-borne morbidities of Thanga Village, Manipur to identify the factors that were contributing to high incidence of water borne diseases. A total families were asked to recall all illness prevalent during the last one week prior to the day of recording the data. The results revealed that out of a

total of 1254 individuals, 132 were reported suffering from water-borne diseases such as diarrhea (34.84%), typhoid fever(21.21%) and jaundice(16.66%). The study indicates that low literacy , low economic status, unavailability of portable drinking water, ignorance, poor hygiene practices and cultural practices associated with consumption of drinking water , were found to be the determinants of high incidences of morbidity.

Saxena, M. M., and Chhabra, C.,(2004). has conducted survey of common water borne diseases in desert city Bikaner,India. This study revealed that, 15.5% population and 44.5% families were found to suffer from one or more common water-borne diseases including amoebiasis, diarrhoea, dysentery, jaundice and typhoid. The highest incidence of diseases was noted during summer (58.8%) followed by winter (34.4%) and monsoon (7.0%). Relationship of diseases with population attributes like age, education, economy and family size are also discussed. Attributes for contamination of drinking water have been tried to identify and safety measures suggested.

Sur, D.Deen J.L et.al.,(2005). has conducted study to measure the burden of cholera, describe its epidemiology, and search for potential risk factors in the slums of kolkata in India. Surveillance was conducted from

1 May 2003 to 30 April 2004. From 62329 individuals under surveillance, 3284 diarrhoea episodes were detected, of which 3276(99%) stool sample were collected and 126(4%) were culturally confirmed cholera. Nineteen(15%) were children , 29(23%) had severe dehydration, and 48(38%) were hospitalized. This study has conclude that, mass vaccination could be a potentially useful tool to prevent and control seasonal cholera in this community.

Mohanavalli, B et.al., (2003). has conducted study on the prevalence of Hepatitis A and E viruses in urban school children in Chennai. The study group consisted of 185 healthy children of age group 6 months to 12 years from Balamandir orphanage and a government higher secondary school in Royapettah, Chennai which catered to lower and lower middle socioeconomic strata. The serum samples were screened for anti-HAV IgG using commercial ELISA kit . This study shows that exposure to HAV among the children reached 96.9% by the age of 12 years. The age wise positivity of anti-HEV-IgG showed a different pattern with 5.3% (1/19) among six months to 2 years and 9% in the group between 2-4 years of age. A plateau of 7.3 to 7.9% was maintained between 4-8 years. The positivity was highest 16.7% (3/18) in the age group of 8-10 years. The mean prevalence of anti HAV was 83.2% and anti HEV was 8.6% in children.

Comparison of the HAV and HEV exposure pattern in the 185 children studied revealed that there is a significant difference in the exposure rate of children to these two viruses. ($P < 0.0001$).

Payment, P et.al., (2001). conducted study to evaluate the risk of gastrointestinal diseases due to consumption of drinking tap water prepared from sewage – contaminated surface water meeting current microbiological standards in Canada. Randomized intervention trial was carried out ; 299 eligible households were supplied with domestic water filters that eliminate microbial and chemical contaminants from their water, and 307 households were left with their usual tap water without a filter. The GI symptomatology was evaluated by means of a family health diary maintained prospectively by all study families over a 15 month period. The estimated annual incidence of Gastro Intestinal illness was 0.76 among tap water drinkers compared with 0.50 among filter water drinking. This study is estimated that 35% of the reported GI illness among the tap water drinkers were water-related and preventable.

C) STUDIES RELATED TO PREVENTION OF WATER BORNE DISEASES :-

Sobsey, M.D et.al.,(2003). has conducted study on chlorination and safe storage of house hold drinking water in developing countries (Bolivia and Bangladesh) to reduce water borne diseases in Chapel hill. Community families were recruited and randomly divided into intervention group (household water chlorination and storage in a special container) and control group (no intervention) households. The study findings reveled that monthly episodes of diarrhoeal illness in the intervention families were 1.25% and 2.2% in control families. This reveled that 43% community diarrhoea was preventable by using the intervention. Escherichia coli levels in stored household waters were < 1/100 mL in intervention group, but readily detectable at high levels in control group. The intervention group had reduced in household diarrhoeal illness. Chlorine disinfection and storage in an appropriate container significantly improved the microbiological quality of non-piped household drinking water and reduced community diarrhoeal disease.

Quick, R et.al.,(1997). has conducted study on A new strategy for water borne diseases transmission in Montero, Bolivia. Baseline surveys of demographic characteristics, water handling practices, and water quality were conducted in households in 2 communities in Montero, Bolivia. Households were randomized into intervention and control groups; the intervention group received the water treatment and storage system and education about its use. A total of 127 families with 790 members participate in the study, 64 in the intervention group and 63 in the control group. The baseline median *E. coli* colony count for water stored in study households was 46,950/100 ml. Following distribution of the water treatment and storage system, stored water samples from intervention households had significantly lower median *E. coli* colony counts than stored water from control households in all 6 monthly sampling surveys ($p<0.0001$). Among intervention households, the percent of water samples with no detectable *E. coli* colonies ranged from 56 per cent to 79 per cent in the 6 water quality surveys. During 5 months of diarrhea surveillance, intervention households had 83 cases of diarrhea, and control households 148 cases. The mean number of diarrhea cases per household was 1.30 for intervention families and 2.35 for control families, a difference that was statistically significant (<0.05).

Mintz, E.D et. al.,(1995). has conducted study on safe water treatment and storage in home. A practical new strategy to prevent water borne diseases in Atlanta. Drinking water may be contaminated at the sources or during storage; strategies to reduce water borne diseases transmission must be safeguard against both events. They describe two-component prevention strategy, which allows an individual to disinfect drinking water immediately after collection (point-of-use disinfection) and then to store the water in narrow-mouthed, closed vessels designed to prevent recontamination (safe storage). New disinfectant generators and better storage vessel designs make this strategy practical and inexpensive. This approach empowers households and communities that lack potable water to protect themselves against a variety of water borne pathogens and has the potential to decrease the incidences of water borne diseases.

D) STUDIES RELATED TO STRUCTURED TEACHING PROGRAM

Relly, C. E et.al.,(2006). has conducted study on impact of a school-based safe water and hygiene program on knowledge and practices of students and their parents in Nyanza province, West Kenya. They surveyed 390 students from 9 schools and their parents at baseline and conducted a final evaluation, improvement was seen in students

knowledge of correct water treatment procedure (21-65%, p<0.01) and knowing when to wash their hands. At final evaluation , 14% of parents reported currently treating their water, compared with 6% at baseline (p<0.01). This study reveled that promoting water and hygiene intervention are need for reducing school absenteeism.

Padmaja, A et.al.,(2008). has conducted a study to assess the effectiveness of structured teaching program on round worm infestation among elementary school children in S.V. Elementary school at Tirupati. Quasi experimental approach for this study, 90 school children from IV standard selected by cluster random sampling technique. In pre test, regarding knowledge on worm infestation 87.8% of school children had inadequate knowledge and 12.2% of school children had moderately adequate knowledge and regarding knowledge on hygienic practice, 27.8% had inadequate practice, 58.9% had moderately adequate practice and 13.3% had adequate practice. In post test regarding knowledge on worm infestation 5.6% had inadequate knowledge, 64.4% had moderately adequate knowledge, 30% had adequate knowledge and regarding knowledge on hygienic practice, none of them having inadequate practice, 2.2% had moderately adequate practice and 97.8% had adequate practice. The knowledge and practice were remarkably increased by structured

teaching program which was evident from the post test scores. The mean score of pre test and post test of school children knowledge regarding worm infestation were 28.78(SD±14.4) and 67.33(SD±12.79) respectively and the paried 't' value is 19.26, which was significant at the level of 0.01. The mean score of pre test and post test of school children knowledge on hygienic practice were 61.04(SD±15.7) and 93.04(SD±7.64) respectively and the paried 't' value is 25.04, which was significant at the level of 0.01.

Walvekar, P.R et.al., (2000-2001). has conducted study on impact of child to child program on knowledge, attitude and practice regarding Diarrhoea among rural school children in Belgaum . 54 students belonging to VI standard of Government primary school, Mastmaradi village formed the study group and 54 students belonging to VI standard of Government primary school, Shindolli village formed the control group. Pre test, pre designed questionnaire was administered to study as well as control group students, prior to starting of the program . Once a week, one hour, child to child session(total 12 session) were conducted for study group . Lectures, songs, games, experiments and demonstrations were the different teaching techniques used for the study group . No such sessions were conducted for the control group students. The post test was given to study group and control group. Overall improvement in the knowledge of

the study group students was observed pre test mean score was 1.44 and post test mean score was 23.57 respectively. Whereas pre test mean was 4.04 and post test mean was 3.20 in control group. Prior to intervention average of 50% of study group students knew that eating contaminated food (51.85%) , drinking contaminated water(46.29%), eating food exposed to flies(46.20%) and dust(53.7%) causes diarrhea. After the intervention more than 90% of study group come to know about these causes. After completing these program 100% of study group developed the attitude that ORS should be given during diarrhea. As far as practices are concerned 100% of study group students started washing their hands with soap and water after attending toilet and washing vegetables and fruits before eating.

Ilika, A. L., & Obionu, C.O.,(2002). has conducted study to assess the effect of school-based health education on the practice of personal hygiene by children in primary schools in Anambra State at Nigeria. Three hundred and ninety-five (395) and three hundred and ninety-eight (398) primary school pupils randomly recruited as intervention and control groups were rated on five key personal hygiene practices before, immediately after and three months after school-based hygiene health education. Less than 45% were rated clean before health education in both

groups. Immediately after health education, more than 65% in the intervention group were rated clean. There was no change in the control group. The school based health education improved the personal hygiene practice of the pupils.

Priya, S.,(2000). has conducted study on promotion of personal hygiene among corporation school children in the aspect of knowledge, attitude and practice of school children about personal hygiene by using quasi experimental design with one group pre test and post test in siddapudur from Sep 15th 2000 to Oct 15th 2000 . The study reveled that, the knowledge of the school children was observed pre test mean score was 2.89 and post test mean score was 19.7 respectively, the attitude of the school children was observed pre test mean score was 1.66 and post test mean score was 20.78 respectively and the practice of the school children was observed pre test mean score was 2.03 and post test mean score was 23.8 respectively. The overall student 't' calculated value for knowledge was 13.58, attitude was 11.69 and practice was 18.45 where the table value at 0.05 degree of significance was 1.645. This study also reveled that the positive correlation (r=0.86) between post test knowledge and attitude of the school children and positive correlation (r= 0.90) between post test knowledge and practice. This study reveled that there was no significant

association between post test knowledge, attitude and practice scores of the school children with their demographic variables. So the assumption is proved. Education improve the personal hygiene & hygiene practices of school children.

E) **SIGNIFICANCES OF MEDIA (DVD/TV) TO EDUCATIONAL PROGRAM**:-

Bipasha, C.,(2006). has sated that, Media is everywhere; it has become a part of our daily life. The media plays a dominant role in the learning process. Its impact is vast in shaping the life of an individual. Media has the potential to shape personalities, change the way we perceive and understand the world and our immediate reality. Though we know that all good things have both good and bad effects, likewise, media too have positive and negative effects. Newspaper, Radio, Television and internet – all form part of the media and are important in imparting education. In recent years, the impact of media on teaching and learning has increased tremendously. New opportunities are being provided to give a techno-touch to the traditional educational process and system.

A Chinese Proverb: "If I hear, I forgot, If I see, I remember, If I do, I know" says the importance of sensory perception in teaching, learning situation.

Seeing -87%

Hearing -07%

Odour -03%

Touch -02%

Taste -01%

Neeraja ,K.P.,(2005)

The role of any particular audio-visual medium in the educational process in function of the desired behavioral change . Audio-visual media may be used in teaching:

- To provide basis for more effective perceptual and conceptional learning.
- To increase and sustains attention and concentration and the personal involvement of the student in active learning.
- -To explicate and increase the meaningfulness of abstract concepts.
- To facilitate and advance the process of applying what is learned in realize performance and life situation.

Basavanthapa, B.T.,(2003)

According to the American Academy of Pediatrics (2001). "Children are influenced by media – they learn by observing, imitating, and making behaviors their own" . The influence of media on children has been the subject of increased attention among parents, educators, and health care professionals.

To According Dr. Mcluhan, affect the sensibilities greatly because they tend to message the senses. Thus the medium is not only the message, but also the message, because it message the sensory organs and stimulates them to respond actively. Hence it is important that these media be utilized in the class room teaching , rather than be ignored so that the pupil may obtain sensory stimulation as apart of the process of instruction. The same kind of stimulation that is provided by movies, and radio.

Bhatia and Bhatia.,(2000)

Media and Children

Media Literacy: "the ability to access, analyze, evaluate and communicate information in a variety of formats" -David Considine(1998).

The role of media in imparting education is increasingly on the rise. Media surrounds us and is present in everything. This phenomenon has made learning easier and interesting for children.

Multimedia refer to any combination of any video, audio, text or graphics that are presented by the computer. By combining more then one medium, the strength of several media can be combined to appeal to a variety of learning style & facilitate learning. The benefits of using multimedia include reduction in the cost of learning and teach& improved learning effectiveness due to increased learner motivation, improved retention of learning.

Gleydura,A.J et.al(1995)

CHAPTER – III

METHODOLOGY

This Chapter deals with the methodology adopted for the study. It includes research approach, design, setting of the study, population, sample, criteria for sample selection, sample size, sampling technique, instruments, validity, reliability, pilot study, data collection procedure and plan for data analysis.

RESEARCH APPROACH

Evaluative approach was used for this study.

RESEARCH DESIGN

The research design selected for this study was Quasi experimental design, with one group pre test and post test.

Pictorial representation

Group	Pre test	Intervention	Post test
I	RO_1	X	O_2

The symbols used are explained as:

Group I = School children who are studying in 7th standard.

R = Stratified random sampling

O_1 = Pretest – Collection of demographic data, assessment of knowledge and practice regarding prevention of selected water borne diseases.

X = Structured teaching programme on prevention of selected water borne diseases.

O_2 = Post test- Assessment of knowledge and practice regarding prevention of selected water borne diseases.

SETTINGS OF THE STUDY:

The study was conducted in eight selected schools at Dharapuram. (C S I Boys Higher Secondary School, C S I Girls Higher Secondary School, Anthony Middle School, Kolingivadi Municipality Middle School, Municipality Middle School, N.C.P.Mpl. Higher Secondary School, Aloysiuas Girls Higher Secondary School and Ponnu Girls High School). In each school the 7th standard had 3 – 5 sections . 25-40 students were there in each section.

POPULATION

The population of the study were school children .

SAMPLE

The school children studying in 7th standard and who met the inclusion criteria were the study sample .

CRITERIA FOR THE SAMPLE SELECTION

Inclusion criteria

- Both boys and girls
- 11-12 years
- Who are studying in Tamil medium.

Exclusion criteria

- The students who are absent on the data collection period.
- Sick children

SAMLE SIZE

The sample size comprised of 200 school children, who met the inclusive criteria were selected as samples.

SAMPLING TECHNIQUE

The samples were selected by stratified random sampling technique using lottery method. Each section in the school is considered as a strata and 5-9 students were selected by lottery method. In each school 25 samples were selected and totally 200 samples from 8 Tamil medium schools were selected .

INSTRUMENT:

Description of the instrument

The instrument consists of three parts;

Part – I:

It consist of demographic characteristics such as, sex, religion, occupation of the father, educational status of the mother, type of family, type of water facility for drinking, type of latrine facilities & area of residence

Part- II:

Structured self administered Knowledge questionnaire consists of 25 multiple choice questions with four options among which one is the correct response.

Part –III:

Structured self administered practice questionnaire consists of 15 dichotomous questionnaire . It has ten positive questions and five negative questions.

SCORING PROCEDURE

Part – II

It consists of self administered questionnaires used to assess the knowledge on prevention of selected water borne diseases. Each correct answer was given a score of one(1) and wrong answer was scored as zero (0). The total scores were 25.

The Scores were interpreted as follows.

Level of knowledge	Score	Percentage
Adequate	18 – 25	68-100%
Moderately adequate	9– 17	34 –67%
Inadequate	0 – 8	0 – 33%

Part- III

Structured self administered practice questionnaire were used to assess the knowledge on practice of school children regarding prevention of selected water borne diseases. It consists of 15 dichotomous questionnaire . A score of one(1) for each correct response and score of Zero (0)for each wrong response. The total scores were 15.

The Scores were interpreted as follows:

Level of practice	Score	Percentage
Adequate	11-15	68-100%
Moderately adequate	6-10	34-67%
Inadequate	0-5	0-33%

VALIDITY

The validity of the tool was established by consultation with guide, five experts in the field of community health nursing and one medical expert in the preventive and social medicine. The tool was modified according to the suggestion and recommendations of experts and tool was finalized.

RELIABILITY

The reliability of the self administered knowledge questionnaire regarding prevention of selected water borne diseases was established by test retest, Karl pearson co-efficient formula was used to find out the stability of the tool and found to be reliable(r=0.92). The split half method, where the spearman's brown prophecy formula was used to find out the internal consistency of the tool and found to be reliable (R=0.92).

The reliability of the self administered practice questionnaire regarding prevention of selected water borne diseases was established by test retest, Karl pearson co-efficient formula was used to find out the stability of the tool and found to be reliable(r=0.89). The split half method, where the spearman's brown prophecy formula was used to find out the internal consistency of the tool and found to be reliable (R=0.90).

PILOT STUDY

The pilot study was conducted in Govt. higher secondary school at Dharapuram, other than the sample area. The investigator obtained formal permission from the District Educational Officer and the Head Master of the "Govt. higher secondary school" and Verbal consent was got from the school children. The samples were selected by stratified random sampling technique. The investigator selected 20 school children from 7th standard by using lottery method. 5 children from four sections were selected. Samples were gathered in one place and pre test questionnaire was administered on the first day. On the same day after the pre test the samples were imparted the structured teaching program on prevention of selected water borne diseases for 45 minutes by using DVD with Television. In one setting the post test was conducted after 7 days using the same questionnaires.

The findings of the pilot study showed that the mean pre test knowledge score is 7.65 (SD ± 2.9) and post test knowledge score is 19.6 (SD ± 3.4). The mean pre test of practice score is 5.45 (SD ± 2.03) and post test of practice score is 12.2 (SD ± 2.75). So the post test score is significantly higher than the pre test score. This shows that the study is feasible and practicable to proceed with main study.

DATA COLLECTION PROCEDURE

The data collection was done in eight Tamil Medium Schools at Dharapuram. The data was collected for the period of 4 weeks in the month of August. Formal approval was obtained from the District Educational Officer, Headmasters, Headmistresses and verbal consent was got from the school children. Based on the selection criteria, the school children studying in 7th standard was selected by stratified random sampling technique using lottery method and obtained 200 samples from 8 Tamil Medium Schools. 5 - 9 samples from 3 - 5 sections were selected, totally 25 samples from each school. Self introduction about the investigator and information regarding nature of the study was explained. In each school, samples were combined together to administer the pre test self administered questionnaires on first day, on the same day after the pre test the samples were imparted the structured teaching program on prevention of water borne diseases for 45 minutes by using DVD with Television. In each school, post test was conducted after 7 days by using the same self administered questionnaires. The same procedure was followed for each school and data were collected. The collected data were entered and finalized by using descriptive & inferential statistical methods.

PLAN FOR DATA ANALYSIS

Collected data was tabulated & analyzed by using descriptive & inferential statistical methods.

No	Data Analysis	Methods	Objectives or Remarks
1.	Descriptive statistics	Frequency and Percentage distribution	To describe demographic variables of school children
		Mean, standard deviation	To assess the knowledge & practice scores of pre test and post test.
2.	Inferential statistics	Z Test	To compare the pre and post test level of knowledge and practice scores.
		Karl Pearson's correlation (r-value)	To correlate post test knowledge scores & practice scores.
		Chi-square test	To associate post test level of knowledge scores with their demographic variables. To associate post test level of practice scores with their demographic variables.

PROTECTION OF HUMAN SUBJECTS

The research proposal was approved by dissertation committee. The written permission was obtained from the District Educational Officer and Heads of higher secondary schools. Verbal consent was obtained from the school children.

CHAPTER- IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of data collected from 200 school children to assess the effectiveness of structured teaching program on knowledge and practice regarding prevention of selected water borne diseases in selected schools at Dharapuram, Tirupur District. The data was coded and analyzed as per objectives of the study under following headlines.

ORGANIZATION OF DATA

The data has been tabulated and organized as follows:

Section – A : Distribution of demographic variables.

Section - B : Comparison between pre and posttest knowledge and practice scores regarding prevention of selected water borne diseases among school children .

Section – C : Correlation of posttest knowledge scores with practice scores regarding prevention of selected water borne diseases among school children.

Section - D : Association between the post test knowledge scores with their selected demographic variables regarding prevention of selected water borne diseases among school children.

: Association between the post test practice scores with their selected demographic variables regarding prevention of selected water borne diseases among school children.

SECTION – A : Distribution of demographical variables

Table 1 : Frequency and percentage distribution of demographic variables of school children.

N=200

S. No	Demographic variables	Frequency (f)	Percentage (%)
1.	Sex		
	a) Male	84	42
	b) Female	116	58
2.	Religion		
	a) Hindu	138	69.0
	b) Muslim	33	16.5
	c) Christian	29	14.5
3.	Occupation of father		
	a) Daily wages	141	70.5
	b) Private employee	29	14.5
	c) Government employee	13	6.5
	d) Business man	17	8.5
4.	Educational status of the mother		
	a) No formal Education	54	27
	b) Primary Education	84	42
	c) Secondary Education	34	17
	d) Higher Secondary Education	22	11
	e) Graduate and above	6	3

5.	Type of Family		
	a) Nuclear	131	65.5
	b) Joint	69	34.5
6.	Type of water facilities available for drinking		
	a) Well water	23	11.5
	b) Bore well water	52	26
	c) Corporation water	119	59.5
	d) Other sources	6	3
7.	Type of latrine facilities		
	a) Sanitary latrine	139	69.5
	b) Open field	61	30.5
8.	Area of residence		
	a) Urban	129	64.5
	b) Rural	71	35.5

Table: 1 Showed that the distribution of demographic variables sex, religion, occupation of father , educational status of the mother, type of family, type of water facilities available for drinking, type of latrine facilities and area of residence.

The majority of the school children who participated in the study were females 116(58%) and males were 84(42%). (Fig.2.).

With regard to religion, 138 (69%) school children were Hindus, 33 (16.5%) school children were Muslims and 29 (14.5%) school children were Christians. (Fig.3.).

With regard to occupation of the father ,141 (70.5%) school children's fathers were daily wages, 29 (14.5%) school children's fathers were private employee, 13 (6.5%) school children's fathers were government employee and 17(8.5%) school children's fathers were business man. (Fig.4).

With regard to educational status of the mother, 54 (27%) school children's mothers were no formal education, 84 (42%) school children's mothers were primary education, 34 (17%) school children's mothers were secondary education, 22 (11%) school children's mothers were higher secondary education and 6 (3%) school children's mothers were graduate and above. (Fig.5).

With regard to type of family, 131(65.5%) school children were belongs to nuclear family, and 69(34.5%) of school children were belongs to joint family. (Fig.6).

With regard to type of water facilities for drinking,23(11.5%) school children were drinking water from well, 52(26%) school children were

drinking water from bore well , 119(59.5%) school children were drinking water from corporation pipe and 6(3%) school children were drinking the water from other sources. (Fig.7).

With regard to type of latrine facilities 139(69.5%) school children were using the sanitary latrine for defecation and 61(30.5%) school children were using open field for defecation.(Fig.8).

With regard to area of residence 129(64.5%) school children were from urban area, and 71(35.5%) school children were from rural area. (Fig.9).

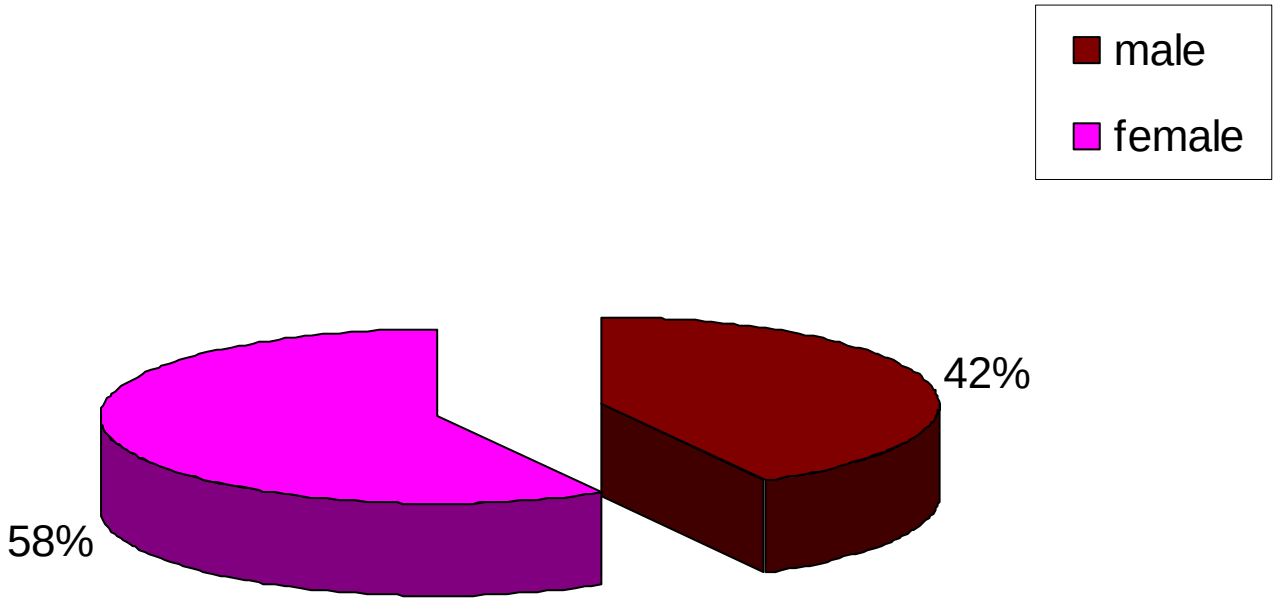


Fig .2 : Pie Diagram showing the Percentage distribution of the school children according to their sex.

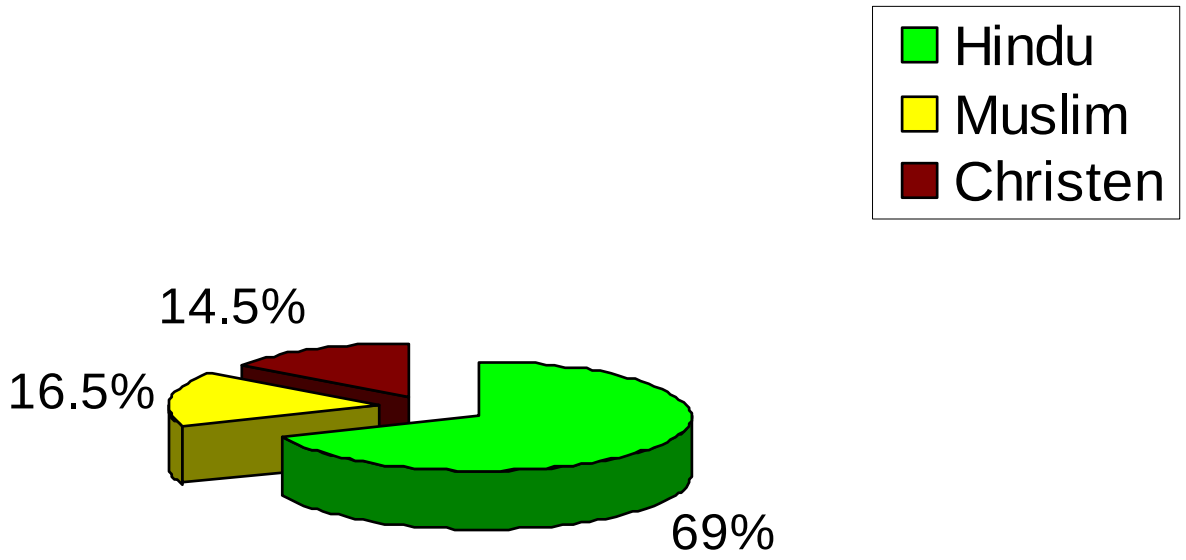


Fig.3: Pie diagram showing the percentage distribution of school children according to their Religion.

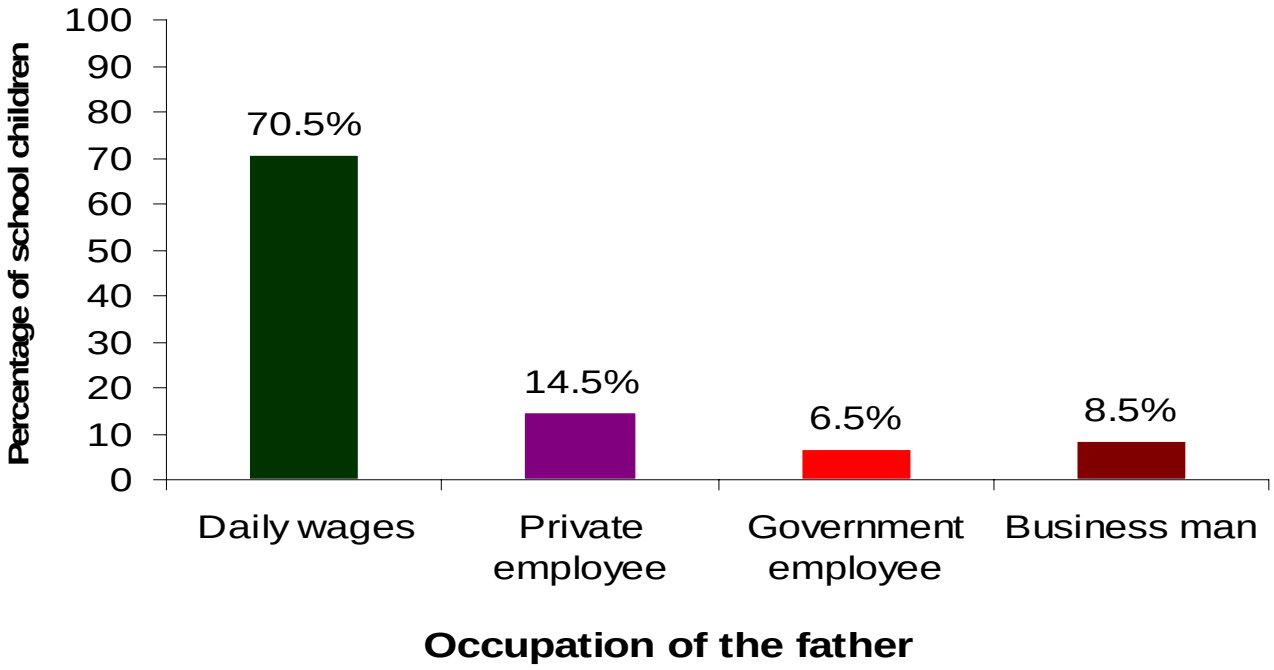


Fig.4: Bar diagram showing the percentage distribution of school children according to their father's occupation.

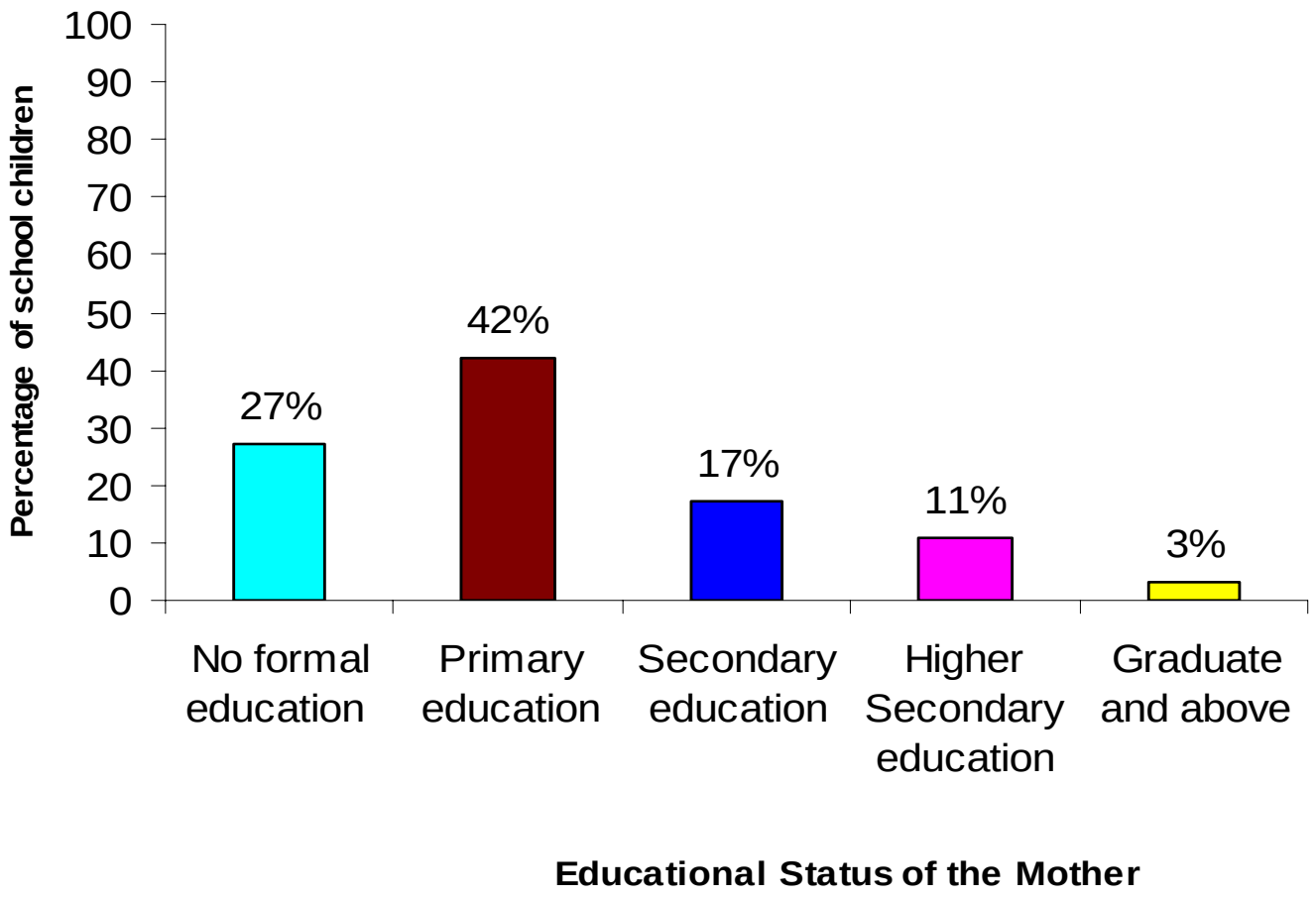


Fig.5 : Bar diagram showing the Percentage distribution of school children according to their mother's educational status.

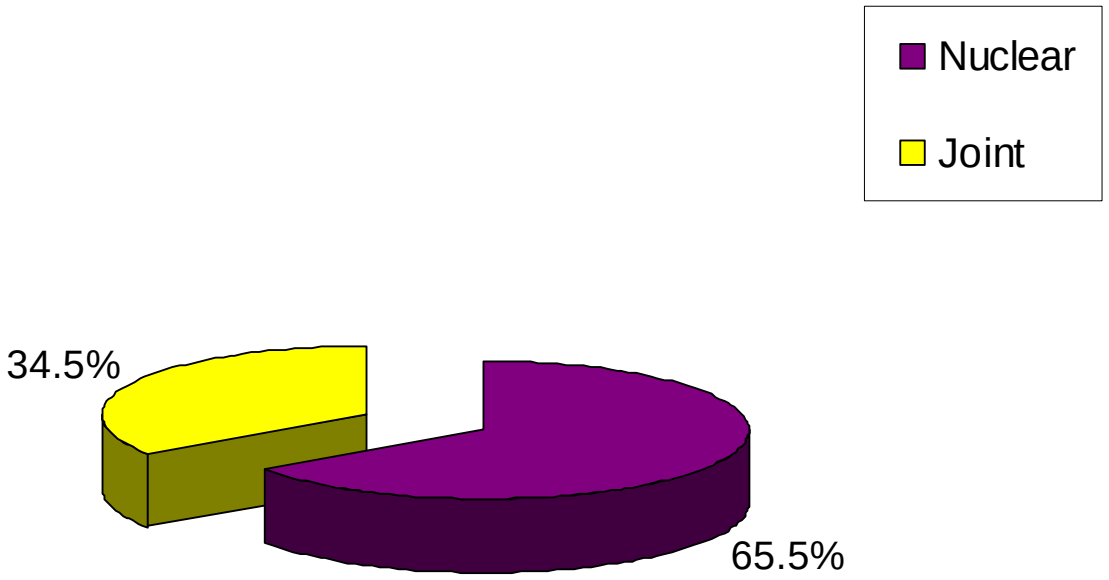


Fig6: Pie diagram showing the percentage distribution of school children according to their type of family.

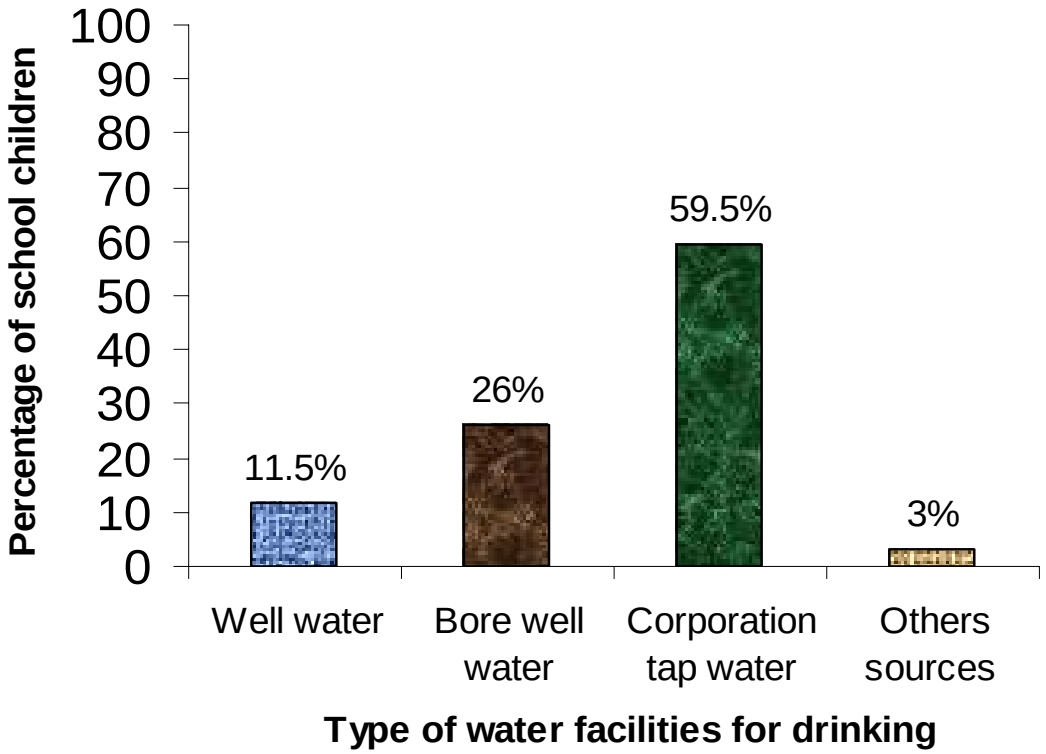


Fig7: Bar diagram showing the percentage distribution of school children according to their type of water facilities for drinking.

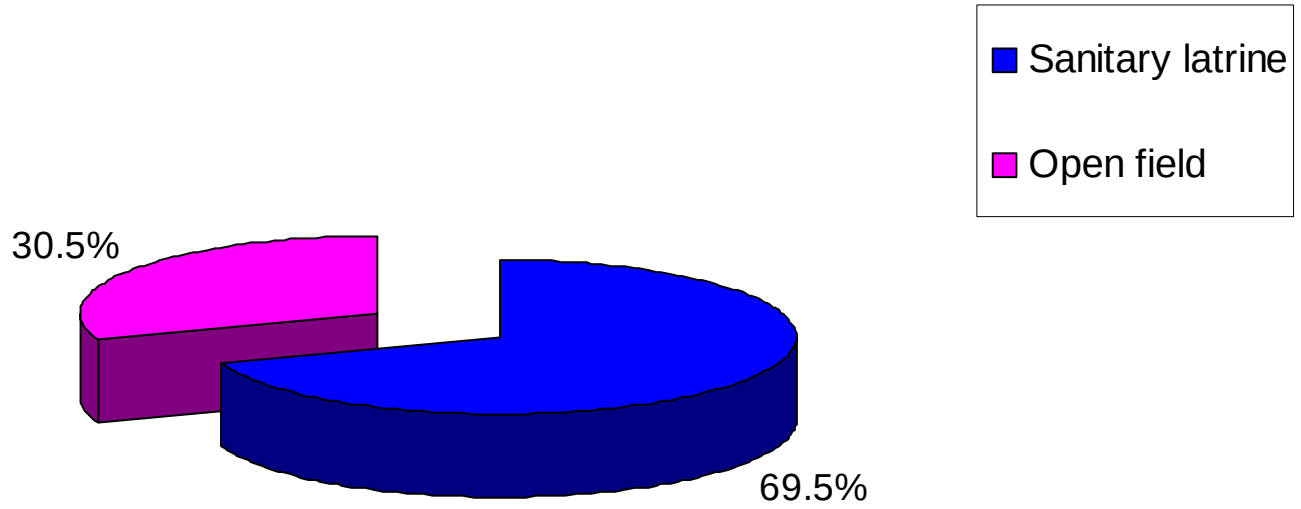


Fig8: Pie diagram showing the percentage distribution of school children according to their type of latrine facilities.

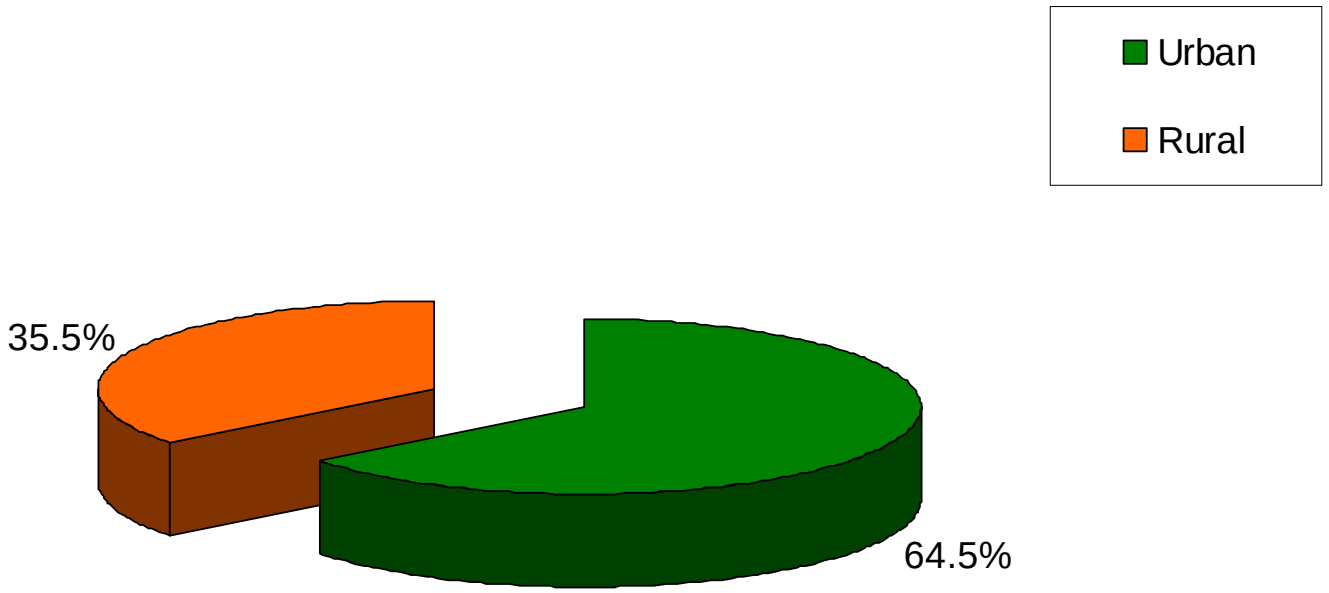


Fig 9.Pie diagram showing the percentage distribution of school children according to their area of residence.

SECTION -B : Comparison between pre and posttest knowledge and practice scores regarding prevention of selected water borne diseases among school children .

Table –2 : Comparison between pretest and posttest knowledge scores regarding prevention of selected water borne diseases among school children N=200

Level of knowledge	Pretest		Post test	
	f	%	f	%
Adequate	11	5.5	136	68
Moderately adequate	61	30.5	64	32
Inadequate	128	64	-	-
Total	200	100	200	100

Table 2 showed that in pretest among 200 samples, majority 128 (64%)]of the school children had inadequate knowledge, 61 (30.5%) of school children had moderately adequate knowledge and 11(5.5%) of school children had inadequate knowledge regarding prevention of selected water borne diseases.

In posttest, majority 136 (68%)of the school children had adequate knowledge, 64 (32%) of school children had moderately adequate

knowledge and none of them had inadequate knowledge regarding prevention of selected water borne diseases.

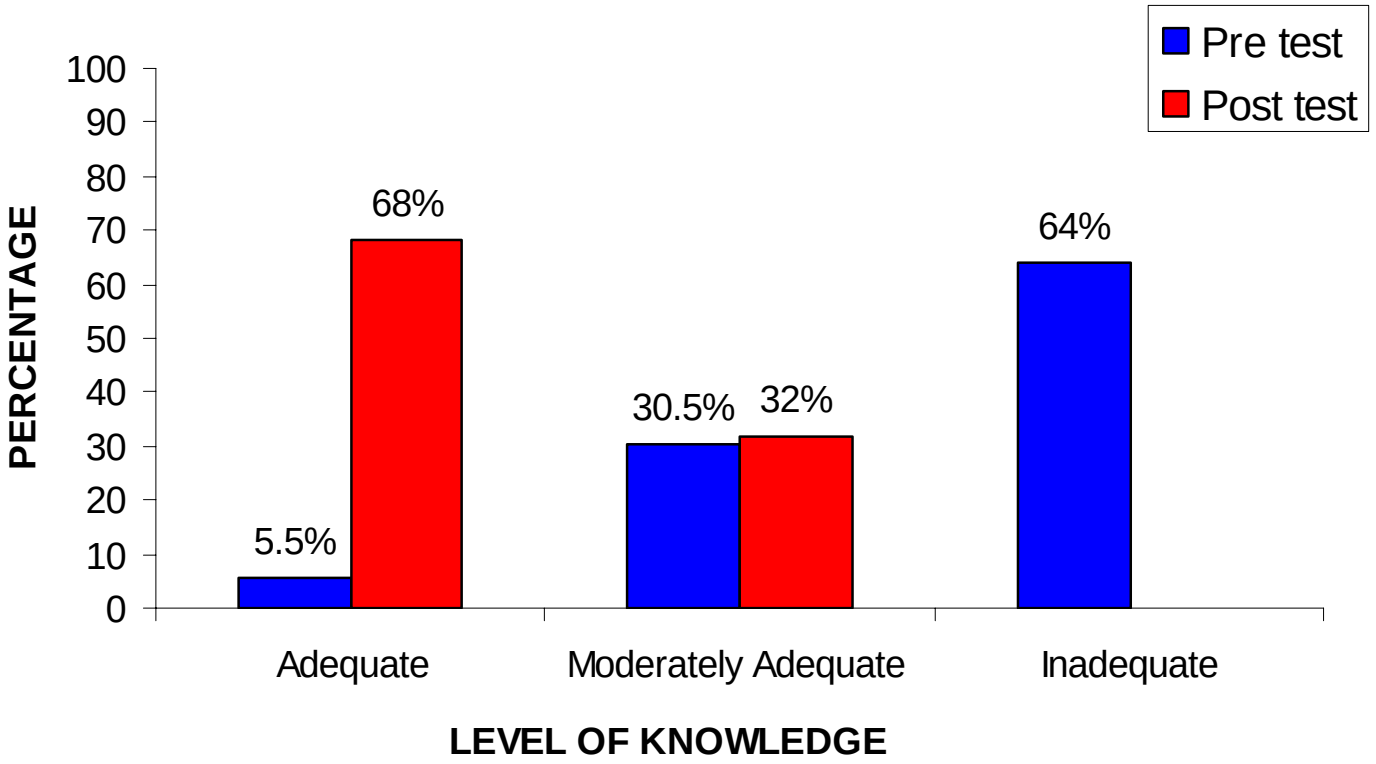


Fig.10: Bar diagram showing the percentage wise comparison of pre and post test knowledge scores.

Table – 3 : Comparison between the pretest and posttest practice scores regarding prevention of selected water borne diseases among school children.

N =200

Practice	Pretest		Post test	
	f	%	f	%
Adequate	15	7.5	144	72
Moderately adequate	85	42.5	56	28
Inadequate	100	50	-	-
Total	200	100	200	100

Table 3 showed that in pretest among 200 school children majority 100 (50%) of the school children had inadequate practice, 85 (42.5%) of school children had moderately adequate practice and 15(7.5%) of school children had inadequate practice regarding prevention of selected water borne diseases.

In posttest, majority 144 (72%) of the school children had adequate practice, 56 (28%) of school children had moderately adequate practice and none of them had inadequate practice regarding prevention of selected water borne diseases.

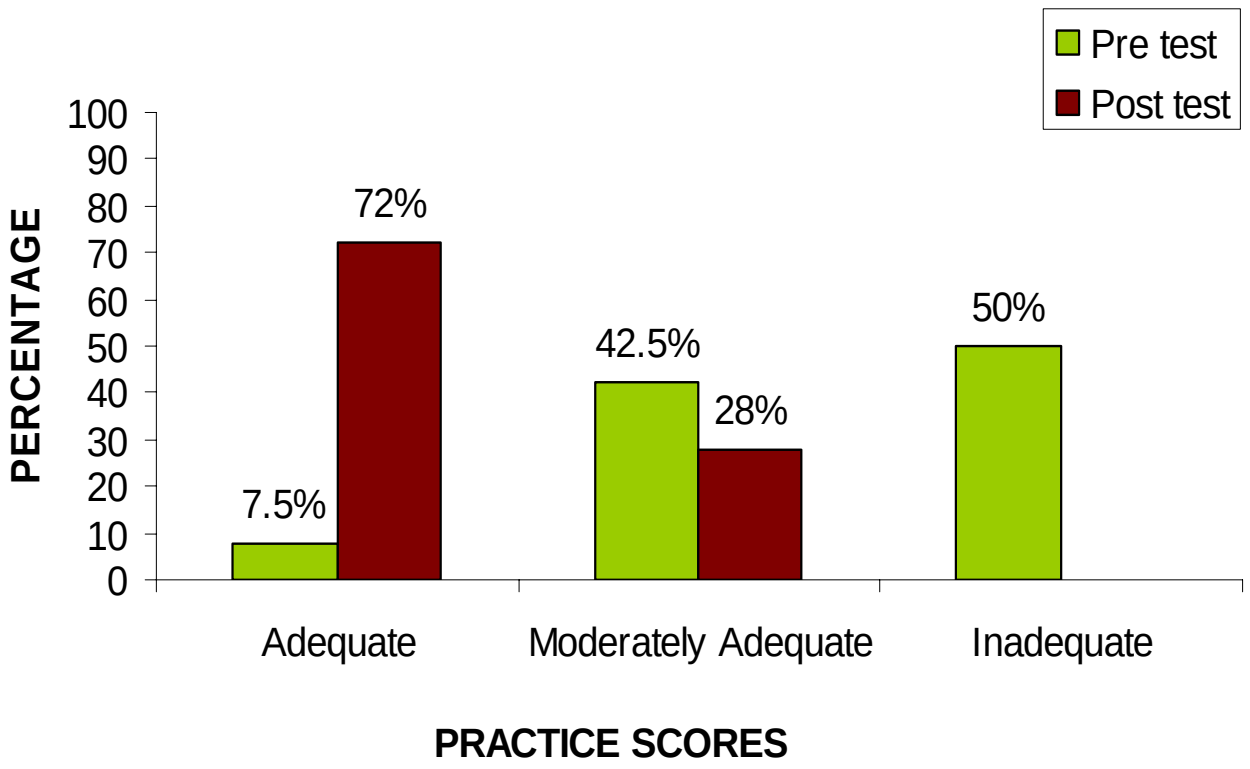


Fig.11: Bar diagram showing the percentage wise comparison of pre and post test practice scores.

Table – 4: Comparison of mean, standard deviation and 'Z' test value in pre test and post test knowledge scores among school children.

N =200

Sl. No.	Variable	Mean	SD	'Z' value	Table Value
1.	Pretest	8.98	4.6	25.31	1.96
2.	Post test	19.36	3.9		

df=199 (P<0.05)

The table (4) showed that mean score of pre test and post test knowledge scores regarding prevention of selected water borne diseases among school children were 8.98 (SD ± 4.6) and 19.36 (SD ± 3.9) respectively. The table 'Z' value is 1.96 and the calculated 'Z' value is 25.31, which was significant at the level of 0.05. From the mean scores, it was clear that the school children gained knowledge after implementing structured teaching programme.

Table – 5: Comparison of mean, standard deviation and 'Z' test value in pre test and post test practice scores among school children.

N =200

Sl. No.	Variable	Mean	SD	'Z' value	Table Value
1.	Pretest	6.86	3.32	16.2	1.96
2.	Post test	11.72	2.86		

df=199 (P<0.05)

The table (5) showed that mean score of pre test and post test practice scores regarding prevention of selected water borne diseases among school children were 6.86 (SD ± 3.32) and 11.72 (SD ± 2.86) respectively. The table 'Z' value is 1.96 and the calculated 'Z' value is 16.2, which was significant at the level of 0.05. From the mean scores, it was clear that the school children gained practice after implementing structure teaching programme.

SECTION – C: Correlation of posttest knowledge scores with practice scores regarding prevention of selected water borne diseases among school children.

Table - 6 : Correlation between the mean post test knowledge and practice scores among school children.

N =200

Sl. No.	Variable	Mean Scores	Co efficient of Correlation	Table Value
1.	Knowledge	19.36	0.91	0.1946
2.	Practice	11.72		

df =198 P <0.05

Table (6) showed that, there was positive correlation (r=0.91) between mean post test knowledge and practice scores regarding prevention of selected water borne diseases among school children.

SECTION- D: Association between the post test knowledge and practice scores with their selected demographic variables regarding prevention of selected water borne diseases among school children .

Table - 7: Association between the post test knowledge scores with their selected demographic variables regarding prevention of selected water borne diseases among school children.

N=200

S. No	Demographic Variable	Level of Knowledge						χ^2	Table Value	Inference
		Adequate		Moderately adequate		Inadequate				
		f	%	f	%	f	%			
1.	SEX									
1.1	Male	61	30.5	23	11.5	_	_	1.11	3.841	NS
1.2	Female	76	38	40	20	_	_			
2.	RELIGION									
2.1	Hindu	94	47	44	22	_	_			
2.2	Muslim	19	9.5	14	7	_	_	0.23	3.841	NS
2.3	Christian	21	10.5	8	4	_	_			

3.	OCCUPATION OF THE FATHER									
3.1	Daily wages	91	45.5	50	25	_	_			
3.2	Private employee	21	10.5	8	4	-	_	2.32	3.841	NS
3.3	Government employee	10	5	3	1.5	_	_			
3.4	Business man	14	7	3	1.5	_	_			
4	EDUCATIONAL STATUS OF THE MOTHER									
4.1	No formal education	44	22	10	5	_	_			
4.2	Primary education	52	26	32	16	_	_			
4.3	Secondary education	21	10.5	13	6.5	_	_	6.16	3.841	S
4.4	Higher secondary education	16	8	6	3	_	_			
4.5	Graduate and above	3	1.5	3	1.5	_	_			
5.	TYPE OF FAMILY									
5.1	Nuclear	91	45.5	40	20	_	_	3.5	3.841	NS
5.2	Joint	45	22.5	24	12	_	_			
6.	TYPE OF WATER FACILITIES FOR DRINKING									
6.1	Well water	14	7	9	4.5	_	_			
6.2	Bore well water	40	20	12	6	_	_			
6.3	Corporation tap water	77	38.5	42	21	_	_	0.86	3.841	NS
6.4	Other sources	5	2.5	1	0.5	_	_			

7.	TYPE OF LATRINE FACILITIES									
7.1	Sanitary latrine	95	47.5	44	22	_	_	0.02	3.841	NS
7.2	Open field	41	20.5	20	10	_	_			
8.	AREA OF									
8.1	RESIDENCE	83	41.5	46	23	_	_	2.22	3.841	NS
8.2	Urban	53	26.5	18	9	_	_			
	Rural									

df=1 NS- Not Significant S- Significant p<0.05 level

Table (7), showed that, only one demographic variable, educational status of the mother was associated with the knowledge of the school children χ^2 value is 6.16. It is greater then table value. Other demographic variables (sex, religion, occupation of the father , type of family, type of water facilities for drinking, type of latrine facilities and area of residence) had no association with knowledge regarding prevention of selected water borne diseases.

TABLE 8 : Association between the post test practice scores with their selected demographic variables regarding prevention of selected water borne diseases among school children.

S. No.	Demographic Variable	Practice						χ^2	Table Value	Inference
		Adequate		Moderately adequate		Inadequate				
		f	%	f	%	f	%			
1.	SEX									
1.1	Male	62	31	22	11	_	_	0.234	3.841	NS
1.2	Female	82	41	34	17	_	_			
2.	RELIGION									
2.1	Hindu	101	50.5	37	18.5	_	_			
2.2	Muslim	27	13.5	6	3	_	_	0.6	3.841	NS
2.3	Christian	15	7.5	14	7	_	_			
3.	OCCUPATION OF THE FATHER									
3.1	Daily wages	104	52	37	18.5	_	_			
3.2	Private employee	18	9	11	5.5	-	_	0.72	3.841	NS
3.3	Government employee	8	4	5	2.5	_	_			
3.4	Business man	14	7	3	1.5	_	_			

4	EDUCATIONAL STATUS OF THE MOTHER									
4.1	No formal education	35	17.5	19	9.5	_	_			
4.2	Primary education	65	32.5	19	9.5	_	_			
4.3	Secondary education	24	12	10	5	_	_	0.049	3.841	NS
4.4	Higher secondary education	14	7	8	4	_	_			
4.5	Graduate and above	6	3	_	_	_	_			
5.	TYPE OF FAMILY									
5.1	Nuclear	92	46	39	19.5	_	_	0.58	3.841	NS
5.2	Joint	52	26	17	8.5	_	_			
6.	TYPE OF WATER FACILITIES FOR DRINKING									
6.1	Well water	17	8.5	6	3	_	_			
6.2	Bore well water	34	17	18	9	_	_	0.93	3.841	NS
6.3	Corporation tap water	89	44.5	30	15	_	_			
6.4	Other sources	4	2	2	1	_	_			
7.	TYPE OF LATRINE FACILITIES									
7.1	Sanitary latrine	104	52	35	17.5	_	_	0.76	3.841	NS
7.2	Open field	42	21	19	9.5	_	_			
8.	AREA OF RESIDENCE Urban									
8.1	Rural	97	48.5	39	19.5	_	_	1.32	3.841	NS
8.2		48	24	23	11.5	_	_			

df=1 NS- Not Significant $p<0.05$ level

Table 8 showed that, there is no significant association between the practice scores with their selected demographic variables regarding water borne diseases among school children.

CHAPTER – V

DISCUSSION

The discussion chapter deals with sample characteristics and objectives of the study. The aim of this present study was to evaluate the effectiveness of structured teaching programme on knowledge and practice regarding prevention of selected water borne diseases among school children in selected schools at Dharapuram, Triupur District.

Description of Sample Characteristics

In the present study the distribution of school children according to their sex the majority of the school children who participated in the study were females 116(58%) and males were 84(42%).

With regard to religion, 138 (69%) school children were Hindus, 33 (16.5%) school children were Muslims and 29 (14.5%) school children were Christians.

With regard to occupation of the father ,141 (70.5%) school children's fathers were daily wages, 29 (14.5%) school children's fathers were private employee, 13 (6.5%) school children's fathers were government employee and 17(8.5%) school children's fathers were business man.

With regard to educational status of the mother, 54 (27%) school children's mothers were no formal education, 84 (42%) school children's mothers were primary education, 34 (17%) school children's mothers were secondary education, 22 (11%) school children's mothers were higher secondary education and 6 (3%) school children's mothers were graduate and above.

With regard to type of family, 131(65.5%) school children were belongs to nuclear family, and 69(34.5%) of school children were belongs to joint family.

With regard to type of water facilities for drinking,23(11.5%) school children were drinking water from well, 52(26%) school children were drinking water from bore well , 119(59.5%) school children were drinking water from corporation pipe and 6(3%) school children were drinking the water from other sources.

With regard to type of latrine facilities 139(69.5%) school children were using the sanitary latrine for defecation and 61(30.5%) school children were using open field for defecation.

With regard to area of residence 129(64.5%) school children were from urban area, and 71(35.5%) school children were from rural area.

The findings of the study are discussed according to the objectives as follows:

1. Assess the pre test knowledge and practice scores regarding prevention of selected water borne diseases among school children.
2. Assess the post test knowledge and practice scores regarding prevention of selected water borne diseases among school children.
3. Compare the pre test and post test knowledge and practice scores regarding prevention of selected water borne diseases among school children.
4. Correlate the post test knowledge scores with practice scores regarding prevention of selected water borne diseases among school children.
5. Find out the association between the post test knowledge scores with their selected demographic variables regarding prevention of selected water borne diseases among school children .
6. Find out the association between the post test practice scores with their selected demographic variables regarding prevention of selected water borne diseases among school children.

OBJECTIVE 1 : Assess the pre test knowledge and practice scores regarding prevention of selected water borne diseases among school children.

The assessment of knowledge regarding prevention of selected water borne diseases among 200 school children, 128(64%) had inadequate knowledge in pretest. Assessing the practice of the 200 school children regarding prevention of selected water borne diseases, 100(50%) had inadequate practice in pretest. From the table 2 and 3, it revealed that there was a need for structured teaching programme for school children regarding prevention of selected water borne diseases . These findings are consistent with the study findings of Dr. Padmaja, A et.al.,(2008), who revealed in the pre test, regarding knowledge on worm infestation 87.8% of school children had inadequate knowledge and 12.2% of school children had moderately adequate knowledge and regarding knowledge on hygienic practice, 27.8% had inadequate practice, 58.9% had moderately adequate practice and 13.3% had adequate practice.

OBJECTIVE 2: Assess the post test knowledge and practice scores regarding prevention of selected water borne diseases among school children.

The assessment of knowledge regarding prevention of selected water borne diseases among 200 school children, 136(68%) had adequate knowledge in post test. Assessing the practice of the 200 school children regarding prevention of selected water borne diseases, 144(72%) had adequate practice in post test. From table (2) and (3), it revealed that the knowledge and practice had increased after structured teaching programme. These findings are consistent with the study findings of Dr. Padmaja, A et.al.,(2008), who revealed in the post test regarding knowledge on worm infestation 5.6% had inadequate knowledge, 64.4% had moderately adequate knowledge, 30% had adequate knowledge and regarding knowledge on hygienic practice, none of them having inadequate practice, 2.2% had moderately adequate practice and 97.8% had adequate practice.

OBJECTIVE 3 : Compare the pre test and post test knowledge and practice scores regarding prevention of selected water borne diseases among school children.

The assessment of knowledge and practice scores of school children after exposed to structured teaching programme had been increased as evidenced by the post test analysis. Table (4) revealed that the level of knowledge of school children in post test had a mean score of 19.36 (SD±3.9) which was increased compared to the mean score of 8.98 (SD±4.6) in the pretest. Overall 'Z' value was 25.31 for knowledge. Hence , the hypotheses H_1 (The mean post test knowledge scores is significantly higher than the mean pre test knowledge scores) is accepted.

Table (5) revealed that the level of practice of school children in post test, had a mean score of 11.72 (SD±2.86) which was increased compared to the mean score of 6.86 (SD±3.32) in the pretest. Hence , the hypotheses H_2 (The mean post test practice scores is significantly higher than the mean pre test practice scores) is accepted.

These findings are consistent with the findings of Dr. Padmaja,A et.al.,(2008) where the overall mean score of pre test and post test of school children knowledge regarding worm infestation were 28.78(SD ± 14.4) and 67.33(SD ± 12.79) respectively and the paired 't' value is 19.26, which was significant at the level of 0.01. The mean score of pre test and post test of school children knowledge on hygienic practice were 61.04(SD ± 15.7) and 93.04(SD ± 7.64) respectively and the paired 't' value is 25.04, which was significant at the level of 0.01.

OBJECTIVE 4: Correlate the post test knowledge scores with practice scores regarding prevention of selected water borne diseases among school children.

Table (6) showed that there was a positive correlation (r=0.91) between mean post test level of knowledge and practice scores of school children regarding prevention of selected water borne diseases. Further it could be inferred that knowledge and practice depends on each other.

The present study has showed that, as the knowledge increases, the practice of the school children also increases. Health programs ,that is, challenging and tailored to school children, may change their practice.

The knowledge on prevention of selected water borne diseases, control over their practice. There was a significant correlation between post test level of knowledge score and practice score. Hence, the hypothesis H_3 (There will be a significant correlation between post test knowledge and practice scores regarding prevention of selected water borne diseases) is accepted. These findings are consistent with the study findings of Priya, S.,(2000) has conducted study on promotion of personal hygiene among corporation school children in the aspect of knowledge, attitude and practice of school children about personal hygiene. In this study reveled that there was a positive correlation (r=0.90) between the post test knowledge and practice scores of the school children.

OBJECTIVE 5 : Find out the association between the post test knowledge scores with their selected demographic variables regarding prevention of selected water borne diseases among school children .

Chi – square values calculated to find out the association between knowledge of school children with their selected demographic variables. In table 7, the findings showed that the χ^2 value for sex(1.11), religion(0.23), occupation of the father(2.61), educational status of the

mother(6.16), type of family(0.35), type of water facilities for drinking(1.44), type of latrine facilities(0.02),and residence (2.22) . These calculated values are less than the table value expect for educational status of the mother, χ^2 value is (6.16), which was greater than table value. Hence, the hypotheses H4 (There will be a significant association between the post test knowledge scores with their selected demographic variables among school children) is accepted. These findings are consistent with the study findings of Kanimozhi D.,(2005), who reveled that there is a significant relationship between the mothers knowledge on water borne diseases with educational status(5.96).

OBJECTIVE 6 : Find out the association between the post test practice scores with their selected demographic variables regarding prevention of selected water borne diseases among school children .

Chi – square values were calculated to find out the association between practice of school children with their selected demographic variables. In table 8 the findings showed that the χ^2 value for sex(0.23), religion(0.6), occupation of the father(0.72), educational status of the mother(1.87), type of family(0.58), type of water facilities for

drinking(1.11), type of latrine facilities(0.76),and residence (1.32) . These calculated values are less than table value. Hence, the hypotheses H_5 (There will be a significant association between the post test practice scores with their selected demographic variables among school children) is rejected. These findings are consistent with the study findings of Priya S.,(2000) has conducted study on promotion of personal hygiene among corporation school children in the aspect of knowledge, attitude and practice of school children about personal hygiene. This study reveled that there was no significant association between post test knowledge, and practice scores of the school children with their demographic variables.

CHAPTER – VI

SUMMARY, CONCLUSION, IMPLICATION, RECOMMENDATIONS AND LIMITATIONS

This chapter deals with

- Summary of the study
- Conclusion
- Implication for nursing
- Recommendation
- Limitation

SUMMARY OF THE STUDY

The study was done to evaluate the effectiveness of structured teaching programme on knowledge and practice regarding prevention of selected water borne diseases among school children in selected schools at Dharapuram. The design used for this study was quasi experimental in nature, the conceptual frame work was based on modified Nola J Pender's health promotion model, (Revised 2002). A sample of 200 school children were selected by stratified random sampling technique and were assessed for knowledge and practice regarding prevention of selected water borne diseases before and after a structured teaching programme.

Major findings of the study

- Higher percentage of school children 116 (58%) were females.
- Majority of school children 138 (69%) were Hindus.
- Higher percentage of school children's fathers occupation 141(70.5%) were in daily wages.
- Most of school children mothers 84(42%) were in primary education.
- Highest percentage of school children 131(65.5%) were drinking water from corporation tap.
- Majority of school children 139(69.5%) were using sanitary latrine for defecation.
- Highest percentage of school children 129(64.5%) were from urban residences.
- During pre test majority of school children 128(64%) had inadequate knowledge. The highest percentage of school children 136(68%) had adequate knowledge after the structured teaching programme.
- During pre test majority of school children 100(50%) had inadequate practice. The highest percentage of school

children 144(72%) had adequate practice after the structured teaching programme.

- Significant difference was found between pretest and post test level of knowledge and practice scores ($P \leq 0.05$).
- There is no significant association found between post test knowledge scores of school children with their demographic variables, except educational status of the school children's mothers were significantly associate with research hypotheses.
- There is no significant association found between post test practice scores of school children with their demographic variables.

The study revealed that the knowledge and practice scores regarding prevention of water borne diseases were significant after administration of structured teaching programme. Findings showed that the structured teaching programme was effective in increasing the knowledge and practice among school children regarding prevention of selected water borne diseases. Thus structured teaching program played an important role in improving the knowledge and practice of school children.

CONCLUSION

The study findings revealed that there was a significant improvement in the knowledge(Z value 25.31) and practice(Z value 16.2) of school children followed by structured teaching programme. Based on the statistical findings it is evident that provision of such kind of structured teaching programme will motivate the school children and help them to acquire knowledge and correct practice regarding prevention of water borne diseases.

IMPLICATIONS

The findings of the study have certain important implications for nursing service, education, administration and nursing research.

Nursing service

- Health promotion is a vital function of the nurse and community health nurse can organize for mass education in the community regarding prevention of water borne diseases using different AV aids.
- The structured teaching programme can be used by the community health workers to implement the services to the community effectively.

- The Nurses, as professional health care practitioners, will be able to make significant contributions to promote health status of the school children.
- Nurses can participate in effective initiation of practices and take appropriate action to prevent water borne diseases, for guide the school children.

Nursing education

- Students can utilize the structured teaching program to give health education to the school children.
- Teachers can utilize this structured teaching program to teach the students in class room.

Nursing administration

- Nursing administrators can utilize the structured teaching program while conducting inservice education program for directing, motivating the staff towards the education of the school children regarding prevention of water borne diseases.
- Nursing administrators of hospital, Nursing and Community health departments can use the present structured teaching program as a

model for preparing other teaching materials such as booklets, posters etc.

Nursing research

- This study finding can be effectively utilized by the emerging researchers.
- This study can be baseline for further studies to build upon.

RECOMMENDATION

Based on the findings of the study, the followings recommendation has been made for further study.

- A comparative study can be conducted in rural and urban schools among school children.
- The study can be conducted regarding complications of water borne diseases.
- The study can be conducted regarding home remedies for water borne diseases.
- This study can be conducted in experimental design.

LIMITATION

- Researcher experienced difficulties during allotting the hours for conducting study in schools because of class hours.

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STRUCTURED TEACHING PROGRAMME REGARDING PREVENTION OF WATER BORNE DISEASES

Topic	:	Prevention of water borne diseases
Duration	:	45 mts
Group	:	School children (7th standard)
Place	:	Schools
Method of Teaching	:	Lecture
Medium of Instruction	:	Tamil
Teaching Aids	:	DVD with T .V.

CENERAL OBJECTIVES :-

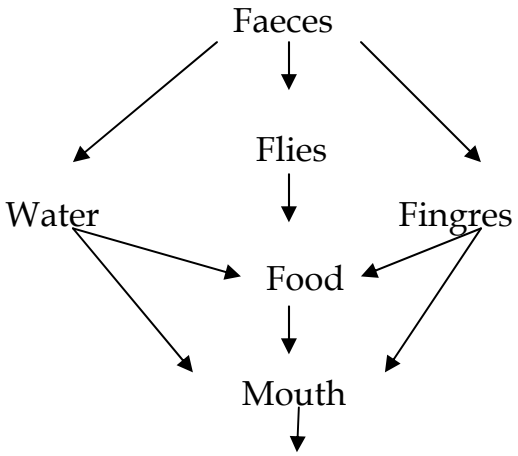
At the end of the class the students are able to acquire deep knowledge regarding prevention of water borne diseases and develop skills in their day to day life.

SPECIFIC OBJECTIVES :-

The students are able to

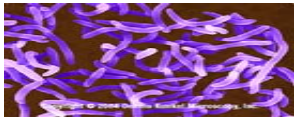
- define water borne diseases
- explain the causes of water borne diseases
- list out the common water borne diseases
- explain about cholera
- discuss about typhoid
- describe about hepatitis – A
- enumerate the dysentery
- describe about the prevention of water borne diseases

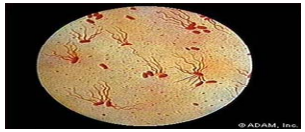
Time	Specific objectives	Contents	Av Aid	Teacher's activity
	Introduce the topic.	**INTRODUCTION** Water is essential for life. Man's health may be affected by the ingestion of the contaminated either directly or through food & water for the purpose of personal hygiene and recreation.	DVD with T .V.	Lecture cum discussion
	define water borne diseases	**DEFINITION** Disease caused by ingestion of water contaminated by human or animal excrement, which contain pathogenic micro organisms.	DVD with T .V.	Lecture cum discussion
	explain the causes of water borne diseases	**CAUSES OF WATER BORNE DISEASES** Water borne diseases are spread by many ways. They are : **Contaminated water** **Poor environmental hygiene** **Poor personal hygiene & Poor food hygiene.**		Lecture cum discussion

Time	Specific objectives	Contents	Av Aid	Teacher's activity
		Water Borne Diseases Cycle  **Water borne diseases** **CONTAMINATION OF WATER** • Mixing of factory waste in to water sources • Faecal matter mixed in to water sources • Putting dirty hands or unclean vessels to take drinking water		

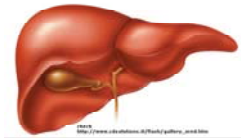
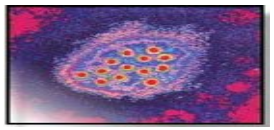
Time	Specific objectives	Contents	Av Aid	Teacher's activity
		• Storing the water in an open tank • Mixing of drainage water in to water sources • Storing the water in the unclean vessels • Defecate near to water sources **POOR ENVIRONMENTAL HYGIENE** • Keeping the surrounding areas unclean • Defecate in open field • Stagnation of water near to water sources • More flies **POOR PERSONAL HYGIENE** • **Not** taking bathe daily • Not cutting your nails regularly • Not wearing slipper while going to toilet.	   	Lecture cum discussion Lecture cum discussion

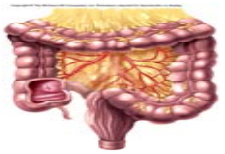
Time	Specific objectives	Contents	Av Aid	Teacher's activity
		• Not washing the hands with soap and water after defecation & before eating. • Not washing the hands after playing in the mud. **POOR FOOD HYGIENE** • Not washing the vegetables before cooking. • Not washing the fruits before eating • Not covering the Cooked foods • Eating uncovered food from street • Un boiled milk **COMMON WATER BORNE DISEASES** The common water borne diseases are **Cholera,** **Typhoid,** **Hepatitis A** **Amoebic and Bacillary dysentery**.	  DVD with T .V.	Lecture cum discussion Lecture cum discussion
	list out the common water borne diseases			

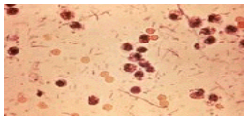
Time	Specific objectives	Contents	Av Aid	Teacher's activity
	explain about cholera	**CHOLERA** Cholera is a serious acute intestinal diseases characterized by sudden onset, profuse rice water stools and vomiting. **Causative Organism** Cholera is caused by Vibrio cholera. **Symptoms & Signs** • Watery diarrheoa ('rice water stool') • Vomiting • Leg and abdominal cramps • Dehydration • Less urine out put **Complications** • Shock and Death	  	Lecture cum discussion Lecture cum discussion

Time	Specific objectives	Contents	Av Aid	Teacher's activity
	discuss about typhoid fever	**Home treatment** Drinking more boiled and cooled water with salt and sugar. **TYPHOID FEVER** Typhoid fever is a highly infections disease found mainly in developing countries. Other name for the typhoid fever is entric fever. **Causative Organism** • Salmonella Typhy. **Signs & Symptoms** • Fever about 103^0 to 104^0F (temperature rises in the evening & falls in the morning for 10 to 14 days[Stepladder fever]) • Loss of appetite • Weakness	DVD with T .V.  	Lecture cum discussion Lecture cum discussion

Time	Specific objectives	Contents	Av Aid	Teacher's activity
		• Headache • Diarrhoea • Stomach pain • Liver enlargement • Vomiting **Complications** • Intestinal haemorrhage or perforation usually occur during 3rd or 4th week. **Home treatment** Drinking more boiled and cooled water or salt and sugar water Reducing the temperature by cold sponging and avoid eating spicy food items .	  	Lecture cum discussion Lecture cum discussion

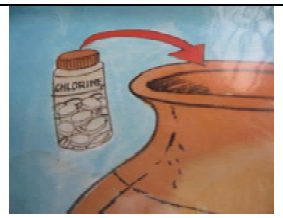
Time	Specific objectives	Contents	Av Aid	Teacher's activity
	describe about hepatitis-A	**HEPATITIS – A** Hepatitis - A refers as liver inflammation or liver disease. **Causative Organism** It is caused by **Hepatitis A** virus **Signs & Symptoms** Person with Hepatitis - A infection may or may not have any signs or symptoms of the diseases. If symptoms are present, it include • Vomiting • Fever • Tiredness • Loss of appetite • Nausea • Abdominal discomfort.	    	Lecture cum discussion

Time	Specific objectives	Contents	Av Aid	Teacher's activity
		• Dark urine • Yellowing of the skin & eyes **Home treatment** Drinking more boiled and cooled water or salt and sugar water **Complication** • Hepatic coma	 	
	enumerate the dysentery	**DYSENTERY** Dysentery is an acute or chronic disease of the large intestine of humans, characterized by • Frequent passage of small watery stools • Often containing blood & mucus accompanied by severe abdominal cramps		Lecture cum discussion

Time	Specific objectives	Contents	Av Aid	Teacher's activity
		Common Types ➢ **Amoebic Dysentery** It is caused by Entamoeba histolytica • **Signs & Symptoms** o Diarrhoea (bloody) o Painful bowel movement , With or without fever ➢ **Bacillary Dysentery** It is an infectious diseases caused by certain non motile bacteria of the genus shigella. This diseases is other wise called as shigellosis. **Signs & Symptoms** ▪ Tenesmas & frequent stools, often containing blood & mucus ▪ Fever with chill	   DVD with T .V.	

Time	Specific objectives	Contents	Av Aid	Teacher's activity
		▪ Abdominal pain ▪ Dehydration **Complications** • Amoebic dysentery --Peritonitis • Shigellosis --Perforation of the large intestine **Home treatment** Drinking more boiled and cooled water or salt and sugar water **PREVENTION OF WATER BORNE DISEASES** It means that, avoiding the occurrence of the water borne diseases. It can be • **Primary prevention**	 DVD with T .V.	Lecture cum discussion
	describe about prevention of water borne diseases			

Time	Specific objectives	Contents	Av Aid	Teacher's activity
		• **Secondary Prevention &** • **Tertiary Prevention** **PRIMARY PREVENTION** • **HEALTH PROMOTION ACTIVITIES** ➢ **Health Education** Providing education regarding mode of transmission of the water borne disease. Health education will be given by following headlines: ▪ Water hygiene ▪ Personal hygiene ▪ Environmental hygiene ▪ Food hygiene ❖ **Water hygiene** Drinking water should be free from micro organism, it is called as the safe water.		Lecture cum discussion

Time	Specific objectives	Contents	Av Aid	Teacher's activity
		▪ Drinking water should be disinfected by the chlorination ▪ If the chlorination is not available means, make the water boiled for 5 to 10mts and make it cool. ▪ Unboiled water should not be mixed with boiled water for decreasing heat. Because it is the main reason for spreading of diseases. ▪ Don't put dirty hands or unclean vessels to take drinking water ❖ **Personal hygiene** • Bath daily • Brush your teeth twice per day (morning & night). • Cut your nails regularly • Wear slipper while going to toilet. • Hands should be washed with soap and water	   	Lecture cum discussion

Time	Specific objectives	Contents	Av Aid	Teacher's activity
		▪ Before eating ▪ before cooking ▪ after defecation • Wash your hands after playing in soil. ❖ **Environmental hygiene** • Maintain the surrounding areas clean • Use the sanitary latrines for the defecation • Pour the water before & after defecation • Wash the hands with soap & water after defecation • Avoid open filed defecation • Prevent the stagnation of water near to home • Prevent mixing of drainage water into drinking water • Clean the area surrounding the water sources	   	Lecture cum discussion

Time	Specific objectives	Contents	Av Aid	Teacher's activity
		❖ **Food hygiene** • Should not eat uncovered food items • Wash the fruits before eating • Wash the raw vegetables before eating • Cover the cooked food • Wash the vegetables before cooking • Wash the hands before eating foods **SPECIFIC PROTECTION** Vaccination for typhoid, viral hepatitis A & cholera is available **SECONDARY PREVENTION** -- Early diagnosis -- Complete treatment -- Intake of diet rich nutrient -- Drink more fluids(boiled &cooled water)	   DVD with T .V.	Lecture cum discussion

Time	Specific objectives	Contents	Av Aid	Teacher's activity
		-- Should not drink unboiled water &fruit juice from shop. -- Wash the hands with soap and water after disposing the faeces and vomits of the infected person. -- Vomits & faeces of infected person should be disposed in sanitary latrine . It should not be disposed near the water storage (well, stream, river, lake, etc) **TERTIARY PREVENTION** If a person has any complications of water borne diseases, the person should be sent to doctor for treatment without delay. **SUMMARY** Till now we discussed about preventive measures of water borne diseases and action to be taken by you and your family members.	  	Lecture cum discussion

tiuaWf;fg;gl;l tpsf;fg;ghlk;

பொது நோக்கங்கள் :-

இந்த வகுப்பின் முடிவில், நீரினால் பரவும் நோய்கள் பற்றியும் அதனைத் தடுப்பது சம்பந்தமான ஆழமான அறிவையும் பெறுவதோடு அன்றாட வாழ்வில் மாணவர்கள் தங்களது திறமையை வளர்த்துக் கொள்வார்கள்.

குறிப்பிட்ட நோக்கங்கள் :-

மாணவர்களால் கீழ்க்கண்டவற்றைச் செய்யமுடியும்.

- நீரினால் பரவும் நோய்களை விளக்குதல்
- நீரினால் நோய்கள் பரவும் முறையை விளக்குதல்
- நீரினால் பரவும் சாதாரண நோய்களை பட்டியலிடல்
- காலராவைப் பற்றி விளக்குதல்
- டைபாய்டு காய்சலைப் பற்றி விளக்குதல்
- மஞ்சள்காமலையை பற்றி விளக்குதல்
- சீதபேதியை பற்றி விளக்குதல்
- நீரினால் பரவும் நோய்களை தடுப்பதுபற்றி விவரித்தல்

முன்னுரை :-

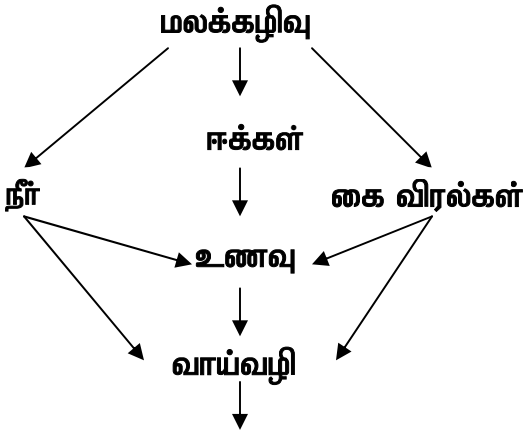
வாழ்க்கைக்கு நீர் மிகவும் இன்றியமையாதது. மனிதனின் இன்றியமையாத தேவைகளில் நீருக்கு இரண்டாம் இடம். இந்த நீர் மாசுபடுவதல் மனதர்களுக்கும் , விலங்களுக்கும் மற்றும் தாவரங்களுக்கும் பல விதங்களில் தீங்கை விளைவிக்கிறது. மனிதன் அசுத்தமான நீரையோ அல்லது அசுத்தமான நீரினால் மாசுபட்ட உணவினை உண்பதால் பல விதமான நோய்கள் பரவுகின்றன.

விளக்கம் :-

மனித மற்றும் விலங்கு கழிவுகளால் அசுத்தமடைந்த நீரை உட்கொள்வதின் மூலம் பரவும் நோய்களுக்கு நீரினால் பரவும் நோய்கள் என்று பெயர் இந்த மாசுபடிந்த நீரில் அதிக அளவில் நுண்கிருமிகள் இருக்கும்.

நீரினால் நோய்கள் பரவும் முறைகள் :-

நோய்கள் நீர்வழி பரவும் முறைகளை கற்றுதருதல்



நீரினால் பரவும் நோய்கள்

மாசு அடைந்த நீரில் பலவித நோய்கள் பரவுகின்றன. அந்த நோய்கள் கீழ்க்கண்ட முறைகளினால் பரவுகின்றன.

1. மாசு அடைந்த நீர்
2. சுகாதாரம் அற்ற சுற்றுப்புறம்
3. தன்சுத்தமின்மை
4. மாசு அடைந்த உணவு பொருட்கள்

மாசு அடைந்த நீர் :-

கீழ்க்கண்ட முறைகளின் மூலம் நீர மாசு அடைகிறது.

- தொழிற்சாலை கழிவுகள் நீர் நிலைகளில் கலத்தல்
- மலம் கழிவுகள் நீர் நிலைகளில் கலத்தல்
- அழுக்கான கைகளை குடிநீருக்குள் விடுதல் அல்லது சுத்தமற்ற பாத்திரங்களை குடிநீர் எடுக்க பயன்படுத்துதல்
- குடிநீரை திறந்த தொட்டியில் சேமித்தல்.
- குடிநீரிரை சுத்தமற்ற பாத்திரத்தில் சேமித்து வைத்தல்
- நீர்நிலைகளுக்கு அருகில் மலம் கழித்தல்

சுகாதாரம் அற்ற சுற்றுப்புறம் :-

- சுற்றுப்புறத்தை தூய்மையாக வைக்காதிருத்தல்
- திறந்த வெளியில் மலம் கழித்தல்
- நீர்நிலைகளுக்கு அருகில் நீர் தேங்குதல்
- அதிக ஈக்களின் மூலமாக

தன்சுத்தமின்மை :-

- தினமும் குளிக்காதிருத்தல்
- நகம் வெட்டாதிருத்தல்
- கழிவறைகளுக்கு செல்லும்போது காலாணிகளை அணியாதிருத்தல்
- மலம் கழித்த பின்பும், சாப்பிடும் முன்பும் கைகளை சோப்பு நீருடன் கழுவாதிருத்தல்
- மண்ணில் விளையாடிய பின்பு கை, கால்கள் கழுவாதிருத்தல்

மாசு அடைந்த உணவு பொருட்கள் :-

- காய்கறிகளை சமைப்பதற்கு முன்பு சுத்தமான நீரில் கழுவாதிருத்தல்
- பழங்களை உண்ணும் முன்பு சுத்தமான நீரில் கழுவாதிருத்தல்
- வேக வைத்த உணவு பொருட்களை மூடாதிருத்தல்
- தெருக்களில் மூடாமல் விற்கும் திண்பண்டங்களை உண்ணுதல்
- சரியாக காயவைக்காத பாலை அருந்துதல்

நீரினால் பரவும் பொதுவான நோய்கள் :-

- ❖ காலரா
- ❖ டைபாய்டு காய்ச்சல்
- ❖ மஞ்சள் காமாலை
- ❖ சீதபேதி

காலரா

காலரா என்பது மிகமோசமான குடல் சம்பந்தமான நோய், இது தீடீரென தொடர்ந்து அரிசி கஞ்சியை போன்ற மலமும் வாந்தியும் ஏற்படுத்தும்.

பரவ செய்யும் காரணி :-

காலரா, விபரியோ காலரா என்னும் நுண்கிருமியினால் பரவும் தொற்று.

அறிகுறிகள் :-

- நீரை போன்ற மலம் (அரிசி கஞ்சி மலம்)
- வாந்தி
- வயிறு மற்றும் கால் தசை பிடிப்பு
- நீர்ப்பற்றாக்குறை

வீட்டு மருத்துவம் :-

- கொதிக்கவைத்து ஆறிய குடிநீரை அல்லது உப்பு சர்க்கரை கரைசலை அதிகம் அருந்துதல்.

விளைவுகள் :-

- நீரிழப்பினால் ஏற்படும் அதிர்ச்சி
- இறப்பு

டைபாய்டு காய்ச்சல்

வளர்ந்து வரும் நாடுகளில், டைபாய்டு காய்ச்சல் என்பது முக்கிய தொற்றுநோயாகும். டைபாய்டு காய்ச்சலுக்கு வேறுபெயர் எண்டிரிக் காய்ச்சலாகும்.

நோய் பரப்பும் காரணி :-

டைபாய்டு காய்ச்சல், சல்மோனல்லா டைபி என்னும் நுண் கிருமியினால் பரவும் தொற்று.

அடையாள அறிகுறிகள் :-

- காய்ச்சல் 103^0F முதல் 104^0F (10 முதல் 14 நாட்களுக்கு உஷ்ணநிலை மாலையில் அதிகமாகவும், காலையில் குறைவாகவும் இருக்கும்[படிப்படியாக காய்ச்சல் அதிகரித்தல்])
- பசியின்மை
- பலவீனம்
- குறைவான இதய துடிப்பு
- வயிற்று வலி
- ஈரல் வீக்கம்
- வாந்தி
- வயிற்றுப் போக்கு

வீட்டு மருத்துவம் :-

- கொதிக்கவைத்து ஆறிய குடிநீரை அல்லது உப்பு சர்க்கரை கரைசலை அதிகம் அருந்துதல்.
- குளிர்ந்த பஞ்சுகளின் மூலம் உடல் வெப்பநிலையை குறைத்தல் மற்றும் காரமான பொருட்களை தவிர்த்தல்.

விளைவுகள் :-

குடலில் இரத்தக் கசிவு அல்லது அரிப்பு வழக்கமாக இந்த விளைவு மூன்றாவது அல்லது நான்காவது வாரத்தில் ஏற்படும்.

மஞ்சள் காமாலை

மஞ்சள் காமாலை என்பது கல்லீரல் வீக்கம் கல்லீரல் நோயைக் குறிக்கும்.

பரவசெய்யும் காரணி :-

மஞ்சள் காமாலை, ஹெப்பாடிட்டீஸ் - A என்கிற வைரஸ் கிருமியினால் பரவக்கூடிய தொற்று.

அடையாள அறிகுறிகள் :-

- காய்ச்சல்
- களைப்பு
- பசியின்மை
- ஒமட்டல்
- வயிறு சீர்கேடு
- மஞ்சள் நிற நீர்
- தோல் மற்றும் கண்கள் மஞ்சள் நிறமடைதல்

வீட்டு மருத்துவம் :-

- கொதிக்கவைத்து ஆறிய குடிநீரை அல்லது உப்பு சர்க்கரை கரைசலை அதிகம் அருந்துதல்.

விளைவுகள் :-

- மயக்கநிலை

சீதபேதி

மனிதனின் பெருங்குடலில் ஏற்படும் மிகக்கொடிய வயிற்றுபோக்காகும் இதன் அறிகுறிகள்.

- அடிக்கடி நீர்போன்று மலம் வெளியேறுதல்
- வயிற்றுப் பிடிப்புடன் கூடிய இரத்தம் மற்றும் சளி மலத்தோடு வெளியேறுதல்.

சாதாரண வகைகள் :-

- அம்பிக் சீதபேதி
- பேசில்லரி சீதபேதி

அம்பிக்சீத பேதி :-

இது என்ட்டமீபா - ஹிஸ்ட்டாலிடிகா வினால் பரவக்கூடிய தொற்று.

அடையாள அறிகுறிகள் :-

- வயிற்றுபோக்கு (இரத்தத்துடன்)
- வலியுடன் கூடிய வயிற்றுபோக்கு
- காய்ச்சல் இருக்கும், அல்லது இல்லாமலும் இருக்கலாம்

பேசில்லரி சீதபேதி :-

இது ஜீனஸ் சிஜ்ஜெல்லா என்னும் பாக்ட்டீரியாவினால் பரவும் ஒரு தொற்றுநோய்.

அடையாள அறிகுறிகள் :-

- இரத்தம் மற்றும் சளி கலந்த மலம் வெளியேறுதல்
- குளிர்காய்ச்சல்
- வயிற்று வலி
- நீர் பற்றாக்குறை

வீட்டு மருத்துவம் :-

- கொதிக்கவைத்து ஆறிய குடிநீரை அல்லது உப்பு சர்க்கரை கரைசலை அதிகம் அருந்துதல்.

விளைவுகள் :-

பேசில்லரி சீதபேதி

- பெருகுடலில் ஒட்டை விழுதல்

நீரினால் பரவும் நோய்களை பரவாமல் தடுத்தல

நீரினால் பரவும் நோய்களை வராமலே தடுத்துக் கொள்ளலாம்.

- முதலாம் நிலை தடுப்பு
- இரண்டாம் நிலைத் தடுப்பு
- மூன்றாம் நிலைத்தடுப்பு

முதலாம் நிலை தடுப்பு முறைகள் :-

ஆரோக்கியத்தை வளர்க்கும் நடவடிக்கைகள் :-

1) **நலக்கல்வி :-**

நீரின் மூலம் நோய்கள் பரவும் முறையை பற்றி நலக்கல்வியை கொடுத்தல். கீழ்க்கண்டவைகளை பற்றி நலக்கல்வியை கொடுக்க வேண்டும்.

- குடிநீர்சுத்தம்
- தன்சுத்தம்
- சுற்றுப்புற சுத்தம் மற்றும் உணவு சுத்தம்

குடிநீர் சுத்தம் :-

பாதுகாக்கப்பட்ட குடிநீர் என்பது நுண் கிருமிகளிலிருந்து விடுபட்டது

- குளோரினை கலந்து குடிநீரை சுத்தம் செய்யலாம்.
- வீட்டில் குடிநீரை சுத்தம் செய்ய 5 முதல் 10 நிமிடங்கள் வரை கொதிக்க வைக்க வேண்டும்.

- கொதிக்கவைத்த சூடான நீருடன் கொதிக்க வைக்காத நீரை கலக்ககூடாது. ஏனெனில் பலவகை நோய்கள் பரவ இது முக்கிய காரணமாகிறது.
- குடிப்பதற்கு முன்பு நீரை சுத்தமான பருத்தி துணிகளாலோ அல்லது நவீன சல்லடைகளாலோ வடிகட்ட வேண்டும்.
- குடிநீரை சுத்தமான பாத்திரத்தில் மூடி வைக்க வேண்டும். மேலும் குடிநீர் பாத்திரத்தை தினமும் சுத்தம் செய்ய வேண்டும்.
- அசுத்தமான கைகளையோ, சுத்தப்படுத்தபடாத டம்ளர்களையே குடிநீருக்குள் நேரடியாக விடகூடாது.
- நீர்குழாய்களில் இருந்து நேரடியாக வரும் நீரை குடிக்க கூடாது.

நீர் மாசு அடைத்தலை தவிர்க்கும் முறைகள் :-

- ஆலை கழிவுகள் மற்றும் ஊர் கழிவுகள், நீர் நிலைகளில் கலக்காமல் தடுத்தல்
- மலகழிவுகளை நிர்நிலைகளில் கலக்காமல் தடுத்தல்
- குடிநீரை சுத்தமான மற்றும் மூடிய பாத்திரத்தில் சேமித்து வைக்கவும்.
- மாசுபடித்த கைகள் நேரடியாக நீர் பாத்திரத்தில் விடகூடாது மற்றும் சுத்தமற்ற டம்ளரை நீர் எடுக்க பயன்படுத்த கூடாது.

தன்சுத்தம் :-

- தினமும் குளிக்க வேண்டும்.
- தினமும் இரண்டு முறை பல்துலக்க வேண்டும்.
- வாரம் ஒருமுறை நகம் வெட்ட வேண்டும்.
- கழிவறைகளுக்கு செல்லும்போது காலணிகளை அணிய வேண்டும்
- கைகளை நன்றாக சோப்பு நீர்கொண்டு மலம் கழித்தபின்பு கழுவ வேண்டும்.
- மலம் கழிப்பதற்கு முன்பும், கழித்த பின்பும் நீரை கழிவரையில் ஊற்றி சுத்தம் செய்ய வேண்டும்.

- விளையாடிய பின்பு கை, கால்களை சுத்தமாக கழுவ வேண்டும்.

சுற்றுப்புற சுத்தம் :-

- சுற்றுப்புறத்தை தூய்மையாக வைத்தல்
- மலம் கழிக்க சுகாதார கழிவறைகளை பயன்படுத்துதல்.
- மலம் கழித்த பின்பு சோப்பு நீரை கொண்டு கைகளை கழுவுதல்
- திறந்த வெளியில் மலம் கழித்தலை தவிர்த்தல்
- நீர் நிலைக்களுக்கு அருகில் நீர் தேங்காமல் பார்த்துக் கொள்ளுதல்
- நீர்நிலைகளை சுத்தமாக வைத்தல்

2) குறிப்பிட்ட தடுப்பு முறைகள்

தடுப்பூசி போடுவதின் மூலம் டைபாய்டு காய்ச்சல் மஞ்சள் காமாலை மற்றும் காலார வராமல் தடுக்கலாம்.

இரண்டாம் நிலை தடுப்பு முறைகள் :-

- விரைவில் நோயை கண்டறிதல்
- முழுமையான சிகிச்சை அளித்தல்
- அதிக நீர் ஆதாரங்கள் கொடுத்தல் (நீர்கொத்து ஆரிய நீர்)
- கொதிக்கவைக்காத நீரை குடிக்ககூடாது மற்றும் பழசாறுகளை கடைகளில் குடிக்க கூடாது.
- கைகழுவும் முறைகளை கடைபித்தல்
- நோயுற்றவரின் வாந்தி மற்றும் மலத்தை தொட்டபின் கைகளை நன்றாக சுத்தம் செய்ய வேண்டும். மற்றும் அந்த கழுவுகளை நீர் நிலைகளுக்கு அருகில் அப்புறபடுத்த கூடாது. அது கண்டிப்பாக கழிவரையில் மட்டுமே அப்புறபடுத்த வேண்டும்.

மூன்றாம் நிலை தடுப்பு முறைகள் :-

நோயினால் பாதிக்கப்பட்டவருக்கு உடனடியாக சிகிச்சை அளிக்காமல் இருந்தால் மிகவும் பயங்கரமான விளைவுகள் உருவாக்கும் அந்த விளைவுகளை தடுக்க மருத்துவரை அணுகி உடனடியாக சிகிச்சை பெறுதல்.

சுருக்கம் :-

இதுவரை நீரினால் பரவும் நோய்கள் எவ்வாறு பரவுகின்றன அந்த நோய்களை பரவாமல் தடுக்க எந்த எந்த முறைகளை பின்பற்ற வேண்டும் என்று பார்த்தோம். இந்தமுறைகளை பின்பற்றி தண்ணீரினால் பரவும் நோய்களை ஒழிப்போம்.

முடிவுரை :-

குடிநீரை சுத்தமாக வைத்துக்கொள்வதன் மூலம் பலவித நோய்கள் பரவுவதை நாம் தடுக்கலாம். நீரினால் பரவும் நோய்களை தடுக்கும் முறைகளை கடைப்பிடித்து சமுதாயத்தை நீரினால் பரவும் நோய்களிருந்து காப்பற்றுவோம்.

PART – I : DEMOGRAPHIC VARIBLES

1) Sex

a) Male b) Female ☐

2) Religion

a) Hindu b) Muslim ☐

c) Christian

3) Occupation of father

a) Daily wages b) Private employee ☐

c) Government employee d) Business man

4) Educational status of the mother

a) No formal education b) Primary Education ☐

c) Higher Education d) Graduate and above

5) Type of the family

a) Nuclear family b) Joint family ☐

6) Type of water facilities available for drinking

a) Well water b) Bore well water ☐

c) Corporation tap water d) Other sources

7) Type of latrine facilities

a) Sanitary latrine b) Open field ☐

8) Area of residence of the school children

a) Urban b) Rural ☐

PART - II

SELF ADMINISTERED KNOWLEDGE QUESTIONNAIRES

Note : Please read the following questions carefully and select the answer and give a tick mark (□) in the appropriate space provide on right side of each questions.

1) What is the need to drink the safe water?

a) To prevent the air borne diseases

b) To prevent the soil borne diseases □

c) To prevent the water borne diseases

d) To prevent the vector borne diseases

2) What is safe water?

a) Pleasant taste b) Free from micro organism

c) Pleasant to smell d) Free from vitamins □

3) What are the common water borne diseases?

a) Malaria & Tuberculosis b) Leprosy & AIDS □

c) Cholera & Typhoid d) AIDS & Malaria

4) What are the mode of transmission of water borne disease?

a) Eating cooked food and inhaling contaminated air □

b) Eating fruits and raw vegetables

c) Eating spicy foods & drinking fruit juice

d) Poor personal hygiene & drinking contaminated water

5) What is Cholera?

a) Diarrheal disease b) Respiratory diseases □

c) Skin disease d) Liver disease

6) Which is the main symptom of cholera?

a) Fever b) Leg cramps

c) Vomiting d) Rice watery stool

7) What is the causative agent for typhoid?

a) Entamoeba histolytica b) Shigella bacilli

c) Salmonella typhi d) Vibrio cholera

8) Which is the symptom of typhoid fever?

a) Fever with chills b) Fever with the joint pain

c) Stepladder fever d) Fever with respiratory infection

9) How fever is reduced in typhoid ?

a) Give ice cold water b) Take rest and sleep

c) Tepid sponging d) Cover with blanket

10) What is the main complication of typhoid fever?

a) Gum bleeding b) Intestinal perforation

c) Renal failure d) Heart failure

11) What is Hepatitis - A?

a) Disease of spleen b) Disease of heart

c) Disease of lung d) Disease of liver

12) What is the causative agent for Hepatitis - A?

a) Hepatitis - A virus b) Hepatitis - B virus

c) Hepatitis - E virus d) Hepatitis - C virus

13) What are the symptoms of Hepatitis - A?

a) Diarrhoea, fever& vision loss

b) Vomiting, leg pain& fever

c) Constipation, back pain& nose bleeding

d) Yellowish skin & eyes, loss of appetite & dark urine

14) What is the causative agent for dysentery?

a) Schigella bacilli b) Salmonella bacillus

c) Vibrio cholera d) Hepatitis - A virus

15) What are the symptoms of dysentery?

a) Cough & joint pain

b) Vomiting & painful urination

c) Common cold & eye pain

d) Painful bowel movement & frequent blood mixed stool

16) Which part of the human body will get affected during dysentery?

a) Large intestine b) Liver

c) Spleen d) Stomach

17) Which one of the following method is used to break the feco - oral transmission of the diseases?

a) Use of sanitary latrine for defecation

b) Use of open field for defecation

c) Control of rats

d) Control of mosquitoes

18) Which method is used to disinfect the water?

a) Oxygenation b) Exposing to sunlight

c) Fluorination d) Chlorination

19) How water should be disinfected in home?

a) Adding salt b) Cooling

c) Boiling d) Adding lemon

20) How long water should be boiled to make it safe for drinking?

a) 1-5 mints b) 30-35 mints

c) 5-10 mints d) 40-45 mints

21) How the drinking water should be stored in the home?

a) Stainless steel vessels b) Covered vessels

c) Open tanks d) Mud pot

22) How many time the vessels should be washed for storing the drinking water?

a) Once in two days b) Once in three days

c) Once in a day d) Once in a week

23) Which one of the following will not contaminate the water sources?

a) Fecal matter mixed with water sources

b) Chlorination of the drinking water

c) Throwing garbage's into the water sources

d) Factory waste mixed with water sources

24) Where the faeces & vomitus of the infected person should be disposed?

a) Near to well b) Sanitary latrine

c) Open space d) Street dust bin

25) Which is the specific protection for prevention of typhoid and cholera?

a) Vaccination b) Drugs

c) Hospitalization d) Nutritious diet

PART – III

SELF ADMINISTERED PRACTICE QUESTIONNAIRES

Sl. No.	Questions	Yes	No
1.●	Do you drink boiled and cooled water regularly?		
2.●	Do you take bath daily?		
3.●	Do you wash your hands after playing in soil?		
4.●	Do you wash your hands with soap and water before eating and after defecation?		
5.●	Do you wash your water bottles daily with soap and water?		
6.●	Do you wash your hands after touching the vomitus and faeces of infected person?		
7.●	Do you trim your nails regularly?		
8.●	Do you use sanitary latrine for defecation?		
9.★	Do you put yours hands directly in to the drinking water?		
10.★	Do you use the unclean utensil to take the water?		
11.●	Do you store the drinking water in clean & covered vessels?		
12.●	Do you avoid drinking water directly coming from over tank/syntex?		
13.★	Do you mix ordinary water with boiled water?		
14.★	Do you eat eatables kept uncovered?		
15.★	Do you wash the fruits before eating?		

● - Positive Question ★ - Negative Question

பகுதி -அ

கீழே கொடுக்கப்பட்டுள்ளவற்றை வாசித்து சரியான பதிலை வலதுபக்கம் கொடுக்கப்பட்டுள்ள கட்டத்தில் குறிக்கவும்.

1. பாலினம்

   அ) ஆண் ஆ) பெண் ☐

2. மதம்

   அ) இந்து ஆ) முஸ்லிம் ☐

   இ) கிறிஸ்துவம்

3. அப்பாவின் வேலை

   அ) தினக்கூலி ஆ) தனியார் நிறுவன ஊழியர் ☐

   இ) அரசு ஊழியர் ஈ) தொழில்லாதிபர்

4. அம்மாவின் கல்வித் தகுதி

   அ) முறையாக கல்வி பயிலாதவர் ஆ) ஆரம்பக்கல்வி பயின்றவர் ☐

   இ) உயர்நிலைக்கல்வி பயின்றவர் ஈ) மேல்நிலைக்கல்வி பயின்றவர்

   உ) பட்டப்படிப்பு மற்றும் அதற்குமேல்

5. குடும்ப வகை

   அ) தனிக்குடும்பம் ஆ) கூட்டுக்குடும்பம் ☐

6. குடிநீர் வசதிகளின் வகை

   அ) கிணற்று நீர் ஆ) ஆழ்குழாய் நீர்

   இ) நகராட்சியின் குழாய் நீர் ஈ) மற்றவை ☐

7. கழிப்பிட வசதிகள்

   அ) சுகாதார கழிவறை ஆ) திறந்த வெளியில் மலம் கழித்தல் ☐

8. பள்ளிக் குழந்தைகளின் வசிப்பிடம்

   அ) நகர்புறம் ஆ) கிராமப்புறம் ☐

பகுதி - ஆ

வரையறுக்கப்பட்ட அறிவுத்திறன் அட்டவணை

கேள்விகளைக் கவனமாக வாசித்து சரியான பதிலை வலது புறத்தில் கொடுக்கப்பட்டுள்ள கட்டத்தில் குறிக்கவும்

1. பாதுகாக்கப்பட்ட குடிநீரை ஏன் பருக வேண்டும்?

   அ) காற்றினால் பரவும் நோய்களைத் தடுக்க

   ஆ) மண்ணினால் பரவும் நோய்களைத் தடுக்க

   இ) நீரினால் பரவும் நோய்களைத் தடுக்க

   ஈ) கொசுக்கலினால் பரவும் நோய்களைத் தடுக்க

2. பாதுகப்பான நீர் என்றால் என்ன?

   அ) சுவையான நீர் ஆ) நுண் கிருமிகளில்லாத நீர்

   இ) மணமிக்க நீர் ஈ) குளோரின் இல்லாத நீர்

3. பொதுவாக நீரினால் பரவும் நோய்கள் யாவை ?

   அ) மலேரியா மற்றும் காசநோய் ஆ) தொழுநோய் மற்றும் எய்ட்ஸ்

   இ) காலரா மற்றும் டைபாய்டு ஈ) எய்ட்ஸ் மற்றும் மலேரியா

4. எந்த முறை மூலம் நீரினால் பரவும் நோய்கள் பரவுகின்றன?

   அ)வேக வைத்த உணவை உண்ணுதல் மற்றும் மாசுயடைந்த காற்றை சுவாசித்தல்

   ஆ) பழங்கள் மற்றும் பச்சை காய்கறிகளை உண்ணுதல்

   இ) காரமான உணவு உண்ணுதல் மற்றும் பாழசாறு குடித்தல்

   ஈ) தன்சுத்தமின்மை மற்றும் மாசுயடைந்த நீரினை குடித்தல்

5) காலரா என்றால் என்ன?

   அ) வயிற்றுப் போக்கு நோய் ஆ) சுவாச நோய்

   இ) தோல் நோய் ஈ) கல்லீரல் நோய்

6). காலராவின் முக்கிய அறிகுறி எது?

அ) காய்ச்சல் ஆ) கால் சதை பிடிப்பு

இ) வாந்தி ஈ) அரிசி கஞ்சி போன்ற மலம்

7). டைபாய்டு காய்ச்சலின் காரணி எது?

அ) என்டமிபா ஹிட்டாலிடிகா ஆ) சிஜ்ஜல்லா பேசில்லா

இ) சல்மோனல்ல டைப்பி ஈ) விப்ரியோ காலரா

8). டைபாய்டு காய்ச்சலின் அறிகுறி எது?

அ) குளிருடன் கூடிய காய்ச்சல் ஆ) மூட்டுவலியுடன் கூடிய காய்ச்சல்

இ) **படிபடியாக காய்ச்சல் அதிகரித்தல் ஈ) சுவாச தொற்றுடன்** கூடிய காய்ச்சல்

9). டைபாய்டு காய்ச்சலை எவ்வாறு குறைக்கலாம்?

அ) குளிர்ந்த நீரை கொடுத்தல் ஆ) உறக்கம் மற்றும் ஓய்வெடுத்தல்

இ) குளிர்ந்த ஒத்திடம் கொடுத்தல் ஈ) போர்வையினால் மூடுதல்

10). டைபாய்டு காய்ச்சலால் முக்கிய விளைவு என்ன?

அ) ஈறுகளில் ரத்தம் வடிதல் ஆ) குடலில் ஓட்டை விழுதல்

இ) சிறுநீரகம் பழுதடைதல் ஈ) இதயம் பழுதடைதல்

11). மஞ்சள்காமாலை என்றால் என்ன?

அ) மண்ணீரல் நோய் ஆ) இதய நோய்

இ) நுரையீரல் நோய் ஈ) கல்லீரல் நோய்

12). மஞ்சள்காமாலையின் தொற்று காரணி எது?

அ) ஹெப்படைட்டிஸ் ஏ வைரஸ் ஆ) ஹெப்படைட்டிஸ் பி வைரஸ்

இ) ஹெப்படைட்டிஸ் இ வைரஸ் ஈ) ஹெப்படைட்டிஸ் சி வைரஸ்

13). மஞ்சள் காமாலையின் அறிகுறிகள் யாவை?

அ) வயிற்றுப்போக்கு, காய்ச்சல் & கண்பார்வை குறைபாடு

ஆ) வாந்தி, கால்வலி & காய்ச்சல்

இ) மலச்சிக்கல், முதுகுவலி, மற்றும் மூக்கில் ரத்தம் வடிதல்

ஈ) மஞ்சள் நிறத்தில் தோல், கண்கள், சிறுநீர் மற்றும் பசியின்மை

14). சிதபேதியின் தொற்றுகாரணி எது?

அ) சிஜ்ஜல்லா பேசில்லை ஆ) சால்மோனல்லா பேசில்லஸ்

இ) விப்ரியோ காலரே ஈ) ஹெப்படைட்டிஸ் சி வைரஸ்

15). சீதபேதியின் போது எந்த உடலுருப்பு பாதிக்கப்படுகிறது?

அ) பெருங்குடல் ஆ) கல்லீரல்

இ) மண்ணீரல் ஈ) வயிறு

16) சீதபேதியின் அறிகுறிகள் யாவை?

அ) இருமல் மற்றும் மூட்டுவலி

ஆ) வாந்தி மற்றும் சிறுநீர் அதிகம் கழித்தல்

இ) சளிப்பிடித்தல் மற்றும் கண்வலி

ஈ) வலியுடன் கூடிய இரத்தம் கலந்த மலம்

17). மல-வாய் மூலம் பரவும் நோய்களை தடுக்கும் முறை எது?

அ) கழிவறையில் மலம் கழித்தல் ஆ) திறந்த வெளியில் மலம் கழித்தல்

இ) எலிகளைக் கட்டுப்படுத்துதல் ஈ) கொசுக்களை கட்டுப்படுத்துதல்

18). நீரிலுள்ள நோய்க்கிருமிகளை நீக்க எந்த முறை பயன்படுத்தப்படுகிறது?

அ) பிராண வாயுவை கலத்தல் ஆ) சூரிய ஒளியில் வைத்தல்

இ) ப்ளூரைடைக் கலத்தல் ஈ) குளோரினைக் கலத்தல்

19). வீட்டில் பயன்படுத்தும் நீரிலிருந்து கிருமிகளை எவ்வாறு அழிக்கலாம்?

அ) உப்பை கலத்தல் ஆ) குளிரவைத்தல்

இ) கொதிக்க வைத்தல் ஈ) எலுமிச்சை சாறு கலத்தல்

20). நீரை பாதுகாப்பான குடிநீராக மாற்ற எவ்வளவு நேரம் கொதிக்க வைக்க வேண்டும்?

அ) 1 - 5 நிமிடங்கள் ஆ) 30 - 35 நிமிடங்கள்

இ) 5 - 10 நிமிடங்கள் ஈ) 40 - 45 நிமிடங்கள்

21). குடிநீரை வீட்டில் எவ்வாறு பாதுகாத்து வைக்கலாம்?

அ) சில்வர் பாத்திரங்கள் ஆ) மூடிய பாத்திரங்கள்

இ) திறந்த தொட்டிகள் ஈ) மண் பானைகள்

22). குடிநீர் சேமித்து வைத்த பாத்திரங்களை எத்தனை நாட்களுக்கு ஒருமுறை சுத்தம் செய்ய வேண்டும்?

அ) இரண்டு நாட்களுக்கு ஒருமுறை ஆ) 3 நாட்களுக்கு ஒருமுறை

இ) தினமும் ஈ) வாரம் ஒருமுறை

23). எந்த முறையைத் தவிர குடிநீர் மாசுபடுகிறது?

அ) மலக்கழிவுகள் நீர்நிலைகளில் கலத்தல்

ஆ) குளோரினை குடி நீரில் கலத்தல்

இ) நீர் நிலைகளில் அழுகிய பொருட்களை கொட்டுதல்

ஈ) தொழிற்சாலைக் கழிவுகள் நீர்நிலைகளில் கலத்தல்

24). தொற்றுநோய் உள்ளவரின் மலம், வாந்தியை எங்கு வெளியேற்ற வேண்டும்?

அ) கிணற்றுக்கு அருகில் ஆ)சுகாதாரக்கழிவறையில்

இ) திறந்த வெளியில் ஈ) தெரு குப்பை தொட்டியில்

25). காலரா மற்றும் டைபாய்டு நோய்களை எந்த குறிப்பிட்ட முறையைப் பயன்படுத்தி வராமல் தடுக்கலாம்?

அ) தடுப்பூசி ஆ) மருந்துகள்

இ) மருத்துவமணையில் அனுமதித்தல் ஈ) சத்துள்ள உணவு

பகுதி - இ

செயல்வழி அறிவுத்திறனை அறிவதற்கான அட்டவணை

வ. ஏண்	பொருள்	ஆம்	இல்லை
1.	கொதிக்க வைத்து ஆறவைத்த நீரைத் தொடர்ந்து குடிக்கிறீர்களா?		
2.	தினமும் குளிப்பீர்களா ?		
3.	மண்ணில் விளையாடிய பின்பு கைகளைக் கழுவுகிறீர்களா?		
4.	சாப்பிடும் முன்பும், மலம் கழித்த பின்பும் சோப்பை உபயோகித்து கைகளைக் கழுவுகிறீர்களா?		
5.	தினமும் தண்ணீர் பாட்டில்களை சோப்பு நீர் மற்றும் பிரஷ் கொண்டு சுத்தம் செய்வீர்களா?		
6.	தொற்றுநோய் உள்ளவரின் மலம், வாந்தியைத் தொட்ட பின் கைகளைக் கழுவுவீர்களா?		
7.	வாரம் ஒருமுறை நகத்தை வெட்டுகிறீர்களா?		
8.	மலம் கழிக்க கழிவறைகளை உபயோகிக்கிறீர்களா?		
9.	உங்கள் கைகளை நேரடியாக குடிநீருக்குள் விடுவீர்களா?		
10.	நீரை எடுக்க சுத்தமில்லாத பாத்திரங்களை உபயோகிப்பீர்களா?		
11.	சுத்தமான, மூடிய பாத்திரத்தில் குடிநீரை சேமித்து வைப்பீர்களா?		
12.	குழாய்களிலிருந்து நேரடியாக வரும் நீரை குடிப்பீர்களா?		
13.	சாதாரண நீரை கொதிக்க வைத்த நீருடன் கலப்பீர்களா ?		
14.	திறந்த வைத்த உணவுப்பொருட்களை உண்ணுவீர்களா ?		
15.	பழங்களை உண்ணும் முன்பு கழுவுவீர்களா ?		

SCORES RELATED TO KNOWLEDGE REGARDING

PREVENTION OF WATER BORNE DISEASES

S. No	A	B	C	D
1	0	0	1	0
2	0	1	0	0
3	0	0	1	0
4	0	0	0	1
5	1	0	0	0
6	0	0	0	1
7	0	0	1	0
8	0	0	1	0
9	0	0	1	0
10	0	1	0	1
11	0	0	0	1
12	1	0	0	0
13	0	0	0	1
14	1	0	0	0
15	0	1	0	1
16	1	0	0	0
17	1	0	0	0
18	0	0	0	1
19	0	0	1	0
20	0	0	1	0
21	0	1	0	0
22	0	0	1	0
23	0	1	0	0
24	0	1	0	0
25	1	0	0	0