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# To assess the Effectiveness of Self-Instructional Module on Knowledge regarding common worm Infestation among School Children at Rural School of Rangareddy District

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**ABSTRACT**

**OBJECTIVES OF THE STUDY:**

1. To assess the level of knowledge regarding common worm infestation among school children by pretest.
2. To develop and administer self-instructional module on common worm infestations.
3. To determine the effectiveness of self-instructional module on knowledge regarding common worm infestation among school children by posttest.
4. To find out the association between level of knowledge regarding common worm infestation with selected demographic variables.

The research approach adopted for the study was a pre-experimental approach. The population for present study consists of school children who can read and understand the Telugu and English. The size of the sample was 60. The sample was selected through non-probability purposive sampling technique.

The Standard tool method was used to collect the required data from school children. The reliability of the questionnaire was assessed by split half method. Correlation Co-efficient was calculated by using Karl Pearson Formula and a value of r=0.9469 was obtained. The investigator conducted study at rural school, Rangareddy Dist.

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## INTRODUCTION

Healthy children make healthy generation. There is a close relationship between unhealthy children to a worsened future of the world. The children are one third of our population and all our future. There are about 200.6 million children belonging to 6 to 12 years globally. Among them, 40% of middle school children are in India.

Children constitute a large section of the population in India. It is a great challenge for the nation to provide health, education, and food to children under 15 years. The school age population comprises 40% of the country, who are dependent, unproductive but has enormous potential.

The formative year of childhood has greater risk for morbidity and mortality. In most cases, the man fold childhood problems are interrelated and affect the growth and development of children, the most common ones being infections, parasitic infestations, and malnutrition. The magnitude of parasitic infestations among children constitutes a major public health problem in many parts of the world. In India, the infestation is particularly heavy in the areas with warm, damp climates with heavy rain fall, as in the west coast.

Worm infestations have a close relationship with socio demographic and ecological factors like poverty, illiteracy, poor personal and environmental hygiene. Children are at special risk due to their activities like play and lack of importance to personal hygiene. From the children, the entire family may eventually get worms and suffer.

Worm infestations are not noticed but can sometimes lead to significant problems, which affect many organ systems. Most of these are a result of unsanitary living conditions and poor food preparation. In countries like India, these constitute an important public health problem, as anemia is caused by hookworm infestation in a considerable number of children.

A wide variety of worms infest humans, ranging from half inch pinworms to tape worms as long as 30 feet. The most important among them are Pinworms, the round worms, and the Hookworms.

Most (not all) of the worms live in the intestines and do not cause prominent symptoms unless they penetrate the intestinal wall and move to another part of the body. Any worm infestation can lead to respiratory or cardiovascular complications as they travel along blood stream.

In India, 225 million preschool and school-age children are estimated to be at risk of infection from worms. India accounts for 65% of soil-transmitted helminth (parasitic worms) cases in Southeast Asia, and 27% of cases globally.

In recent years, India has scaled up its national deworming program, through which almost 250 million children are dewormed twice a year in February and August. This is the largest school-based deworming program globally, and CIFF is working with Evidence Action to support the program.

## NEED FOR THE STUDY

Parasitic infestation with roundworm, hookworm, and pinworm, whip worm are the sources of severe morbidity in children as well as adults. Although mortality from such infestation is low, some intestinal parasitic infections interfere with the nutrition, growth, and development of the children as well as with work and productivity of children. Intestinal parasitic infection (IPI) constitutes a global health burden.

The enteric protozoan parasites and the soil-transmitted helminths are responsible for gastrointestinal disturbances leading to infections. The WHO report states that amoebiasis caused by the protozoan parasite Entamoeba histolytica is most common parasitic cause of morbidity and mortality, with an estimate of about 50 million infections worldwide followed by giardiasis caused by Giardia intestinalis/duodenales and cryptosporidiosis caused by Cryptosporidium spp. Ascaris lumbricoides and Hymnologies nana are the commonest nematode and cestode affecting approximately 1 billion people. The commonest parasitic infections reported globally are Ascaris lumbricoides (20%), hookworm (18%), Trichuris trichiurid (10%) and Entamoeba histolytica (10%) WHO 1987.

Intestinal parasitic infections are a major source of health concern in India like in any other developing nations. The overall prevalence of intestinal infections caused by enteric parasites ranges from 12.5-67% in our country. Limited studies determining the prevalence of intestinal parasitic infections have been published previously from South India. Worm infestation is a major public health problem in children of developing countries because of poor socio-economic conditions and lack of good hygienic living. Helminthic infestations contribute significantly to the global burden of diseases in children, especially in the tropical and sub-tropical regions. Intestinal worm infestation can result in impaired nutrition and development.

Handling food and drinks with unclean hand and dirty fingers is one of the causes how the thread worms enter the body, round worms enter the body through contaminated food and drinking water, the tape worm on the other hand through raw or uncooked meat and through the fecal matter.



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A hook worm enters the body when one walks with bare foot on an infected land. This is how the hygienic living conditions lead to infections. Heavy hookworm burden is the major etiology for iron deficiency anemia in young children.

Helminthic infections have been shown to have many detrimental effects on children's health and their scholastic progress. It causes not only nutritional deficiencies and anemia but can lead to intestinal obstruction in the infested children.

The worm infestation can be prevented by using latrines or toilets rather than open field defecation, by avoiding raw vegetables and not walking bare foot in known infected areas. Children can be de- wormed every six months by administration of Tab.Albendazole or Zentil or any home remedies.

Personal hygiene should be observed throughout life for healthy living. Recognizing hygiene habits for prevention of disease is important for children. In a child-to-child program, a child can be an excellent health messenger and health volunteer in their own community. School children can learn easily to cultivate good habits and to mold themselves. Experts' advice that health education should be a part of school curriculum. All health issues irrespective of their sensitivity can be inculcated in educational programs in methodological and scientific ways.

**PROBLEM STATEMENT:**

To assess the effectiveness of self-instructional module on knowledge regarding common worm infestation among school children at rural school of Rangareddy district.

**OBJECTIVES:**

1. To assess the level of knowledge regarding common worm infestation among school children by pretest.
2. To develop and administer self-instructional module on common worm infestations.
3. To determine the effectiveness of self-instructional module on knowledge regarding common worm infestation among school children by posttest.
4. To find out the association between levels of knowledge regarding common worm infestation with selected demographic variables.

**OPERATIONAL DEFINITIONS**:

**1. ASSESS:** To estimate the knowledge of school children regarding common worm infestation.

**2. EFFECTIVENES:** Determining the efficiency in percentage of correct response and knowledge scores of pretests and post test conducted for school children.

3.**SELF INSTRUCTIONAL MODULE**: It refers to an informational booklet which includes the information regarding meaning of worm infestation causative factors, signs and symptoms, diagnosis, medication, complications, and preventive measures.

4. **KNOWLEDGE:** Refers to response of samples to the questionnaire administered in terms of scores.

5. WORM**:** It is a parasite

6**.WORM INFESTATION:** a worm lives as parasite in stomach and intestine.

7. **COMMON WORM INFESTATION:** It refers to round worm, Hook worm, Thread worm.

**ROUND WORM:** A round worm infection is one of the most common types of human intestinal worm infection. Round worms are round shaped worms. They are red in color and less than half an inch long. A round worm infection, also known as ascariasis, is the most common type of worm infection in humans.

**HOOK WORM:** A Hook worm infection is one of the most common types of human intestinal worm infection. Hook worms are narrow worms. They are brown in color and less than half an inch long.

**THREAD WORM (PIN WORM):** A thread worm infection is one of the most common types of human intestinal worm infection. Pinworms are tiny, narrow worms. They are white in color and less than half an inch long. A pinworm infection, also known as enterobiasis or oxyuriasis, is the most common type of worm infection in humans.

8. **SCHOOL CHILDREN:** Children between 10- 13 years of age.

**ASSUMPTIONS:**

1. School children will have some knowledge regarding warm infestation.



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2. Self-instructional module regarding worm infestation may improve the knowledge level of school children.

3. Selected demographic variables like age, gender, religion, education, occupation of mother, occupation of father, family income, source of drinking water, toilet facilities, does any of your family members are affected with worm infestation, source of previous information etc. will affect the school children knowledge regarding worm infestation.

**HYPOTHESIS:**

**HI:** There will be significant difference between pretest and posttest knowledge Scores of school children' s.

**H2:** There will be significant difference between posttest knowledge scores of school children with selected demographic variables.

**LIMITATIONS:**

- The study is limited to the school children's.
- Who are available during the period of data Collection?
- Able to read and write English or Telugu.
- Who are studying in rural school rangareddy dist.

**CONCEPTUAL FRAMEWORK:**

A framework is the conceptual under pinning of a study. The framework of a specified conceptual model is called the "conceptual". It makes the research findings meaningful and generalized. A conceptual framework is made up of essential concepts of what it presents.

A conceptual model can be defined as a set of concepts and assumptions that integrate them into meaningful configurations.

The development of a conceptual framework is a fundamental process required before conducting actual research, because it guides each stage conceptual framework of present study was adapted by investigator based on Bertanlanffy's general system.

Open systems are those in which there is an exchange of energy material, information with environment. These are characterized by.

- Input of energy into system
- Throughput during which the system process changes, recognized imported energy.
- Output of energy into environment in the form of foods, exercises, intellectual activity

Feedback by which a part of output returns to the system.

**INPUT:** The first component of the system is input, which is the information, energy or matters that enter the system. For a system to work well input should be contributed to achieve the purpose of the system. It refers to demographic data and knowledge on worm infestation. These factors were taken into consideration on input for evaluation the effectiveness in bringing out the change in knowledge level of school children.

**THROUGHPUT:** The action is needed to accomplish the desired task, and to achieve the desired task it is necessary to assess the effectiveness of self-instructional module regarding worm infestation among school children. The following process is adopted. Assessment of knowledge by pretest questionnaire, preparation of self-instructional module on worm infestation, validation of planning teaching, administration of posttest questionnaire, evaluation of self-instructional module.

**OUTPUT** After the input and process, the system returns output to the environment, in an altered state, the result or product of system. Output varies widely depending on the type and purpose of system affecting environment, here output refers to knowledge of the school children regarding worm infestation. If the knowledge level is found to be inadequate, rectification can be done by strengthening the existing knowledge through continuous monitoring which is not under the preview of the system.

**FEEDBACK:** The process of communicating which was found in evaluation of system. The feedback can be measured by output whether knowledge is adequate or inadequate, that is if the school children gain adequate knowledge after administration of self-instructional module or not. The developed will be considered useful to update the knowledge of school children. If the knowledge is adequate, it means that the system input, throughput, must be reevaluated, which is not included.



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## REVIEW OF LITERATURE

The Review of literature is an extensive, systematic selection of potential sources of previous work, acquainted fact-findings after securitizations and location of reference to the problem under study. It clarifies and develops insight into the selected problem under study and to develop a conceptual framework for the study.

1. Literature related to the incidence and prevalence of worm infestation.
2. Literature related to the prevention of worm infestation in children.
3. Literature related to the knowledge of primary school teachers regarding prevention of worm infestation.

### 1. Literature related to the incidence and prevalence of worm infestation

**GUTHOR**

A cross sectional study conducted in rural India to estimate prevalence and risk factors for intestinal geo-helminths and other intestinal parasites in children aged 6 to 23 months. A proportionate population size sampling method was used to randomly select 15 villages per block. Thereafter, house-to-house surveys were done to recruit eligible children and obtain fecal samples for microbiological examination. Overall, 926 children were recruited, and 909 fecal samples were examined. The combined prevalence of infestation within intestinal geo helminths treatable by albendazole and other intestinal parasites non-treatable by albendazole was 50.3% (457/909) and 51.6% (469/909), respectively. Exclusive use of hand pump water (OR 1.7CI 1.36-2.35, P < 0.001) and use of hand pump water plus field defecation increased risk of geo helminths infection (OR 1.75 Cl 1.34-2.30,P < 0.001) while use of well water (OR = 0.45 0.330.60, P < 0.001) and exclusive use of soap and water practice for hand washing after defecation was protective (OR= 0.54, CI 0.40-0.73, P < 0.001).Since almost half the children are infected with intestinal geo helminths treatable by albendazole, targeted deworming of population in this age group should be considered.

**METHODOLOGY**

Research methodology is a systematic way to solve a problem. It is a science of studying how research is to be conducted. The procedures by which researchers go about their work of describing, explaining, and predicting phenomena are called research methodology.

This chapter deals with the steps taken to conduct the present study on worm infestation among school children. It presents the choice of research approach, research design, and description of variables, setting of the study, population, sample, sample size, sampling technique, sampling criteria, development and description of the tool, score interpretation, validity, and pilot study, reliability of the tool, method of data collection, and plan for data analysis.

**RESEARCH APPROACH:** The research approach refers to a general set of orderly disciplined procedures used to acquire dependable and useful information. The research approach is a broad-based procedure for data collection. A pre-experimental approach was adopted for this study.

**RESEARCH DESIGN:** A research design is blueprint for conducting the study that minimizes control over factors that could interfere with validity of the findings.

**DEMOGRAPHIC VARIABLE**

The demographic variable which could influence the knowledge scores of the school children's are age, gender, religion, education, occupation of mother, occupation of father, family income, source of drinking water, toilet facilities, disposal of waste, does any of your family members are effected with common worm infestation, does your school provides good toilet and purified water facilities, source of previous information etc. will affect the school children knowledge regarding common worm infestation.

**SETTING OF THE STUDY:**

**RESEARCH STUDY SETTING** "The study setting is the location in which the research is conducted; it could be natural, partially controlled, or highly controlled. Natural or field setting is an uncontrolled real-life situation. In a partially controlled situation, environment is partially modified to control extraneous variables, while in highly controlled situations, study environment is fully controlled to combat the effect of extraneous variable".

**POPULATION:**

"Population is all elements like individual, objects or subjects that meet certain criteria for inclusion in a study". Target population: rural school at Rangareddy district. Accessible population: 10- 13years of age



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**SAMPALE SIZE:** Present study included 60 school children between 10-13 years of age studying at rural school rangareddy dist.

**SAMPLING TECHNIQUE:**

Purposive sampling was used for choosing the sample. It is one of the non-probability sampling methods and is proceeded with one of the beliefs that researcher knowledge about the population and its elements can be used to hand pick the cases to be included in the sample.

**CRITERIA FOR SELECTION OF SAMPLE:**

**INCLUSIVE CRITERIA:**

- School children who are willing to participate in the study.
- School children who are in age group between 10-13years
- School children who are present in the time of data collection.

**EXCLUSIVE CRITERIA:**

- School children who are not available at the time of study.
- School children who are not willing to participate in the study.

**DESCRIPTION OF SAMPLE:** The sample was described in terms of demographic data, which include age, gender, religion, education, occupation of mother, occupation of father, family income, source of drinking water, toilet facilities, does your school provides good toilet and purified water facilities, source of previous information etc. will affect the school children knowledge regarding common worm infestation.

**DEVELOPMENT OF STRUCTURED QUESTIONNAIRE:** Structured questionnaire on common worm infestation. Content was developed by the Investigator based on the review of literature, and opinion from the experts. It Included a brief introduction of common worm infestations, definition, causes, clinical manifestations, diagnosis, management.

**SELECTION AND DEVELOPMENT OF TOOL:**

The tool is prepared based on the related literature and objectives of the study. The present study included a structured knowledge questionnaire.

**Part-A:** It consists of demographic variable which includes age, sex, religion, education, occupation of mother, occupation of father, family income, source of drinking water, toilet facilities, source of previous information etc.

**Part-B**: It consists of structured questionnaires to assess the knowledge of school children regarding common worm infestation.

**SCORE INTERPRETATION:**

Information regarding bio-socio demographic data was collected from selected adults.

Based upon their answers the correct option is marked on the space provided beside the question.

In the present study, categorization of knowledge was done based on the scores to classify the clients into 3 groups.

| |
|---|
| Below average (0 — 33.33%) |
| Average (33.4-66.6%) |
| Above Average (66.7-100%). |

**METHOD OF DATA COLLECTION:**

The most important and crucial aspect of any investigation is the collection of appropriate information, which provides necessary data for the study.

In the present study the data was collected with the help of a structured questionnaire. It is a method of gathering information from respondents. After being informed about the purpose and nature of the study, the tool was administered. Immediately after pre-testing the investigator provided a self-instructional module regarding worm infestation. After administration of self-instructional module 10 days later, posttest was administered to the school children, which consisted of the structured questionnaire to assess their knowledge.

**RELIABILITY OF THE TOOL:**



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Accordingly refers to the stability, consistency, accuracy, and dependability of an instrument or measurement. Reliability of the knowledge tool was evaluated by the split half method. The co-relation co-efficient is calculated by using Karl Persons formula and the reliability R of the structured questionnaire is found to be r=0.93.

**PILOT STUDY:**

As a part of the investigators educational pursuit the pilot study was conducted in school, Hyderabad with 6% of the sample of the original sample (six samples). To assess the effectiveness of self-instructional module on common worm infestations among school children, to ensure the practicability, feasibility of the study, and appropriateness of the study and to plan for statistical analysis of the data. All the samples were given pre-test followed by the self-instructional module regarding worm infestation. The post-test was conducted after one day to measure the effectiveness of the self-instructional module. Post-test knowledge scores were significantly improved when compared with pre-test knowledge and practice scores. Hence the study was found to be feasible, practicable and appropriate.

**DATA COLLECTION PROCEDURE**

The researchers using a purposive sampling technique, 60 samples were selected who full fill the inclusion criteria. The researcher introduced herself to the school children and obtained consent from each subject after assuring confidentiality. Then the school children were given pre-tests using structured questionnaire regarding common worm infestation, followed by the post-test for knowledge regarding common worm infestation.

**DATA ANALYSIS**

After the data collection, data is organized, tabulated, summarized, and analyzed using descriptive and inferential statistics. Mean and standard deviation, standard error and paired' test were computed from the raw scores obtained in the pre-test and post-test. The values were then compared to assess the impact of self-instructional module. Data analysis and interpretation is organized into three sections.

**SECTION-I:**

Description of the sample characteristics according to their bio-socio demographical variables such as age, sex , religion, education, occupation of mother, occupation of father, family income, source of drinking water, toilet facilities, source of previous information etc.

**SECTION-11:**

Description of the area wise and item wise knowledge scores of the school children in pre-test and post-test on the common worm infestation by comparing the pretest and post-test knowledge scores.

**SECTION-111:**

Relationship between the post-test knowledge scores with selected demographic variables such as age, gender, religion, education, occupation of mother, occupation of father, family income, source of drinking water, toilet facilities, disposal of waste, does any of your family members are affected with worm infestation, does your school provides good toilet and purified water facilities, source of previous information etc. may affect the school children knowledge regarding worm infestation. by using chi-square test.

**SECTION - B**

It Deals with the categorization of school children into three groups such as below average, average, and above average based on the knowledge scores obtained in pre-test and posttest. The effectiveness of the Self-Instructional Module was estimated with the help of paired t-test of significance.

**Table- 1**: **FREQUENCY AND PERCENTAGE DISTRIBUTION OF SCHOOL CHILDREN ACCORDING TO PRE-TEST AND POST-TEST KNOWLEDGE LEVELS.**

| KNOWLEDGE LEVEL | PRE-TEST SCORE | | POST-TEST SCORE | |
|---|---|---|---|---|
| | FREQUENCY | % | FREQUENCY | % |
| BELOW AVERAGE 0-33.3% | 31 | 52% | 0 | 0% |



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| | | | | |
|---|---|---|---|---|
| **AVERAGE 33.4%- 66.6%** | **29** | **48%** | **18** | **30%** |
| **ABOVE AVERAGE 66.7%- 100%** | **0** | **0%** | **42** | **70%** |
| **TOTAL** | **60** | **100%** | **60** | **100%** |

The table shows that in pre-test knowledge level show that 52% of the school children were performance at below average, 48% were performance at average, in the post test knowledge level shows that 30% of the school children were performing average, 70%% of the school children were performing above average.

**Fig 1 LEVEL OF KNOWLEDGE IN PRE-TEST AND POST TEST OF SCHOOL CHILDREN ON COMMONWORM INFESTATION.**

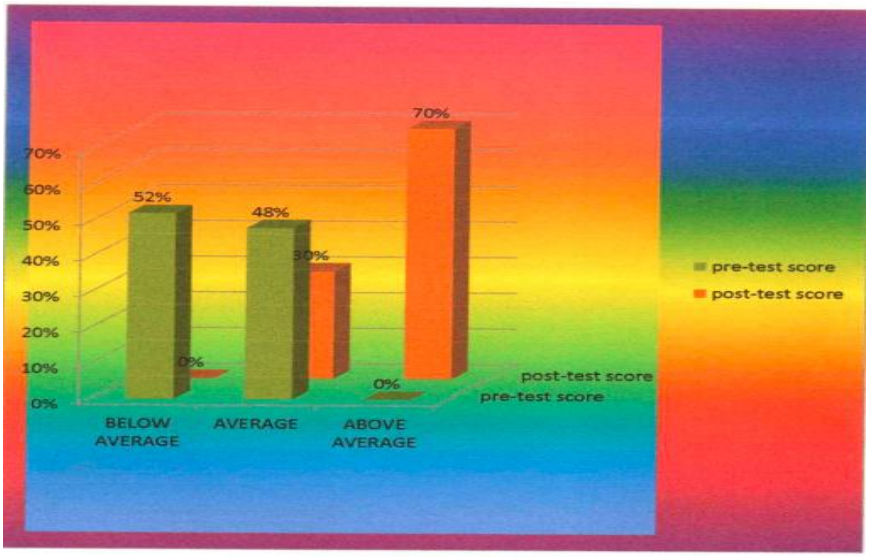


**TABLE -2 DIFFERENCE IN MEANS AND STANDARD DEVIATIONS, PAIRED T VALUE OF THE KNOWLEDGE SCORES OF THE SCHOOL CHILDRENS BETWEEN PRE-TEST AND POST TEST**

**N=60**

| **t-test: paired two sample for means** | | |
|---|---|---|
| | **Post test scores** | **Pre-test scores** |
| **Mean** | **10.95** | **27.5** |
| **Variance** | **20.48** | **29.23** |
| **Standard deviation** | **4.52** | **5.40** |
| **Standard error** | **0.58** | **0.69** |
| **t stat** | **13.86** | |
| **t critical one-tail** | **2.02** | |

Degree of freedom: 59 Calculated paired t-value: 13.86 Table value oft at 5% level of significance: 2.02

The above table shows that the pretest mean is 10.95 and post test scores mean is

27.5.the calculated value of is 13.86 which is much higher than the tabulated 't' value 2.02 at 59 degrees of freedom with 5% level of significance. This shows there is a very significant difference between the knowledge levels of pretest and posttest. By means of that we can conclude that the administered Self-Instructional Module on common worm infestation



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is very effective. The implementation of self-instructional module improved the overall knowledge of school children on common worm infestation.

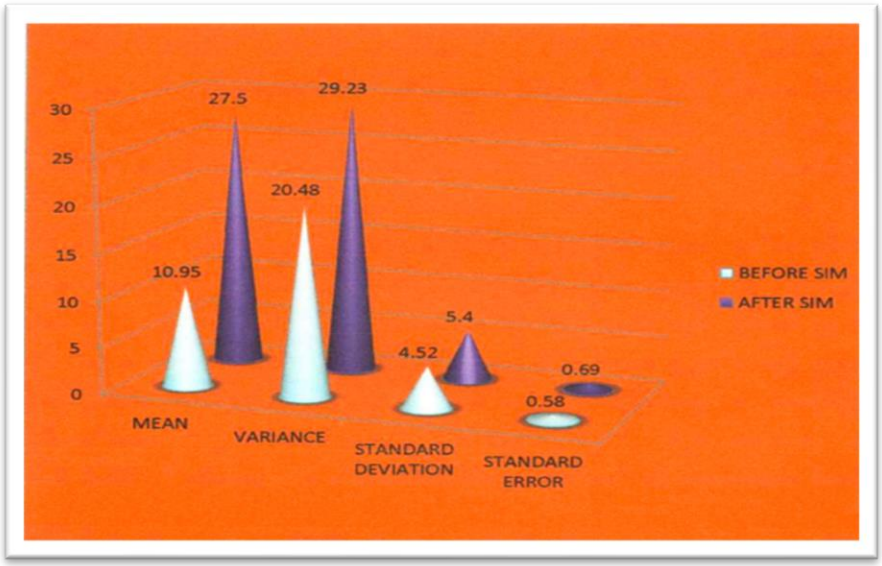


**Fig 2 DIFFERENCE IN MEANS AND STANDARD DEVIATIONSPAIRED T VALUE OF THE KNOWLEDGE SCORES OF SCHOOL CHILDREN BETWEEN PRE-TEST AND POST TEST.**

**SECTION - B**

It deal with the Frequency and percentage distribution of knowledge regarding common worm infestation and item wise frequency and percentage of correct respondents.

**TABLE-3**

**ITEM WISE FREQUENCY AND PERCENTAGE DISTRIBUTION OF CORRECT RESPONSE OF THE SCHOOL CHILDREN REGARDING THE KNOWLEDGE ON COMMON WORM INFESTATION**

| TEMS | AREA OF KNOWLEDGE | PRE-TEST CORRECT RESPONSE | | POST-TEST CORRECT RESPONSE | |
|---|---|---|---|---|---|
| | | FREQUENCY | % | FREQUENCY | % |
| 1 | What is a worm? | 19 | 31.66% | 51 | 85% |
| 2 | What is worm infestation? | 13 | 21.66% | 46 | 76.66% |
| 3 | How many types of worm infestations are commonly seen in children? | 20 | 33.33% | 38 | 63.33% |
| 4 | What are the most common worm infestations seen in children? | 16 | 26.66% | 42 | 70% |
| 5 | Which system is commonly affected by worm infestation? | 17 | 28.33% | 43 | 71.66% |
| 6 | Which season mostly worm infestation occurs? | 14 | 23.33% | 40 | 66.66% |



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| | | | | | |
|---|---|---|---|---|---|
| 7 | Which age group is mostly effected by worm infestation? | 14 | 23.33% | 44 | 73.33% |
| 8 | What is the most common symptom of worm infestation | 18 | 30% | 43 | 71.66% |
| 9 | What are the causes of round worm and -Thread worm infestation? | 06 | 10% | 40 | 66.66% |
| 10 | What is the cause of 1--100k worm infestation? | 19 | 31.66% | 40 | 66.66% |

**TABLE-4**

**ITEM WISE FREQUENCY AND PERCENTAGE DISTRIBUTION OF CORRECT RESPOSES OF THE CHILDREN REGARDING THE KNOWLEDGE ON COMMON WORM INFESTATION**

| ITEMS | AREA OF KNOWLEDGE | PRE-TEST CORRECT RESPONSE | | POST-TEST CORRECT RESPONSE | |
|---|---|---|---|---|---|
| | | FREQUENCY | PERCENTAGE | FREQUENCY | PERCENTAGE |
| 11 | What is the primary source of developing worm infestation? | 17 | 28.33% | 43 | 71.66% |
| 12 | Which of the following symptom is not related with worm infestation? | 13 | 21.66% | 37 | 61.66% |
| 13 | What is the primary diagnostic test to confirm the worm infestation? | 19 | 31.66% | 40 | 66.66% |
| | What can be detected in case of worm infestation? | 16 | 26.66% | 42 | 70% |
| 15 | What medication is used to treat worm infestation? | 13 | 21.66% | | 70% |
| 16 | What is deworming? | 19 | 31.66% | 42 | 70% |
| 17 | What is the frequency of deworming in children? | 15 | 25% | 41 | 68.33% |
| 18 | What is the complication of round worm infestation? | 17 | 28.33% | 37 | 61.66% |



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| | | | | | |
|---|---|---|---|---|---|
| 19 | What is the complication of hook worm infestation? | 11 | 18.33% | 45 | 75% |
| 20 | What is the complication of thread worm infestation? | 19 | 31.66% | 39 | 65% |

**TABLE-5**

**ITEM WISE FREQUENCY AND PERCENTAGE DISTRIBUTION OF CORRECT RESPOSES OF THE CHILDREN REGARDING THE KNOWLEDGE ON COMMON WORM INFESTATION**

| ITEMS | AREA OF KNOWLEDGE | PRE-TEST CORRECT RESPONSE | | POST-TEST CORRECT RESPONSE | |
|---|---|---|---|---|---|
| | | FREQUENCY | PERCENTAGE | FREQUENCY | PERCENTAGE |
| 21 | When is the ideal time for hand washing for preventing worm infestation? | 18 | 30% | 39 | 65% |
| 22 | Which of the following method is correct for maintaining good eating habits? | 20 | 33.33% | 43 | 71.66% |
| 23 | What kind of diet is recommended for worm infestation? | 10 | 16.66% | 39 | 65% |
| 24 | Which method is encouraged for defecation? | 19 | 31.66% | 39 | 65% |
| 25 | Which is the best method for cleaning sanitary latrines? | 11 | 18.33% | 46 | 76.66% |
| 26 | How to prevent chances of worm Re infestation in children? | 17 | 28.33% | 36 | 60% |
| 27 | When is the drinking water considered safe to drink? | 10 | 16.66% | 36 | 60% |
| 28 | What to advice while children play in outdoors to prevent worm infestation? | 16 | 26.66% | 40 | 66.66% |
| 29 | What it is the reason for keeping nails short and trimming ? | 18 | 30% | 38 | 63.33% |
| 30 | what can be noticed in children affected with worm infestation? | 20 | 33.33% | 35 | 58.33% |



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**SECTION-III**

Section Ill deals with relationship between the knowledge of school children on common worm infestation with selected demographical variables as Nonparametric test such as chi square test was applied for testing the association between the post-test knowledge scores and selected demographical variables.

**TABLE: 6**

**CHI SQUARE TEST FOR TESTING THE ASSOCIATION BETWEEN THE POST TEST KNOWLEDGE LEVELS OF SCHOOL CHILDREN WITH THEIRAGE**. N=60

| AGE OF THE SCHOOL CHILDREN | KNOWLEDGE LEVELS | | | | | | TOTAL FREQUENCY |
|---|---|---|---|---|---|---|---|
| | BELOW AVERAGE | | AVERAGE | | ABOVE AVERAGE | | |
| | F | % | F | % | F | % | |
| IOYEARS | - | - | 3 | 5% | 9 | 15% | 12 |
| 11 YEARS | - | - | 3 | 5% | 12 | 20% | 15 |
| 12 YEARS | - | - | 2 | 3.33% | 15 | 25% | 17 |
| 13 YEARS | - | - | 2 | 3.33% | 14 | 23.33% | 16 |
| TOTAL | - | - | 10 | 16 .66% | 50 | 83.33% | 60 |

CHISQUARE: 16.64 df:6 LEVEL OF SIGNIFICANCE: 0.05

The above table shows that: the table value of chi-square at 0.05 level of significance with df 6 is 12.59,as the calculated value of chi-square 16.64 was greater than the table value that shows there was a significant association between post-test knowledge score among school children with age.

**Fig 3 CHI SQUARE PERCENTAGE AND DISTRIBUTION OF SCHOOL CHILDREN ACCORDING TO THE POSTTEST KNOWLEDGE LEVEL WITH THEIR AGE.**



DOI: 10.53555/V23I5/400231

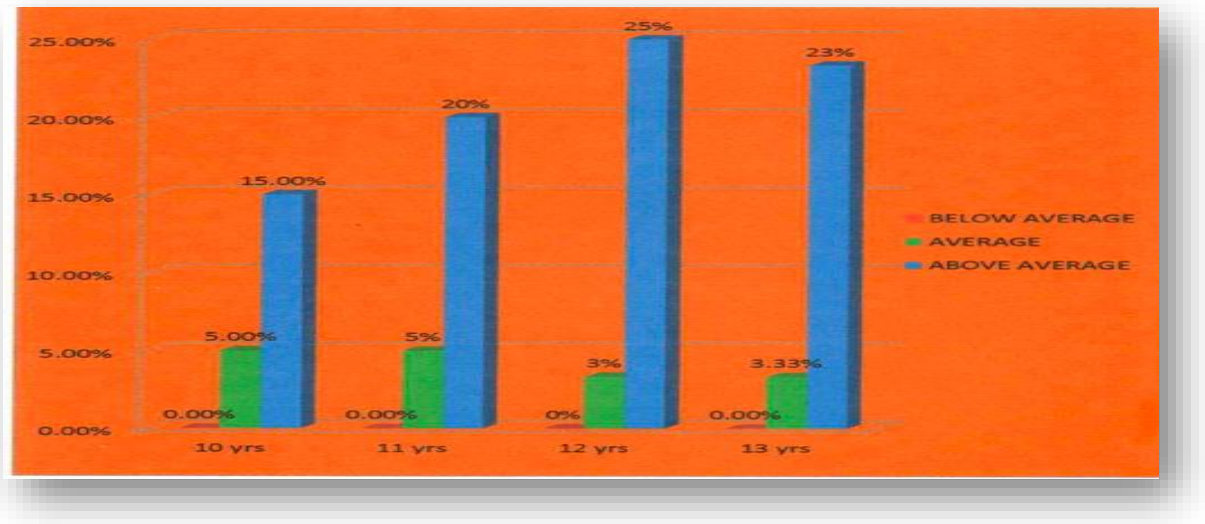



**TABLE: 7**

**CHI SQUARE TEST FOR TESTING THE ASSOCIATION BETWEEN THE POST TEST KNOWLEDGE LEVELS OF SCHOOL CHILDREN WITH THEIR GENDER.**

| SEX OF SCHOOL CHILDRENS | KNOWLEDGE LEVELS | | | | | | TOTAL FREQUENCY |
|---|---|---|---|---|---|---|---|
| | BELOW AVERAGE | | AVERAGE | | ABOVE AVERAGE | | |
| | F | % | F | % | F | % | |
| MALE | - | - | 10 | 16.66% | 20 | 33.33% | 30 |
| FEMALE | - | - | 10 | 16.66% | 20 | 33.33% | 30 |
| TOTAL | - | - | 20 | 34% | 40 | 66% | 60 |

CHI-SQUARE: 2.01 DF=2 LEVEL OF SIGNIFICANCE: 0.05

The above table shows that the table value of chi-square at 0.05 level of significance with df 2 is, 5.99 as the calculated value of chi-square 2.01 was less than the table value that shows there was no significant association between post-test knowledge score among school children with gender.

**Fig 4 CHI SQUARE PERCENTAGE AND DISTRIBUTION OF SCHOOL CHILDREN ACCORDING TO THE POSTTEST KNOWLEDGE LEVEL WITH THEIR GENDER.**



DOI: 10.53555/V23I5/400231

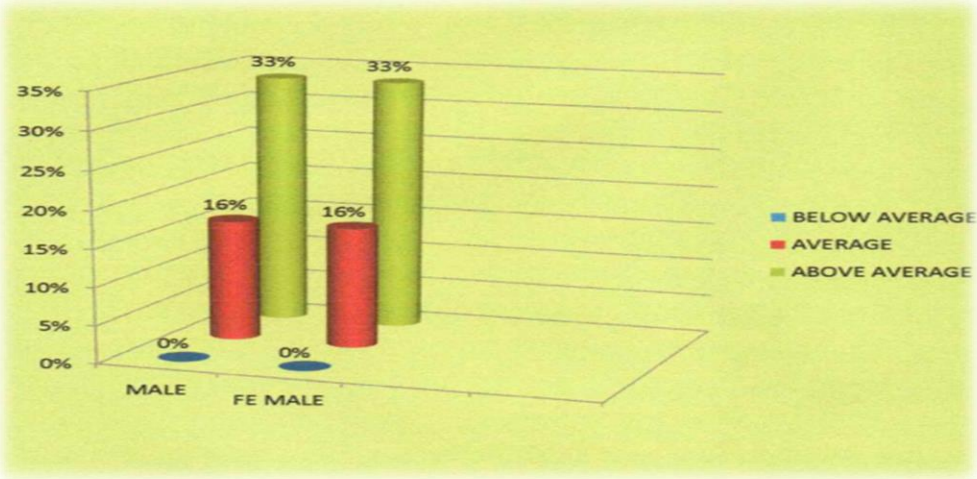



**TABLE: 8**

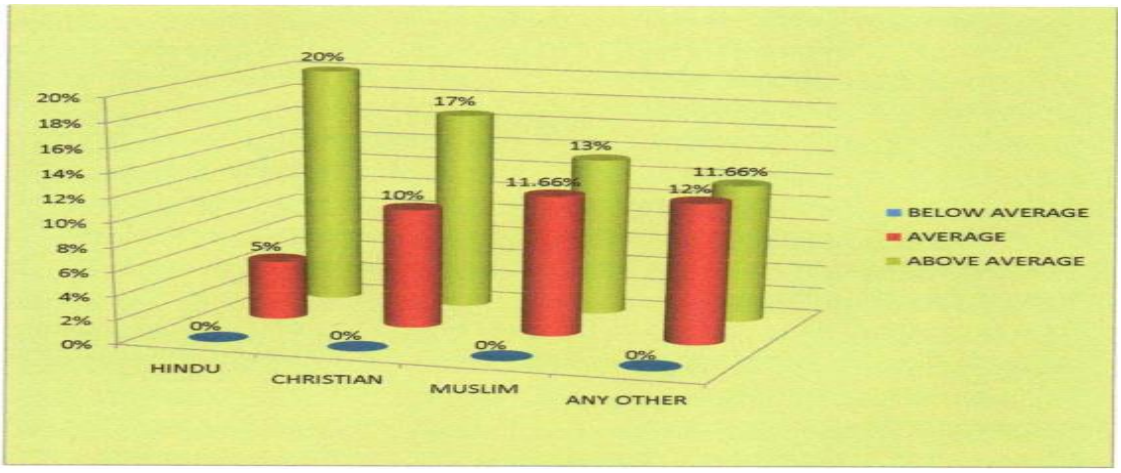
**CHI SQUARE TEST FOR TESTING THE ASSOCIATION BETWEEN THE POST TEST KNOWLEDGE LEVELS OF SCHOOL CHILDREN WITH THEIR RELIGION**. N=60

| EDUCATION QUALIFICATION OF THE SCHOOL CHILDRENS | KNOWLEDGE LEVELS | | | | | | TOTAL FREQUENCY |
|---|---|---|---|---|---|---|---|
| | BELOW AVERAGE | | AVERAGE | | ABOVE AVERAGE | | |
| | F | % | F | % | F | % | |
| Hindu | - | - | 3 | 5% | 12 | 20% | 15 |
| Christian | - | - | 6 | 10% | 10 | 16.66%% | 16 |
| Muslim | - | - | 7 | 11.66% | 8 | 13.33% | 15 |
| Any other | - | - | 7 | 11.66% | 7 | 11.66% | 14 |
| TOTAL | - | - | 23 | 38.32% | 37 | 62% | 60 |

CHI-SQUARE: 0.20 LEVEL OF SIGNIFICANCE: 0.05

The above table shows that: the table value of chi-square at 0.05 level of significance with df 6 is 12.59, as the calculated value of chi-square 0.20 was less than the table value that shows there was no significant association between post-test knowledge score among school children with their religion.

**Fig 5 CHI SQUARE PERCENTAGE AND DISTRIBUTION OF SCHOOL CHILDREN ACCORDING TO THE POSTTEST KNOWLEDGE LEVEL WITH THEIR RELIGION.**






DOI: 10.53555/V23I5/400231

**TABLE: 9**

**CHI SQUARE TEST FOR TESTING THE ASSOCIATION BETWEEN THE POST TEST KNOWLEDGE LEVELS OF SCHOOL CHILDREN WITH THEIR EDUCATION**. N=60

| EDUCATION | KNOWLEDGE LEVELS | | | | | | TOTAL FREQUENCY |
|---|---|---|---|---|---|---|---|
| | BELOW AVERAGE | | AVERAGE | | ABOVE AVERAGE | | |
| | F | % | F | % | F | % | |
| 5TH CLASS | - | - | 3 | 5% | 9 | 15% | 12 |
| 6TH CLASS | - | - | 3 | 5% | 12 | 20% | 15 |
| 7TH CLASS | - | - | 2 | 3.33%% | 15 | 25% | 17 |
| 8TH CLASS | - | - | 2 | 3.33% | 14 | 23.33% | 16 |
| TOTAL | - | - | 10 | 16.66% | 50 | 83.33% | 60 |

CHI-SQUARE: 16.64 LEVEL OF SIGNIFICANCE: 0.05

The above table shows that: the table value of chi-square at 0.05 level of significance with df 6 is 12.59, as the calculated value of chi-square 16.64 was greater than the table value that shows there was a significant association between post-test knowledge score among school children with education.

**Fig 6 CHI SQUARE PERCENTAGE AND DISTRIBUTION OF SCHOOL CHILDREN ACCORDING TO THE POSTTEST KNOWLEDGE LEVEL WITH THEIR EDUCATION.**

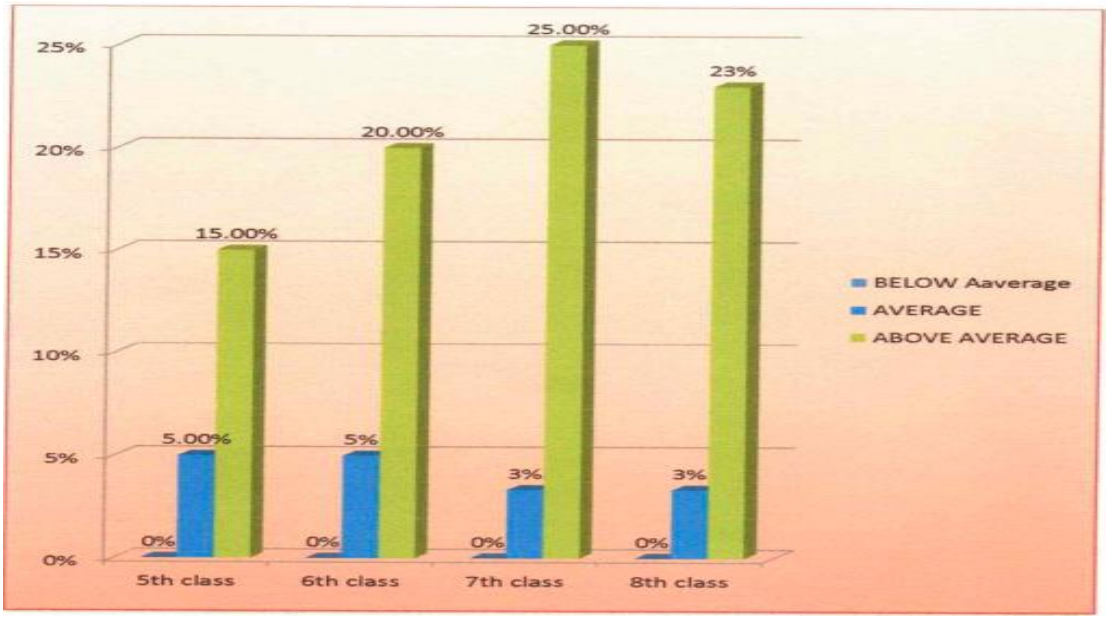



**TABLE: 10**

**CHI SQUARE TEST FOR TESTING THE ASSOCIATION BETWEEN THE POST TEST KNOWLEDGE LEVELS WITH THEIR MOTHERS OCCUPATION**. N=60



DOI: 10.53555/V23I5/400231

| OCCUPATION | KNOWLEDGE LEVELS | | | | | | TOTAL FREQUENCY |
|---|---|---|---|---|---|---|---|
| | BELOW AVERAG | | AVERAGE | | ABOVE AVERAGE | | |
| | F | % | F | % | F | % | |
| LABOUR | - | - | 5 | 8.33% | 10 | 16.66% | 07 |
| HOUSEWIFE | - | - | 5 | 8.33% | 10 | 16.66% | 40 |
| EMPLOYEE | - | - | 5 | 8.33% | 10 | 16.66% | 10 |
| BUSINESS | - | - | 5 | 8.33% | 10 | 16.66% | 03 |
| TOTAL | - | - | 20 | 33.32% | 40 | 66.64% | 60 |

CHI-SQUARE: 3.85 df: 6 LEVEL OF SIGNIFICANCE: 0.05

The above table shows the table value of chi-square at (). ()5 level of significance with df 6 is 12.59,as the calculated value of chi-square 3.85 was less than the table value that shows there was no significant association between post-test knowledge score among school children with their mothers' occupation.

**Fig 7 CHI SQUARE PERCENTAGE AND DISTRIBUTION OF SCHOOL CHILDREN ACCORDING TO THE POSTTEST KNOWLEDGE LEVEL WITH THEIR MOTHERS OCCUPATION.**

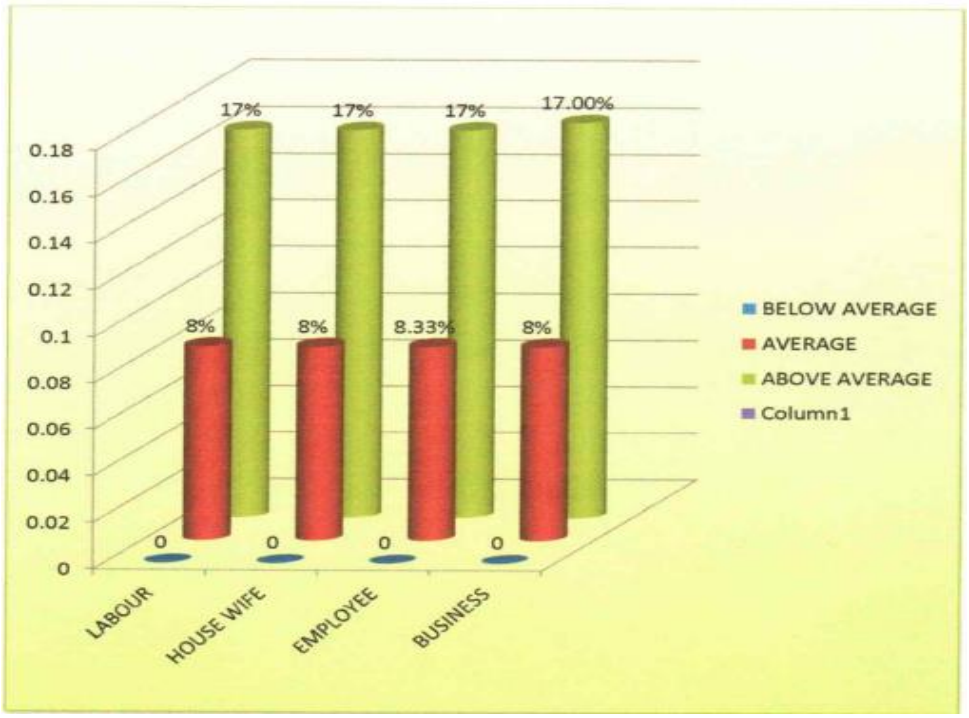



**TABLE:11**

**CHI SQUARE TEST FOR TESTING THE ASSOCIATION BETWEEN THE POST TEST KNOWLEDGE LEVELS WITH THEIR FATHER OCCUPATION**. N=60

| OCCUPATION | KNOWLEDGE LEVELS | | | | | | TOTAL FREQUENCY |
|---|---|---|---|---|---|---|---|
| | BELOW AVERAGE | | AVERAGE | | ABOVE AVERAGE | | |
| | F | % | F | % | F | % | |
| LABOUR | - | - | 4 | 6.66% | 12 | 20% | 16 |
| GOVT | - | - | 3 | 5% | 10 | 16.66% | 13 |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| PRIVATE | - | - | 3 | 5% | 13 | 21.66% | 16 |
| BUSINESS | - | - | 5 | 8.33% | 10 | 16.66% | 15 |
| TOTAL | - | - | 15 | 25% | 45 | 75% | 60 |

CHI-SQUARE: 11.76 LEVEL OF SIGNIFICANCE: 0.05

The above table shows that: the table value of chi-square at 0.05 level of significance with df6 is 12.59, as the calculated value of chi-square 11.76 was higher than the table value that shows there was no significant association between post-test knowledge score among school children's fathers with occupation.

**Fig 8 CHI SQUARE PERCENTAGE AND DISTRIBUTION OF SCHOOL CHILDREN ACCORDING TO THE POSTTEST KNOWLEDGE LEVEL WITH THEIR FATHER OCCUPATION.**

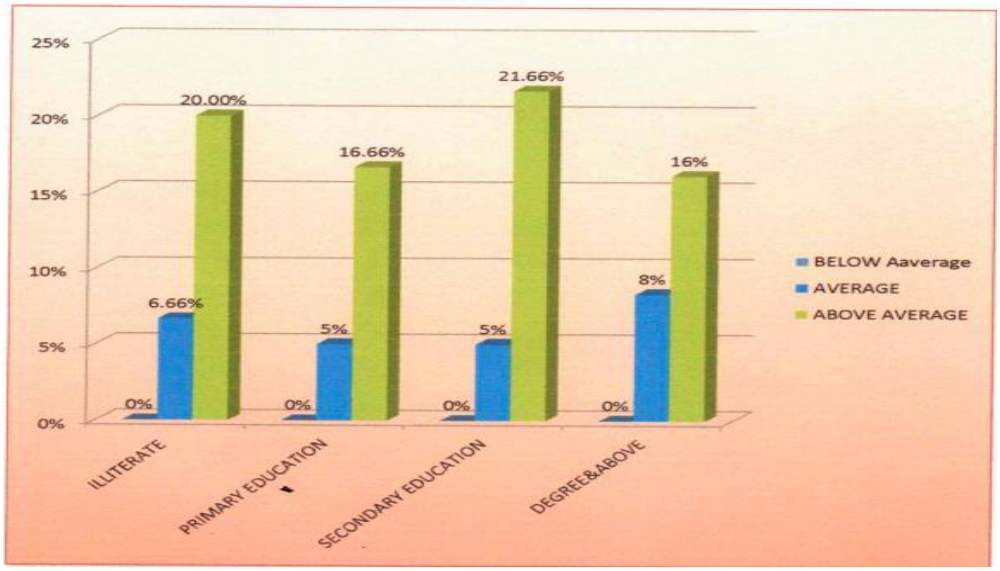


**TABLE:12**

**CHI SQUARE TEST FOR TESTING THE ASSOCIATION BETWEEN THE POST TEST KNOWLEDGE LEVELS AND FAMILY INCOME**. N=60

| FAMILY INCOME | KNOWLEDGE LEVELS | | | | | | TOTAL FREQUENCY |
|---|---|---|---|---|---|---|---|
| | BELOW AVERAGE | | AVERAGE | | ABOVE AVERAGE | | |
| | F | % | F | % | F | % | |
| BELOW 5000 | - | - | 6 | 10% | 4 | 6.66 % | 15 |
| 5001-6000 | - | - | 3 | 5% | 18 | 30% | 6 |
| 6001-7000 | - | - | 4 | 6.66% | 8 | 13.33 % | 13 |
| ABOVE 7000 | - | - | 5 | 8.33 % | 12 | 20 % | 26 |
| TOTAL | - | - | 18 | 30% | 42 | 70% | 60 |



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CHI-SQUARE: 0.42 df: 6 LEVEL OF SIGNIFICANCE: 0.05

The above table shows that : the table value of chi-square at 0.05 level of significance with df 6 is 12.59,as the calculated value of chi-square 0.42 was less than the table value that shows there was no significant association between post-test knowledge score among school children with family income.

**Fig 9 CHI SQUARE PERCENTAGE AND DISTRIBUTION OF SCHOOL CHILDREN ACCORDING TO THE POSTTEST KNOWLEDGE LEVELS AND FAMILY INCOME.**

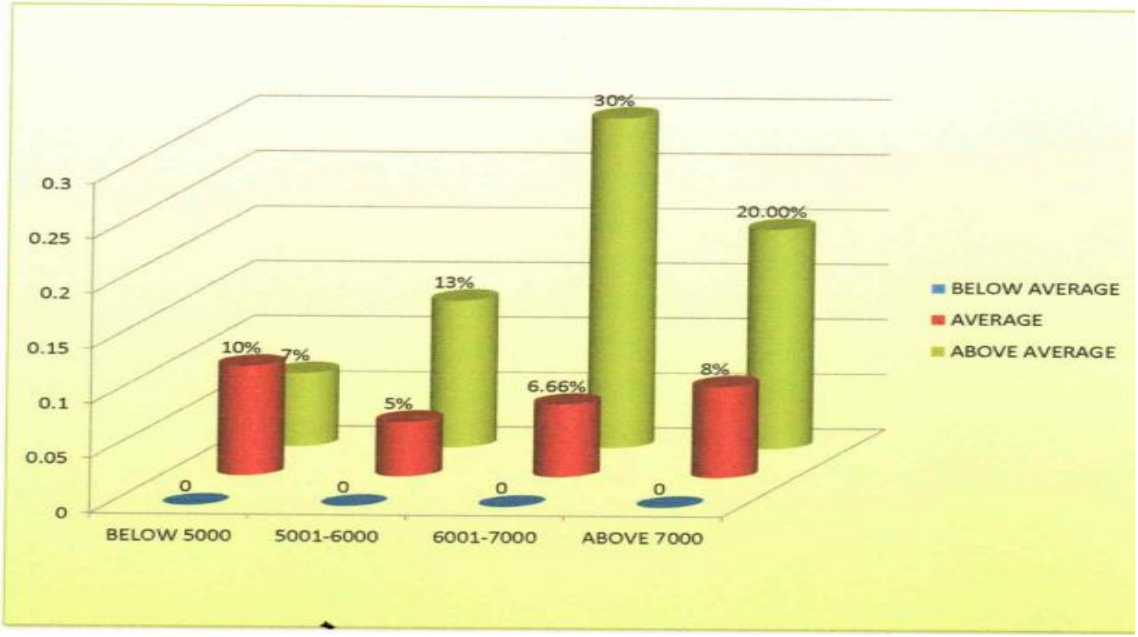


**TABLE:13**

**CHI SQUARE TEST FOR TESTING THE ASSOCIATION BETWEEN THE POST TEST KNOWLEDGE LEVELS SCHOOL CHILDREN AND WITH THEIR SOURCE OF DRINING WATER** . N=60

| SOURCE OF DRINKING WATER | KNOWLEDGE LEVELS | | | | | | TOTAL FREQUENCY |
|---|---|---|---|---|---|---|---|
| | BELOW AVERAGE | | AVERAGE | | ABOVE AVERAGE | | |
| | F | % | F | % | F | % | |
| MUNCIPAL WATER | - | - | 12 | 20% | 20 | 33.33% | 6 |
| OPEN WELL WATER | - | - | 0 | 0% | 0 | 0% | 10 |
| WATER | - | - | 11 | 18.33% | 17 | 28.33% | 17 |
| BORE WATER | - | - | 0 | 0% | 0 | 0% | 27 |
| TOTAL | - | - | 23 | 38.33% | 37 | 62% | 60 |

CHI-SQUARE:O.55 df:6 LEVEL OF SIGNIFICANCE: 0.05

The above table shows that: table value of chi-square at 0.05 level of significance with df6 is

12.59, as the calculated value of chi-square 0.55 was less than the table value that shows there was no significant association between post-test knowledge score among school children with source of drinking water.



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**Fig 10 CHI SQUARE PERCENTAGE AND DISTRIBUTION OF SCHOOL CHILDREN ACCORDING TO THE POSTTEST KNOWLEDGE LEVELS WITH THEIR SOURCE OF DRINING WATER.**

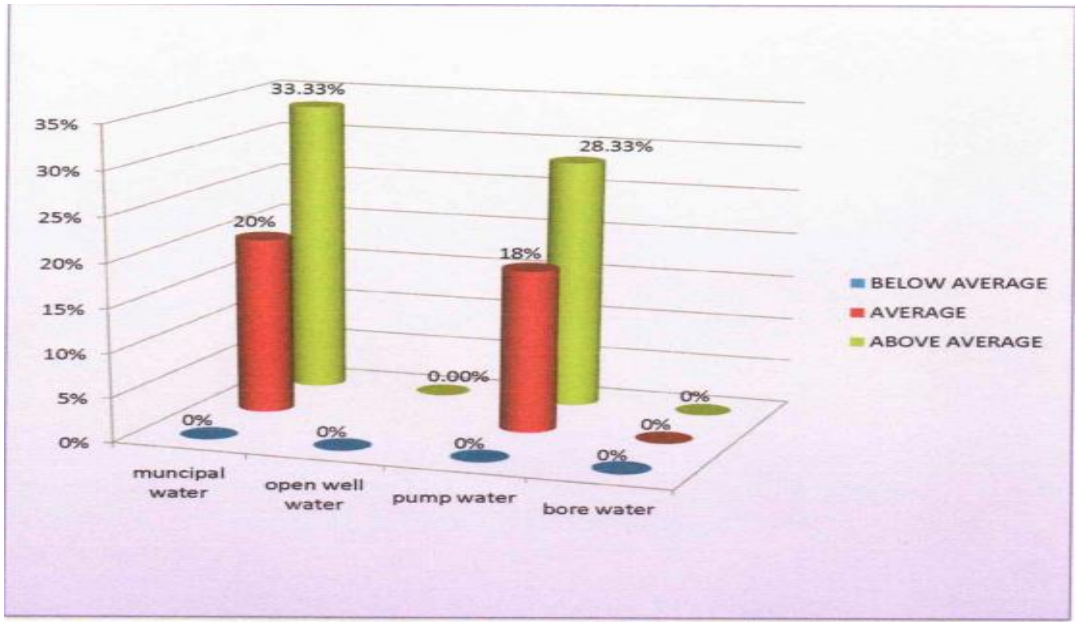



**TABLE:14**

**CHI SQUARE TEST FOR TESTING THE ASSOCIATION BETWEEN THE POST TEST KNOWLEDGE LEVELS SCHOOL CHILDREN WITH THEIR TOILET FACILITES** . N=60

| TOILET FACILITIES | KNOWLEDGE LEVELS | | | | | | TOTAL FREQUENCY |
|---|---|---|---|---|---|---|---|
| | BELOW AVERAGE | | AVERAGE | | ABOVE AVERAGE | | |
| | F | % | F | % | F | % | |
| ATTACHED SANITORY LATRINE | - | - | 10 | 16.66% | | 70% | |
| PUBLIC TOILET | - | - | 0 | 0% | 0 | 0% | 20 |
| OPEN FIELD DEFICATION | - | - | 02 | 3.33% | 06 | | 18 |
| TOTAL | - | - | 12 | 20% | 48 | 80% | 60 |

CHISQUARE: 3.14 df: 4 LEVEL OF SIGNIFICANCE: 0.05

The above table shows that: the table value of chi-square at 0.05 level of significance with df 4 is 9.49, as the calculated value of chi-square 3.14 was less than the table value that shows there was no significant association between post-test knowledge score among school children with toilet facilities.

**Fig 11 CHI SQUARE PERCENTAGE AND DISTRIBUTION OF SCHOOL CHILDREN ACCORDING TO THE POSTTEST KNOWLEDGE LEVELS WITH THEIR TOILET FACILITIES.**



DOI: 10.53555/V23I5/400231

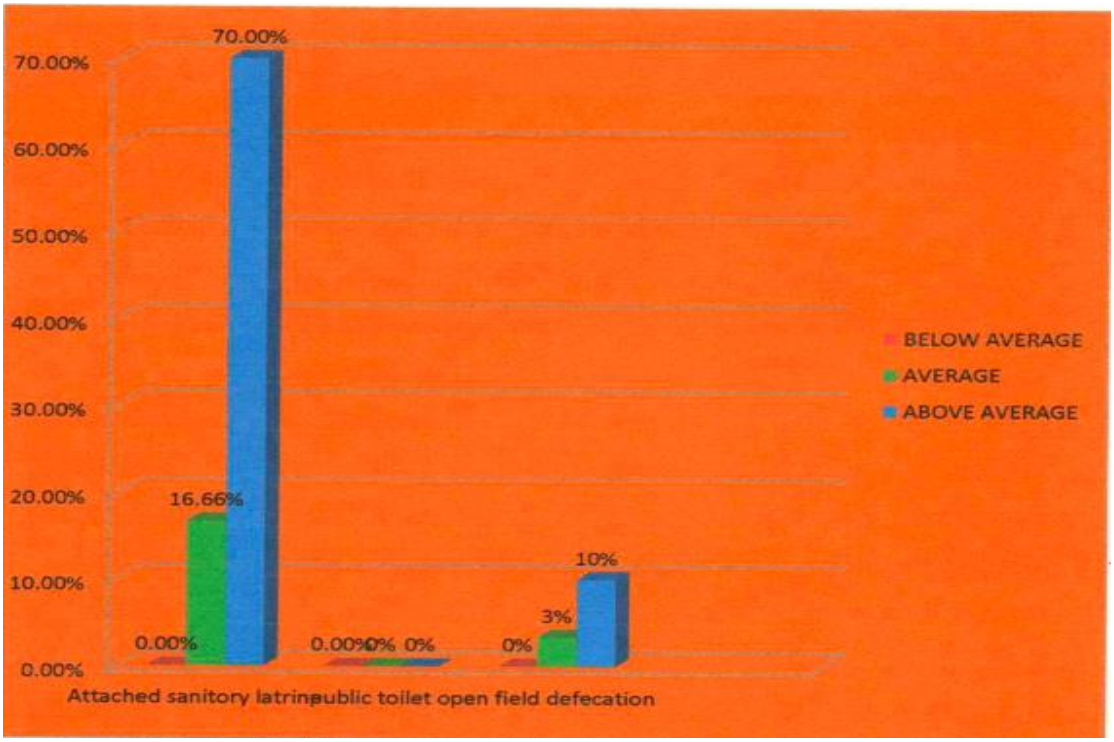



**TABLE:15**

**CHI SQUARE TEST FOR TESTING THE ASSOCIATION BETWEEN THE POST TEST KNOWLEDGE LEVELS SCHOOL CHILDREN AND THE SOUCE OF PREVIOUS KNOWLEDGE** . N=60

| SOURCE OF PREVIOUS KNOWLEDGE | KNOWLEDGE LEVELS | | | | | | TOTAL FREQUENCY |
|---|---|---|---|---|---|---|---|
| | BELOW AVERAGE | | AVERAGE | | ABOVE AVERAGE | | |
| | F | % | F | % | F | % | |
| NONE | - | - | o | 0% | 0 | 0% | 15 |
| BOOKS | - | - | 10 | 16.66% | 15 | 25% | 6 |
| HEALTH PERSONNEL | - | - | 8 | 13.33% | 15 | 25% | 13 |
| MEDIA | - | - | 2 | 3.33% | 10 | 16.66% | 26 |
| TOTAL | - | - | 20 | 32.99% | 40 | 66.66% | 60 |

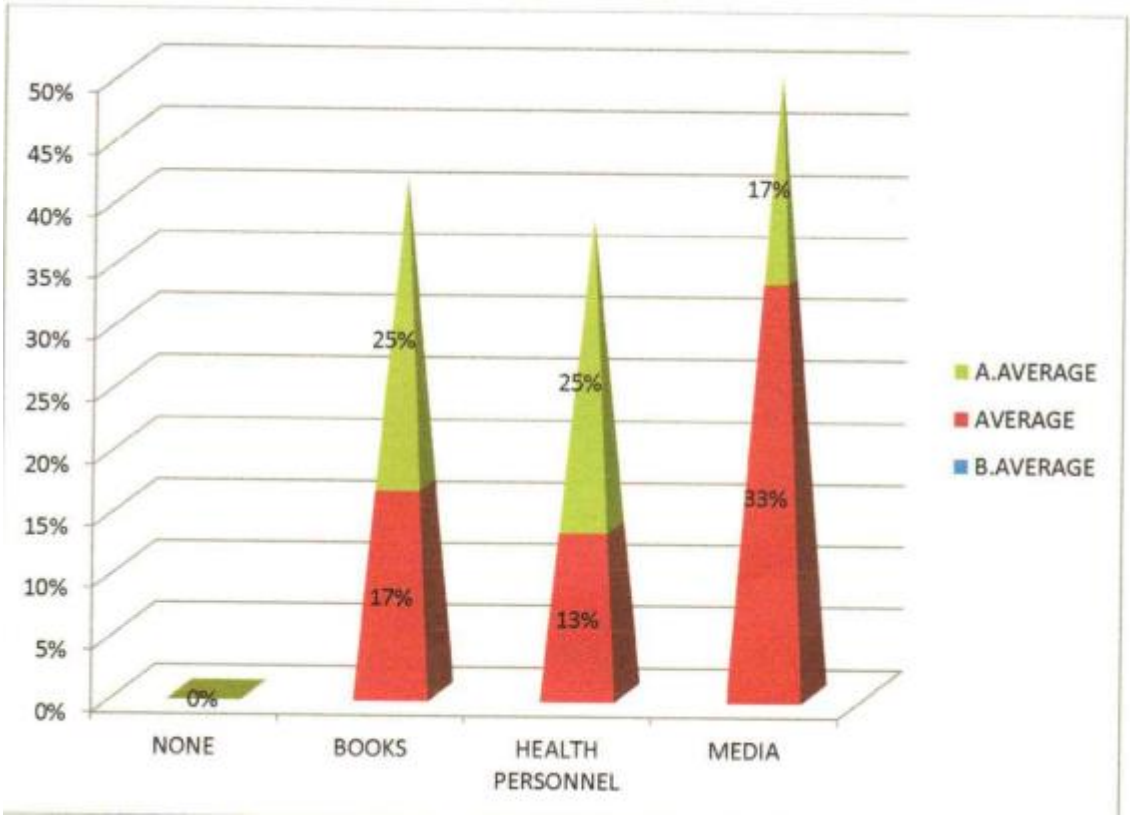
CHI-SQUARE: 0.42 df: 6 LEVEL OF SIGNIFICANCE: 0.05

The above table shows that: the table value of chi-square at 0.05 level of significance with df 6 is 12.59, as the calculated value of chi-square 0.42 was less than the table value that shows there was no significant association between post-test knowledge score among school children with source of previous knowledge.

**Fig 12 PERCENTAGE AND DISTRIBUTION OF SCHOOL CHILDREN ACCORDING TO THE POSTTEST KNOWLEDGE LEVEL AND THE SOURCE OF PREVIOUS KNOWLEDGE.**



DOI: 10.53555/V23I5/400231




**OBJECTIVES:**

1. To assess the level of knowledge regarding common worm infestation among school children by pretest.
2. To develop and administer self-instructional module on common worm Infestations.
3. To determine the effectiveness of self-instructional module on knowledge regarding common worm infestation among school children by posttest.
4. To find out the association between levels of knowledge regarding common worm infestation with selected demographic variables.

The researcher felt that this study would help school children to develop knowledge on common worm infestation. Review of literature helped the investigator to gain insight on common worm infestation and to obtain in depth knowledge to develop the conceptual framework for the study and questionnaire for data collection.

The data was collected with the help of a structured knowledge questionnaire. The questionnaire had 3 sections. Section-I deals with the frequency and percentage of demographic data, section - Il deals with the item wise frequency and percentage of common worm infestation among school children with correct respondent and section —Ill deals with chi-square relationship between the post —test knowledge levels. The questionnaire was given for content validity to nursing and experts in Community Health Nursing. The questionnaire was assessed for reliability by using Karl Pearson's correlation coefficient formula. 'r' value was. 0.92 and the tool was found to be reliable.

The data was analyzed with the help of descriptive statistics and findings were interpreted.

**FINDINGS OF THE STUDY:**

The first objective of the study was to assess the level of knowledge on common worm infestation among school children. To assess the level of knowledge on common worm infestation the investigator administered SIM to the sample. Table-2 shows that out of 60 samples 0 % of school children are below average, 52 % of school children are of average and 48 % of school children are of above average.

The second objective of the study was to find out the association between the level of knowledge on common worm infestation among school children and selected demographic variables. It was seen that there is relationship between the level of knowledge among school children with age, sex, religion, occupation of father and mother, source of previous knowledge, source of drinking water, toilet facilities, source of previous knowledge.



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The Third objective of the study was to evaluate the effectiveness of self-instructional module on common worm infestation among school children by post-test.

The mean scores of the knowledge of school children on common worm infestation before administering, self-instructional module pre-test mean score is 10.95 with standard deviation. 4.52 and post-test mean score is 27.5 with standard deviation 5.40. This clearly indicates the significant difference between the knowledge scores on school children's regarding common worm infestation of pre-test and post-test.

The fourth objective of the study is to find out the association between the post-test knowledge scores with selected demographic variables. The selected demographic variables were age, gender, religion, education occupation of mother and father, income, water facilities, toilet facilities, sources of previous knowledge. There were no demographic variables associated with the knowledge level.

**DISCUSSIONS:**

The present study assesses the level of knowledge on common worm infestation among school children. The study was conducted on 60 school children in selected rural school, rangareddy dist. Data collection was done with the help of the structured knowledge questionnaire. The data was analyzed with the help of descriptive and inferential statistics.

In relation to demographic data, it was observed that out of 60 respondents that 33. 3% of the school children were from the age group between 10 years, 36.6% of the school children were from the age group of 11 years, 16.6% of the school children were from the age group of 12 years and 13.3% were from the age group of above 13 years.33.3% of school children were males,66.7% school children were females,36.6% of the school children were hindus,40% were muslims,23.3% were Christians. 16.6% of the school children who are class, 16.6% of school children were 6$^{ff}$ class,51.6% of school children were7$^{ff}$ class26.6%, school children were 8th class 5.0%.

Analysis of knowledge of school children and effectiveness of self-instructional module on common worm infestation. There was a significant difference in pre-test and post-test knowledge scores. The pre-test mean is 10.95 and post test scores mean is 27.5.the calculated value ort' is 13.86 which is much higher than the tabulated 't' value 2.02 at 59 degrees of freedom with level of significance. This shows that there is an extremely significant difference between the knowledge levels of pre-test and post-test. By means of that we can conclude that the administered self-instructional module on common worm infestation. is highly effective. The implementation of self-instructional module improved the overall knowledge of the school children regarding common worm infestation.

**CONCULSION:**

Following conclusions were drawn based on the findings of the study:

1. All the school children have minimum knowledge on common worm infestation.
2. All the school children have shown a lot of interest in gaining knowledge about the common worm infestation.

**IMPLICATIONS:**

The implications drawn from the present study are of vital concern to the health team including nursing services, nursing education, nursing administration and nursing research.

**Implications to nursing practice:**

The most key role of the nurse is to provide awareness to the public regarding common worm infestation. The nurse plays a key role in disease prevention and health promotion. Several implications can be drawn from the present study for nursing practice. The health personnel have added responsibility in educating the public regarding disease prevention and helped in maintenance of health by modification of lifestyles.

Health education conducted by the health personnel in the hospital and community helps in wider coverage of public in preventing common worm infestation. If nursing personnel provide the necessary information regarding common worm infestation and its prevention by using information booklet, they are the correct persons to educate the school children, thus the school children an understand and they can educate their family members, from family members to the neighbors, from them to the community. Nurses can motivate the public in prevention of disease.

**Implications to nursing administration:**

Nursing administrators should take the initiative in creating policies and plans in providing education to the people. In—service education to be provided to the nursing personnel at various levels to make them aware of common worm infestation and its prevention by nursing administrators. Knowledge and practices regarding prevention of common worm



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Infestation should be updated by utilizing various communication facilities. Health education programs should be included as a part of job—description of various categories of health personnel. The nurse as an administrator also should plan the out—reach activities in collaboration with the other agencies in imparting the knowledge to the community. Programs are to be planned to remove the water logging areas and mosquito breeding places with Civic authorities and voluntary agencies.

**Implications to nursing education:**

The nursing curriculum should emphasize imparting health information to the community using different teaching methods. Nursing students should be educated on health promotion, disease prevention and early detection of disease. The information booklet can be used as an illustrative information module for the students as well as clients and their family members and the community. Every student should be encouraged to provide information to the clients and the community for which they must be prepared properly.

Implications to nursing research:

Since common worm infestation is the re-emerging disease of global concern, more resources should be allocated to do research on common worm infestation a. There is a great need for nursing research in the areas of client education. Health related studies need to concentrate on behavior modifications of people by developing unique teaching programs. Research on newer methods of teaching, focusing on people's interest, community participation and cost—effectiveness are needed.

**LIMITATIONS:**

- The study was limited to school children in selected local schools.
- The study was limited to the school children who were available at the time of data collection.
- The study was limited to the school children who were willing to participate in the study.
- The study was limited to the school children who were all able to read and speak Telugu or English.

**RECOMMENDATIONS:**

- Suggestions for future study:
- The study can be replicated on a large sample to validate the findings of the present study.
- A similar study can be conducted for the other areas of nursing practice.
- An interventional study can be designed to educate the school children regarding common worm infestation to reduce the incidence of common worm infestation.
- The study can be conducted at different community settings to strengthen the findings.

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