International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2020): 7.803

Effectiveness of Planned Teaching Programme on Prevention of Intestinal Worm Infestations in Terms of Knowledge among Mothers in a Selected Rural Community, W.B.

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Abstract: ***The investigator conducts an experimental study to identify "Effectiveness of Planned Teaching Programme on prevention of Intestinal Worm Infestations in terms of knowledge among mothers in a selected rural community, West Bengal." She adopted a quasi-experimental study approach with a pre-test post- test control group design and selected 40 mothers attending I.C.D.S centers (20 mothers in each group) by convenient sampling technique. The structured interview schedule was used to collect data. Results show that the mean difference between pre-test and post-test knowledge scores in the Experimental group is statistically significant for calculated "t" value $t_{19} = 16.8$, $p \leq 0.05$, and post-test knowledge scores between Experimental and Control groups are statistically significant for calculated "t" value $t_{38} = 19.8$, $p \leq 0.05$ which indicates the effectiveness of planned teaching programme. No association between the pre-test knowledge score of the Experimental group with selected demographic characteristics of the sample.***

Keywords: Effectiveness, Planned Teaching Programme, Intestinal Worm Infestation, Knowledge, Mothers having under 6 years of children

1. Introduction

Children as the "Nations supremely important asset" to their family and society. Children are one of the valuable groups of society. Economic, social, political, and environmental changes in society have maximum impact on children. Their development and wellbeing is influenced by a variety of factors including the economic condition of the family, the education status of parents, especially the mother.

Soil-transmitted helminth infection refers to a group of parasitic diseases in human-caused by intestinal roundworms, hookworms, and whipworms. They are the most common infections worldwide. Soil-transmitted worms are transmitted by eggs that are passed in the faces of infected people, as adult worms live in the intestine where they produce thousands of eggs each day. Eggs that are attached to vegetables and salads are ingested when the vegetables are not carefully cooked, washed, or peeled. Eggs are ingested by children who play in contaminated soil and then put their hands in their mouths without washing them. People become infected with hookworm primarily by walking barefoot on contaminated soil.[1]

Worm eggs are often found under the fingernails of the infected person who has scratched the area around the anus. When the infected person uses the contaminated fingers to handle food and eat. The eggs are directly transferred from the anus to the mouth. Eggs may also be spread by house dust, from pets, or through contact with contaminated objects such as bedding, cups, utensils, or doorknobs.[1]

Worm Infestation causes chronic blood loss and depletion of the body's iron stores leading to iron deficiency anaemia . This has implications for child health in terms of retarded physical growth and development. It exerts a significant and harmful effect on various aspects of the economy and quality of life of a community in areas of nutrition, growth and development, work and productivity, and medical care costs.[1]

Worm Infestations are a major problem in children from developing countries due to bad hygienic conditions, it produces nutritional deficiencies and anaemia in children, specially hookworm infestation is present.

Any disease or disorder usually of the intestine is characterized by infestation with parasitic worms. If left undiagnosed Worm Infestations often cause serious health problems and impact a child's ability to attend and perform well in school. It produces nutritional deficiencies, anaemia, stunted growth (physical and mental), psychological problem, and repeated GI and upper RTI infections. All these contribute to high morbidity in children and remain a major cause of high infant and child mortality in our country.[2]

According to the WHO 2011 census, children in the age group of 0-6 years constitute 11.7% of the total population that is nearly about 150 million children in India. By virtue of this large number, they are entitled to a large share of health care.

The children are vulnerable or special risk groups in any population deserving special health care because of their

immaturity and the various stages of growth and development. They are more prone to acquire some infection, certain diseases (diarrhea, vector-borne diseases, helminthic infection, respiratory infection, injuries) affect them as a result morbidity and mortality rates are increased.[3]

Worm Infestations are a major problem in children from developing countries due to bad hygienic conditions, it produces nutritional deficiencies and anaemia in children specially hookworm infestation at present.[1]

The term parasite relates to "any living thing that lives on or in another living organism". Many parasites interfere with bodily function, cause irritation; some destroy the host's tissues and release toxins into the bloodstream.[4]

Helminthic infestation is a serious public health problem, especially in areas of low environmental quality and people of low nutritional status. In the growing stage, children are more susceptible to the ill effects of parasitic attacks, as their need for nutrients is high. In young children physical and mental development may be affected, blood and protein loss and diarrhoea generated often by the presence of worms in the gut. There is also the risk of complications. Many parasites interfere with the process of intestinal absorption of Nutrients.. Children are mainly affected as they are playing in heavily contaminated soil. The continuous presence of worms in marginally nourished children can cause severe anaemia and affect the growth of children. Such infections can be prevented by practices such as safe disposal of excreta, washing hands after defection, wearing slippers, and food hygiene. These can be implemented through effective education.[5]

According to the World Health Organization, 241 million children between the ages of 1 and 14 years are at high risk of parasitic intestinal worms in India. As per the first-post news update on November 24, 2019, At least 241 million children below the age of 14 years are at high risk of getting stomach worms in India.[6]

2. Aims and Objectives

To assess the effectiveness of planned teaching programme on prevention of Intestinal worm infestations in terms of knowledge difference between experimental and control group.

3. Background of the study

A study was conducted with the objective to assess the level of knowledge and effectiveness of planned teaching programmes on knowledge regarding worm infestation among the mothers of under-five children. The experimental pre-test-post-test control group design was used and a probability random sampling technique was adapted to select 92mothers for both groups. The planned teaching programme was implemented only on the experimental group. The results revealed that in the experimental group post-test mean and SD scores i.e. (16±3.56) was significantly higher than the pre-test score i.e. (8.26±3.79) and compared the 't' value, calculated 't' value was (3.76) at the level of significance (0.05) and tabulated with 45 degrees of freedom i.e. (2.01). So, it showed that the planned teaching programme regarding worm infestation among the mothers of under-five children in rural areas was found effective. the present study assessed the knowledge among mothers of under-five children regarding worm infestation and found that mothers had poor knowledge related to worm infestation. After the planned teaching programme on worm infestation, there was significant improvement on knowledge of the mothers of under-five children regarding worm infestation in the experimental group. [6]

According to the 2011 census, 74% of children under 0-6 years lived in a rural areas. WHO(2013) estimated that about 1400 million people worldwide are infected with at least one type of intestinal worm.[7]

A descriptive cross-sectional study was conducted by Saptarshi Banerjee, Soumalya Ray, PrabhaShrivastava, Dilip Kumar Das determining the prevalence of IP and its correlates among under-five children in a rural community in Bhatar Block of PurbaBardhaman West Bengal, India. Mothers/caregivers of 294 under-five children (selected through multistage sampling) were interviewed for background characteristics at the household level, and stool samples from each child were collected, transported, and examined for ova/parasite/cysts following standard guidelines. Statistical analysis of the data obtained was done using SPSS (V20). The overall prevalence of IP was 17.0%. The majority of the intestinal parasites were protozoa (42, 84%), of which the most common was *Giardia lamblia* (24, 48.0%). Age of the child and practice of defecation showed a significant association with IP on logistic regression. The study concluded that Protozoa, mainly *G. lamblia*, contributes to the majority of intestinal parasitic infections among the study population, and children belonging to the age group of 25–60 completed months and with open-field defecation practice have higher.[8]

Department of Community Medicine, Burdwan Medical College, PurbaBardhaman, West Bengal, India There are 115 children attending the three ICDS centers located in the tea garden.. Female children constituted approximately two-thirds (61.5%) of the study population. A little more than half (53.8%) of the children enrolled for the study were from Center 2, while the rest were distributed approximately equally between Centers 1 (25.0%) and 3 (21.2%). The largest section of mothers of the children in the study population had no formal education (75.0%),. One-third (33.5) of the households of children in the study did not have sanitary toilets. The majority of the children/mothers washed their hands before eating/feeding the children (59.6%) or washed their hands with soap after defecation (71.2%). It can be concluded from the study that the proportion of children with STH infestation is low among children <6 years of age attending ICDS centers in the study area probably because of the MDA or de-worming strategy of mass prophylaxis adopted by the government of India. However, certain features were observed in the study like differences in infestation among the three ICDS centers in the village suggesting clustering of cases. High priority must be given to identify high prevalence clusters and institute

effective treatment and preventive measures. Ere saw without footwear during the visits to the garden. Nails were trimmed in approximately half of the children (48.1%) while the rest (51.9%) had untrimmed and dirty nails.[9]

A descriptive study was conducted by B. Varalakshmi, to assess the mothers' knowledge regarding intestinal worm infestations (IWI) at a selected urban community, Sri Ram Nagar, Hyderabad. A sample of 100 mothers was chosen through a convenient sampling technique. The structured Interview schedule was administered to collect data. Findings revealed that the majority of mothers scored below average & average levels of knowledge. A health education model was distributed to improve their practices & improve their health conditions. Emphasis should be laid on educating illiterate mothers regarding the prevention of L.W.I in children."[10]

According to the Asian Pacific Journal of Tropical Biomedicine, (2011), Prevalence and morbidity from intestinal worm infestations are enormous. Many parasitic infections are sometimes asymptomatic. In most rural communities low standard of sanitation and poor socio-economic conditions are obvious predisposing factors to the high prevalence of human intestinal helminthiasis."[11]

According to the Asian Pacific Journal of Tropical Biomedicine, (2009), Intestinal worm infestations among school-age children, tend to occur in high intensity in this age group. It leads to nutritional deficiency and impaired physical development, which will have negative consequences on cognitive function and learning ability. The prevalence of intestinal worm infestation in alarming high in a rural area."[12]

According to the study of Akbar K Ahmed, (2011) Worm infestation is a major problem in children from developing countries due to bad hygienic conditions. It produces nutritional deficiencies &anaemia in children, especially when hookworm infestation is present. The study result showed that out of 283 students, 230 tested positive for intestinal parasites giving a frequency of 81%. Out of 230 positive subjects, Ascarislumbricoides was present in 111 children that are 48%.[13]

Wagbatsoma VA, Aisien MS, (2010) conducted a cross-sectional survey to determine the impact of parents' level of education on the intestinal helminthic status of children. Parents' Illiteracy, poverty with associated poor environmental sanitation practices have been implicated in the heavy burden of helminthiasis among children. In this study 0-15 year children who visited the communicable disease clinic from October 2010 to March 2011 were selected as a study population only 207enlisted children submitted fecal samples for examination and constituted the study sample. The data was collected with a structured questionnaire that was administered by the researcher to mother/caregivers after obtaining the informed consent. Information sought in the questionnaire included the sex and age of the subjects and the level of education of their parents. Out of the 207 faecal samples examined 46(22.2%) had ova of helminths while 161(77.85%) had none helminth ova present in faecal samples are higher in school children than preschool children. The study findings show that improvement in the mother's level of education brought about a decrease in the prevalence of intestinal helminthiasis among the children. Therefore, improvement in female education should be encouraged to reduce the incidence of communicable diseases in the family.[14]

An experimental study was conducted by GeetaPanwanda on the effect of a health education programme on worm infestation in schoolchildren at a selected school of Alur Taluk, Karnataka. The research design was quasi-experimental. A structured interview schedule was administered to assess the pre-test knowledge score on various aspects of worm infestation. Findings revealed that the planned health education programme increased the mean knowledge drastically to about three-fold i.e., from the mean score of 8.2 to 25.1.2 [15]

4. Materials and Methods

The researcher adopted Quasi-experimental research approach considering pre-test post-test control group design. The total population for this study was selected 40 Mother from I.C.D.S Centre. Among them, 20 were selected for the experimental group and another 20 were selected for the control group. For the pilot study experimental group was selected from Simurali 1 GP, Chakdaha Block, and the control group was selected from Simurali II GP, Chakdaha Block. For the final study experimental group was taken from I.C.D.S Centre at Santinagar village, Madanpur-1 GP, and the control group from I.C.D.S Centre at Pratapgarh village, Madanpur- II GP. Structured Interview schedule for background information, educational status, and family income. A Structured Interview schedule was used for assessing knowledge.

For data, collection inclusion criteria included subjects who were available during the study period, willing to participate. Ludwig Bertanffly General System Theory (1968) was used as a conceptual framework.

5. Results and Discussion

The study findings revealed that 50-55% of respondents of both group belong to the age group of 21-25 years. About 55% of respondents in the Experimental group have one child and 60% of respondents in the control group have two children between the age group under 6 tears. About 50-55% of respondents of both the group had education up to primary level. About 60-65% of respondents of both group are using community latrine. 100% of respondents of both group washed vegetables after cutting. The mean post-test knowledge score (31.5) of the Experimental group was higher than the Mean pre-test knowledge score (14.3). The mean post-test knowledge score of the experimental group (31.5) was higher than the mean post-test knowledge score of the control group (13.6) with a mean difference of 17.9. The mean post-test knowledge score of the experimental group was found significantly higher than the mean pre-test knowledge score with a "t" value of at df 19 at 0.05 level. The mean post-test knowledge score of the Experimental group was found significantly higher than the mean post-test knowledge score with a "t" value of 19.8 at df 38 at 0.05

level. For identifying the effectiveness of the planned teaching programme unpaired "t" test was used and the result were significant at 0.05 level of significance which shows the effectiveness of planned teaching programme on prevention of Intestinal Worm Infestation in terms of knowledge. The study findings were supported by the findings of.

6. Conclusion

The study findings revealed that knowledge regarding the prevention of Intestinal Worm Infestation among rural community mothers in west Bengal is not adequate as evident by the structured interview schedule on knowledge. Concluded that they were motivated in enhancing their knowledge through the planned teaching programme.

7. Acknowledgement

The researchers conveyed their grateful thanks to Mrs. Usha Bir, Professor of College of Nursing, Asia Heart Foundation, Kolkata, and Dr. Nirmal Kumar Mondal, Associate Professor of NilratanSircar Medical College and Hospital, Kolkata. They owe their deepest gratitude to PhD Scholar, Siksha "O" Anusandhan (Deemed to be) University, Bhubaneswar, Psychiatric Nursing Faculty, College Of Nursing, R.G.Kar Medical College and Hospital, Kolkata, India for her utmost cooperation. Also, they appreciate the authority of CDPO Chakdaha block, CDPO Madanpur block, and Panchayedpradhan of Simurali GP (I) and (II), Panchayet Pradhan of Madanpur GP (I) and (II) for their compliance and to the participants of the study.

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