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Effectiveness of Structured Teaching Programme on Prevention of Worm Infestation among School Children

Mamta Rajput Nebhinani

College of Nursing, AIIMS, Jodhpur, Rajasthan, India

Research Article

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*For Correspondence

Mamta Rajput Nebhinani, College of Nursing, AIIMS, Jodhpur, Rajasthan, India. Tel: 91-9680580088.

E-mail: mamta_rajput45@yahoo.co.in

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ABSTRACT

Intestinal worm infestation is one of the silent disease which is widely prevalent in developing countries especially India. It can result in impaired nutrition and poor development of children. This pre-experimental research study was conducted on students of 6th and 7th class of Government High School, Kubheri, Mohali, Punjab, India to assess the effectiveness of structured teaching programme on prevention of worm infestation. Total of 35 students were recruited for the study via convenient sampling technique. One group pre-test post-test research design is used to achieve the stated objectives. Data was collected using self-structured knowledge questionnaire on prevention of worm infestation. Results showed that there has been increase in the knowledge of school children after implementation of STP. About 83% of the children had scored marks within good category in the post test. The mean (gain) difference of pretest and posttest knowledge score was 2.83 which was statistically significant at 0.05 level. Further class and mode of defecation were found to have statistical significant association with level of knowledge of school children.

INTRODUCTION

Worm infestation is a major public health problem. It has been estimated that more than 25% of the world's population are infected with worms, with the major incidence occurring in developing countries. It is one of the main health concerns especially among children.^[1-3]

Helminthic infections are more prevalent among school children aged 5-14 years. More than 610 million children of school age are at risk of morbidity due to schistosomiasis or soil-transmitted helminthiases. Overall they constitute 12 percent of total disease burden in children^[4-6]. The main cause of high morbidity and mortality rates due to worm infestation are poor sanitary conditions, open defecation, poor hand washing facilities, and ingestion of contaminated water and vegetables. This risk is further aggravated by lack of awareness regarding prevention of worm infestation among children and parents especially mothers^[5-8]. It deteriorates health status of child and leads to malnutrition, anemia, stunted physical and mental growth, psycho-social problems. It also causes recurrent gastrointestinal and respiratory tract infection^[9-10].

Awareness is a key to prevention of many diseases. Health and hygiene education among school children reduces the transmission and reinfection by encouraging healthy behaviors. Increasing children's awareness of the problem can help to combat the disease.^[9] With this view in mind, researcher felt the need to conduct the present study to assess the knowledge of students regarding worm infestation and to educate them regarding prevention of worm infestation so as to reduce the morbidity and mortality rates in school children.

OBJECTIVES

- To assess the pretest knowledge score on prevention of worm infestation among school children.
- To implement the teaching programme on prevention of worm infestation.
- To assess the posttest knowledge score.
- To compare the pretest and posttest knowledge scores.
- To determine the association between the knowledge scores and various socio demographic variables.

MATERIALS AND METHOD

This pre-experimental research study was conducted on students of 6th and 7th class of Government High School, Kubheri, Mohali, Punjab, India. Total of 35 students were recruited for the study via convenient sampling technique. One group pre-test post-test research design is used to achieve the stated objectives. Data was collected using self-structured knowledge questionnaire on worm infestation which consisted of 2 sections

Section 1: Comprised of the demographic variables that included class, gender, residence, housing, and sources of water supply, education of mother and father & mode of defecation.

Section 2: Comprised of 21 questions regarding worm infestation, its causes, sign and symptoms and prevention. Each correct response was given one mark and incorrect response was given zero mark. Maximum scores of the questionnaire was 21. Subjects with score of 15-21 falls into good category, 8-14 into average category and below 7 into poor category.

A structured teaching programme for imparting knowledge on various aspects of worm infestation especially prevention was developed after consulting books, journals and experts opinion. This programme consisted of introduction about worm infestation, its causes, Sign and Symptoms, Prevention, importance of personal hygiene, Environmental hygiene & food hygiene.

Content validity of tool was determined by taking opinion from nursing experts. A pilot study was conducted on six 6th and 7th standard students of other school of same area to assess the feasibility of study and relevant modifications were made thereafter. The reliability of tool was established by "split half method" using "Karl Pearson coefficient of co-relation". Tool was found to be reliable with reliability of 0.9. Written permission to conduct the study was taken from the Principal of Govt. High School, Kubheri, Mohali and parents of the children were informed about the same. Study subjects were also informed and explained about the purpose of study.

Data collection

Pretest: On first day pretest was conducted. Knowledge questionnaire was administered to each subject. On an average 40 minutes were given to fill the questionnaire.

Intervention: After the pretest single day teaching session was carried out. STP was administered to all the 35 subjects through lecture cum discussion & power point presentation in Punjabi language. The teaching programme consisted of introduction about worm infestation, its causes, Sign and Symptoms, Prevention, importance of personal hygiene, Environmental hygiene & food hygiene. The total time taken for delivering structured teaching programme was 40 minutes.

Posttest: After 7 days of teaching session again Knowledge questionnaire was administered to students to assess the posttest knowledge.

Data analysis: The data collected by the researcher was transferred to a master sheet prepared for each section of tool. The descriptive as (frequency and percentage) well as inferential statistics (Chi square Test) was to fulfil the objectives of study.

RESULTS

Demographic profile of the subjects:

Total of 35 students were enrolled in the study. Out of these 35 school children 54.2% were from 7th class and 45.8% were from 6th class. Majority (65.8%) of students were female. Most (97.1%) of the pupil were from rural areas. All the students had tap water supply in their home. Only 22.9% of the children were living in kutcha houses. As per the education of parents is concerned 91.4% of the mothers and 88.6% of the fathers of school children were educated. Nearly 70% of the children had closed mode of defecation. (Table 1)

Knowledge regarding prevention of worm infestation:

Results indicate the increase in the knowledge scores of school children after implementation of STP as evidenced by **Figure 1**. About 83% of the children had attained good knowledge in posttest. **Table 2** reveals that mean pretest knowledge score of children was 13.88 ± 3.62 whereas after the structured teaching programme the score has been increased to 16.71 ± 2.07 . The mean difference was +2.83 which was statistically significant at 0.05 levels.

Table 1: Frequency and % distribution of school children with reference to demographic variables (N=35)

Demographic variable	N	(%)
Class		
6th class	16	45.8
7th class	19	54.2
Gender		
Male	12	34.2
Female	23	65.8
Residence		
Village	34	97.1
Town	1	2.9
Source of water		
Government supply of water(tap)	35	100
House		
Pucca house	27	77.1
Kuchha house	8	22.9
Education status Mother		
Educated	32	91.4
Uneducated	3	8.6
Education status of Father		
Educated	31	88.6
Uneducated	4	11.4
Mode of defecation		
Open defecation	11	31.4
Closed defecation	24	68.6

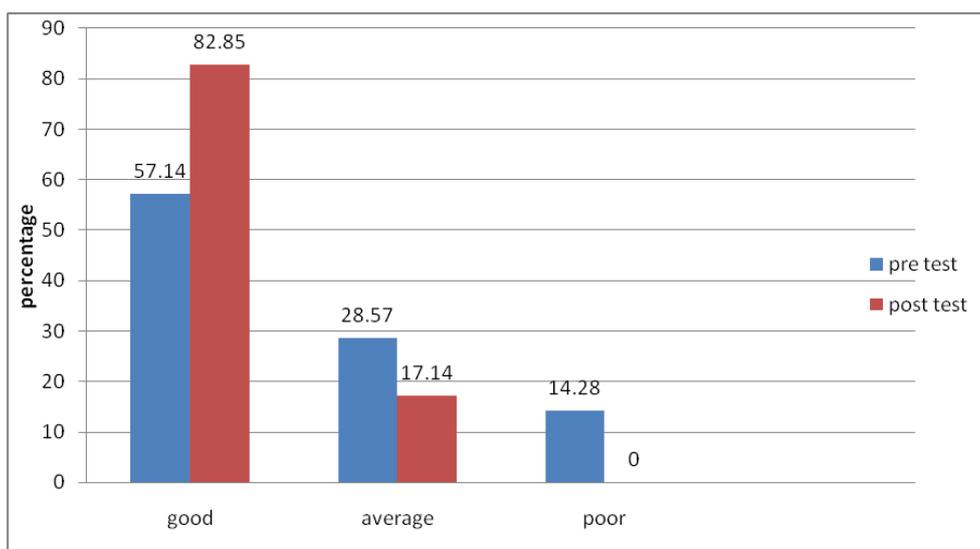


Figure 1: Graph showing the comparison of percentage distribution of pretest and posttest knowledge scores of school children according to their level of knowledge

Table 2: Mean Standard deviation, mean difference and t value of knowledge scores of school children. (N=35)

	Mean	Standard deviation	Mean difference (Gain)	t Value/ df/ p value
Pre test	13.88	3.62	2.83	2.70/34/ 0.05
Post test	16.71	2.07		

Association between the knowledge scores and selected socio demographic variables:

The **table 3** depicts the association of certain socio demographic variables with knowledge score. Only class ($\chi^2 = 39.08$) and mode of defecation ($\chi^2=6.43$) are found to have statistical significant association with knowledge scores whereas other variable like gender, type of house, education of parents, source of water supply ,residence are found to be non-significant.

DISCUSSION

Worm infestation is the common problem among children especially in rural areas. The annual incidence of worm infestation in India is estimated from 51% to76%. Worm infestation is the common but neglected problem especially among school children.

Keeping this view in mind the present study was undertaken in government high school Kubheri, Mohali with an objective to assess the effectiveness of health education program on prevention of worm infestation.

Table 3: Association of posttest knowledge scores with socio demographic variables

VARIABLES	POST TEST KNOWLEDGE SCORE			χ^2	df	Table value
	Good	Average	Poor			
CLASS*						
6 th class	7	6	3	39.08	2	9.21
7 th class	13	4	2			
GENDER						
Male	5	3	4	5.45	2	5.99
Female	15	7	1			
RESIDENCE						
Village	20	9	5	2.51	2	5.99
Town	0	1	0			
TYPE OF HOUSE						
Kuchha	3	0	0	1.79	2	5.99
Pucca	17	7	3			
EDUCATION						
Mother education						
Educated	17	10	5	2.39	2	5.99
Uneducated	3	0	0			
Father education						
Educated	18	8	5	1.38	2	5.99
Uneducated	2	2	0			
MODE OF DEFECACTION*						
Open	5	6	0	6.43	2	5.99
Closed	15	4	5			

*Significant at 0.05 level

The structured teaching programme was found to be effective in increasing the knowledge of school children regarding prevention of worm infestation. More than 80% of the children scored within good category after implementation of STP. The mean gain difference between posttest and pretest knowledge scores was 2.83 which was statistically significant. Similar studies were conducted by Geeta Panwanda (2011) and Sheeja (2009) in different parts of the country which also showed increase in the knowledge scores of school children after implementing structured teaching programme on prevention of worm infestation. [8,11] One of another study conducted by Nirmala Bai et al (2002) in Bellary among hostel students also reported the same results as there was increase in the post test knowledge scores of children after implementing STP and the resulted peak increase in the score was highly significant. [12]

Knowledge scores of students were found to have significant association with certain socio demographic variables such as class and mode of defecation whereas one of the other study conducted by Geeta Panwanda (2011) reported that there was no significant relationship between the posttest knowledge score and selected demographic variables. [8] The different results of study can be due to the small sample size and different research setting.

CONCLUSION

Worm infestation is one of an easily preventable disease. Simply educating the children at grass root level can help to develop awareness among school children and subsequently they become more conscious about their health. More and more educational programmes should be carried out and the health workers, nursing students should be involved in these programmes. Apart from teaching programmes focus should also be placed on providing basic services to children so that a healthy nation can be developed.

Implication and Recommendations of Study

Nursing education

Since today's nursing students are tomorrow's staff nurse, educationist, administrators and supervisors as well nursing teachers. They should put emphasis on health education and method of imparting education in the effective way during their clinical practice. The result of the present study will help improving the knowledge of students/ staff/ health professionals and they will be further motivated to have more and more exposure and knowledge regarding worm infestation. This will further helpful in planning education programme for the community and school children.

Nursing practice

The present study has several implications in nursing practice. Nurses can assess the knowledge related to worm infestation among children. On the basis of the result new strategies, plans can be incorporated into nursing practice which will help in prevention and management of worm infestation.

Nursing research

One of the main aims of the nursing research is to contribute knowledge to the body of nursing to expand and broaden the scope of nursing. This is possible only if nurses are taking initiative to conduct further research. Research should be done to assess the magnitude of worm infestation in community and to find out various innovated methods for effective teaching to improve the knowledge regarding prevention and management of worm infestation. The findings of the present study can be utilised by nurse researcher to contribute to the profession to accumulate new knowledge regarding worm infestation.

Nursing administration

This type of study helps the nurse administrators to apply the various strategies to enhance the community people for maintenance of positive health.

RECOMMENDATIONS

On the basis of the findings, following recommendations are offered for future research:

- The study can be conducted on large number of samples of students selected from different schools for wider generalization of findings.
- A comparative study may be conducted to assess the knowledge of students regarding worm infestations in different schools.
- A study to assess the practices of students regarding worm infestation can be conducted.

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