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A pre-experimental study to evaluate the effectiveness of Planned Teaching Programme (PTP) on knowledge regarding prevention of worm infestation among primary school children in selected schools, Kolhapur

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Abstract

A pre-experimental study to evaluate effectiveness of Planned Teaching Programme (PTP) on knowledge regarding prevention of worm infestation among primary school children in selected schools at Kolhapur". A Pre experimental, one group pretest & posttest research design was used, which consisted a group of 60 subjects that were selected by using Probability, systematic sampling technique. Data was collected by using structured knowledge questionnaire regarding prevention of worm infestation. A PTP was administered to the subjects at the end of the pretest and a post test was conducted 7 days after pretest and from administration of PTP. The result shows that, out of 60 primary school children, In pretest maximum subjects 31 (51.68%) had poor knowledge and 28 subjects (46.66%) had average knowledge and 1(1.66%) of the subjects had good knowledge, where as in posttest 42 (70.00%) subjects had average knowledge, 14 (23.34%) of subjects had good knowledge and 04(6.66%) of the subjects had poor knowledge. The calculated paired 't' value ($t_{cal} = 7.8$) is greater than tabulated value ($t_{tab} = 2.00$). This indicates that the gain in knowledge score is significant at $P < 0.05$ level. The overall knowledge score of subjects was increased by mean difference 5.45 units and median difference was 07 whereas mode difference was 10.1. The variability around the mean of knowledge score distribution was 1.3. The range between the highest and lowest score was increased by 3 units after administering the PTP. The calculated paired 't' value ($t_{cal} = 7.8$) is greater than tabulated value ($t_{tab} = 2.00$). There is significant association between pretest knowledge scores and selected socio-demographic variable like Mode of defecation [$\chi^2_{cal} = 23.85$, $\chi^2_{tab} = 9.49$]. The calculated Chi-square values were higher than tabulated value at 0.05 level of significance this indicates that there is significant association between pretest knowledge scores with their selected socio-demographic variables ($p < 0.05$).

Keywords: Knowledge; worm infestation; prevention; primary school children

Introduction

Worm infestation remains one of the main problems of child development. This is especially a great health hazard in developing countries. Impure water, low socio-economic poor sanitation coupled with low status literacy rates of parents particularly the mothers are the main causes of this prevalent malady. The main cause of worm infestation is poor sanitary conditions such as open air defecation where the eggs of the worms passed through the feces get mixed with the soil and may result in contamination of food and water. Consumption of contaminated food or water with these eggs leads to worm infestation. Children get infected by touching mouth with soiled hands and also eating mud^[1].

India has one of the largest numbers of school going children, especially in rural areas. There are about 6.3lakh rural schools both primary and upper primary with 8 crore school going children. 75% of the children in the age group of 6-14 are attending schools in rural areas. Out of these schools, only 44% have water supply facilities, 19% have urinals and 4% have lavatory facilities. Under these conditions, schools and community environment become unsafe places, where diseases are transmitted, one of the major problems faced by the hundreds of thousands school age children are infections, primarily from contaminated water and poor sanitation and caused by variety of pathogen and parasites^[2].

Worm infection is very harmful, especially in kids, which interferes with the mental and physical health of the children which put their future at risk. It interferes with the nutrient uptake of kids and creates various problems such as anemia, malnourishment, and other mental physical disorders.

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Deworming is a very necessary step taken by the government for children's health, education and productivity. Infected children easily get sick, tired and lose their concentration level [3].

Indian government (Ministry of Health and Family Welfare) launched the National Deworming Day (NDD) in February 2015 as part of the National Health Mission. The aim of this programme is to deworm all the children from 1 to 19 years and improve their well-being. To run the programme successfully and to achieve the goal, all the school teachers and workers are provided special training and resource material. It has emerged as world's largest public health campaign preventing children from intestinal parasitic worms [4].

Need for the study

One of the best aspects of health care reform is it starts to emphasize prevention Anne Wojcicki

Healthy children would turn up into healthy nation of tomorrow. Children's health can be best examined in the light of the level of infant and child mortality prevailing in the society and also it is the most important index of socio-economic development. The high level of infant mortality is an indication of discouraging socio-economic development and along with the poor government commitment for improving health status of its nation [5].

More than 1.5 billion people, or 24% of the world's population, are infected with soil-transmitted helminthes infections worldwide. Infections are widely distributed in tropical and subtropical areas, with the greatest numbers occurring in sub-Saharan Africa, the Americas China and East Asia. Over 270 million preschool-age children and over 600 million school-age children live in areas where these parasites are intensively transmitted, and are in need of treatment and preventive interventions [6].

World Health Organization estimates that 241 million children between the ages of 1 and 14 are at risk of parasitic intestinal worms in India, known as Soil-Transmitted Helminthes (STH). These children represent approximately 68% of children in this age-group and approximately 28% of the number of children estimated to be at-risk of STH infections globally [7].

The intestinal nematodes (soil-transmitted helminths, STH) infestations in tropical and sub-tropical countries are mostly attributed roundworms (*Ascaris lumbricoides*), hookworms (*Ancylostoma duodenale* and *Necator americanus*), and the whipworms (*Trichuris trichiura*). As per recent global estimates for the year 2010, about 819, 439, and 465 million people were worldwide infected with these STHs, respectively, which accounts for about a quarter of the world's population [7].

Interestingly Asia alone accounts for 70% of this burden and India being one of the largest contributors to the global burden with a national population prevalence of 21%. As per the global burden estimation study 2010, the South Asian estimates for population infected with roundworms, hookworms and whip worms are 298, 140, and 101 million people, respectively; this approximates as 18.4, 8.7 and 6.2% regional population prevalence, respectively [7].

From the above statistics and research studies it is clear that there is a need to motivate and improve the knowledge of primary school children in schools on the prevention of worm infestation. Hence the researcher found it relevant to

conduct a study to assess the knowledge regarding prevention of worm infestation among primary school children in selected school at Kolhapur.

Statement of the problem

"A study to evaluate the effectiveness of Planned Teaching Programme (PTP) on knowledge regarding prevention of worm infestation among primary school children in selected schools, Kolhapur"

Objectives of study

1. To evaluate the effectiveness of Planned Teaching Programme (PTP) on knowledge regarding prevention of worm infestation among primary school children. To find out an association between mean pretest level of knowledge score regarding prevention of worm infestation with their selected socio-demographic variables.

Operational definitions

1. **Evaluate:** In this study, it refers to measurement of level of effectiveness of planned teaching programme on knowledge regarding prevention of worm infestation by using structured knowledge questionnaire
2. **Effectiveness :** In this study, it refers to determine the extent to which the planned teaching programme has achieved the desired effect, as expressed by gain in posttest knowledge scores regarding prevention of worm infestation
3. **Planned teaching programme:** In this study, it refers to organized teaching programme for the primary school children to provide information regarding prevention of worm infestation, which includes meaning of worm infestation, types of worm infestation, causes of worm infestation, prevention of worm infestation.
4. **Knowledge:** In this study, it refers to the correct response of the primary school children to the question included in structured knowledge questionnaire regarding prevention of worm infestation express in terms of knowledge scores.
5. **Prevention:** Refers to precautionary measures taken to avoid the occurrence of worm infestation.
6. **Worm infestation:** In this study, It refers Worms are the parasites which live in or on the body of the host, obtain nourishment from it and infect the host which are round worm, thread worm, tape worm pin worm.
7. **Primary school children:** In this study, it refers to children who are studying in 5th and 6th standard & age group between 10 to 13 years.

Assumptions

This study assumes that

1. Primary school children have some knowledge regarding prevention of worm infestation
2. Planned teaching programme will improve knowledge regarding prevention of worm infestation among primary school children.

Hypotheses

All hypotheses were tested at 0.05 level of significance:

H₁ : The mean post-test knowledge score of primary school children regarding prevention of worm infestation is higher than mean pre-test score.

H₂ : There is an association between pre-test knowledge

scores of the primary school children regarding prevention of worm infestation with their selected demographic variables.

Delimitation

This study was limited to 60 primary school children in

selected schools at Kolhapur.

Conceptual framework

Conceptual framework based on General System model by Ludwig von Bertalanffy as shown in fig.1

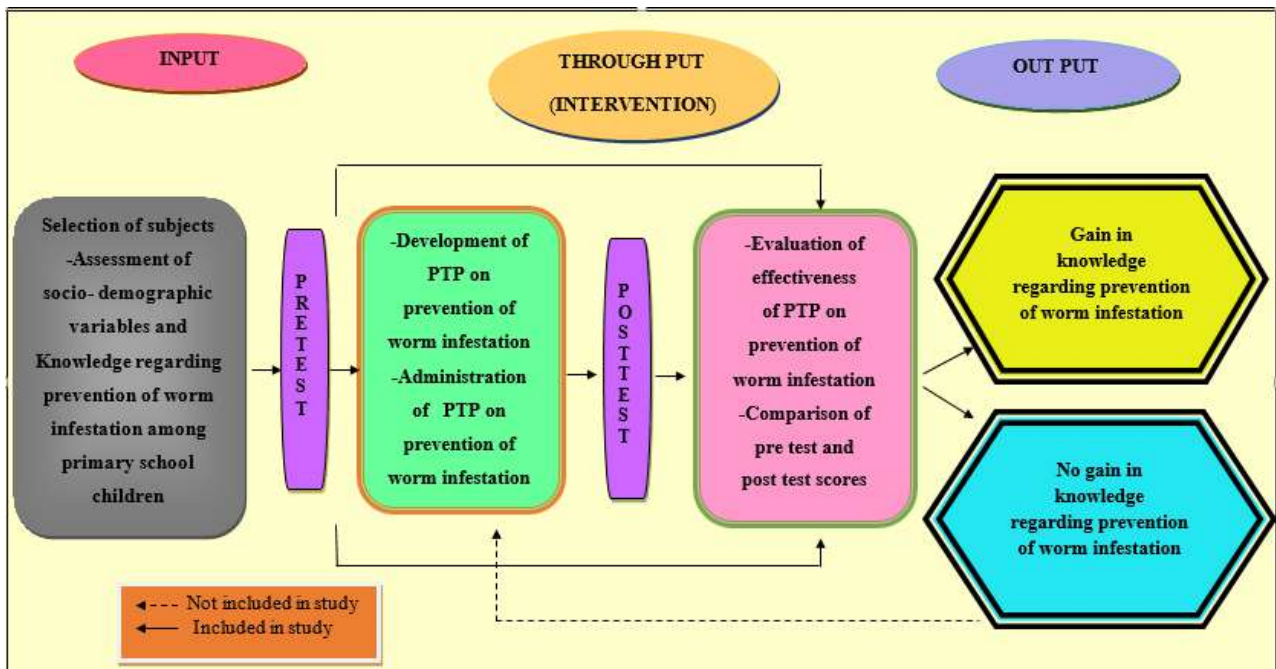


Fig 1: Modified conceptual framework based on general system model by Ludwig von Bertalanffy

Research methodology

Research approach

A quantitative, evaluative survey research approach was considered to carry out the study.

Research design

A pre-experimental; one group pre test-post test research design was used for the study

Research settings

The study was conducted in Prakash Vidya Mandir (Pilot study) and Korgaonkar High School, Kolhapur.

Research population

In the present study, population comprised of primary school children at the selected schools, Kolhapur.

Sample

In this study the primary school children comprised of primary school children who were studying in 5th and 6th standard, fulfilling the criteria at selected schools, Kolhapur.

Sample size

The present study consisted of 60 primary school children studying in 5th and 6th standard. The sample size was selected with the help of the statistician and guide

Sampling technique

The probability, systematic random sampling technique was used to select the samples for the present study.

Variables

Independent variable

In this study, the planned teaching programme (PTP) on

prevention of worm infestation was the independent variable.

Dependent Variable

In this study, the dependent variable was the knowledge of primary school children regarding prevention of worm infestation.

Attribute variables

There were eleven selected socio-demographic variables used in my study, they were age in years, gender, education of children, mode of defecation, habit, dietary pattern, disposal of home made solid waste, habitat, sources of information, education of father, education of mother.

Major findings of the study

1. Findings related to selected socio-demographic variables of the subjects.

In this present study, out of 60 subjects maximum subjects 38(63.34%) were belongs to the age group of 10-11 years, and minimum subjects22 (36.66%) were belongs to the age group of 12-13 years. Maximum subjects 35 (58.34%) were girls and 25 (41.66%) were boys. This is because the overall ratio of the girls was greater than the boys. Maximum subjects 31 (51%) were from 6th standard, remaining 29(48.34%) were from 5th standard. This was because according to school register, overall no. of student studying in 5th standard is more than 6thstandard.Maximum subjects 29 (48.33%) were using public latrine for defecation, minimum 5(8.34) subjects were using open air defecation. This was because the maximum subjects had latrine facility in their own house.

2. Findings related to effectiveness of planned teaching programme on prevention of worm infestation among subjects.

In the present study, out of 60 subjects majority of the 42 (70.00%) subjects had average knowledge, 14 (23.34%) of subjects had good knowledge and 04 (6.66%) of the subjects had poor knowledge. The mean percentage of gain in knowledge regarding prevention of worm infestation among subjects was 18.17%. The overall knowledge score of subjects was increased by mean difference 5.45 units and median difference was 07 whereas mode difference was 10.1. The variability around the mean of knowledge score distribution was 1.3. The range between the highest and lowest score was increased by 3 units after administering the PTP.

The calculated paired 't' value ($t_{cal} = 7.8$) is greater than tabulated value ($t_{tab} = 2.00$). Therefore the findings revealed that the PTP on prevention of worm infestation was effective in increasing the knowledge regarding prevention of worm infestation subjects.

3. Findings related to an association between pre-test knowledge scores with their selected socio-demographic variables scores

In the present study there is significant association between pretest knowledge scores and selected socio-demographic variable like Mode of defecation [$\chi^2_{t_{cal}} = 23.85$, $\chi^2_{t_{tab}} = 9.49$ at $df = 6$]. The calculated Chi-square value was higher than tabulated value at 0.05 level of significance.

The calculated Chi-square values were higher than tabulated value at 0.05 level of significance this indicates that there is significant association between pretest knowledge scores and selected socio-demographic variables ($p < 0.05$). Therefore it was reasonably concluded that PTP on prevention of worm infestation was effective in increasing knowledge regarding among subjects.

Conclusion

Based on the findings of the study, the following conclusions were drawn

The knowledge results reveals that the calculated paired 't' value ($t_{cal} = 7.8$) is greater than tabulated value ($t_{tab} = 2.00$). This indicates that the gain in knowledge score is statistically significant at $P < 0.05$ level. Therefore the findings revealed that the PTP on prevention of worm infestation was effective in increasing the knowledge regarding prevention of worm infestation among subjects. 2. There is significant association between pre test knowledge scores with their selected socio-demographic variable like Mode of defecation [$\chi^2_{cal} = 23.85$, $\chi^2_{tab} = 9.49$] was statically associated with pre test knowledge scores. The calculated Chi-square values were higher than tabulated value at 0.05 level of significance. This indicates that there was significant association between pre test knowledge scores and selected socio demographic variables at 0.05 level of significance. worm infestation was effective in order to gain the knowledge regarding prevention of worm infestation among subjects. Both H1 and H2 hypotheses was accepted

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