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Effectiveness of student-to-student teaching program on prevention and management of worm infestation among school children

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Abstract

Background of the study: Intestinal helminthic infestation is one of the commonest cause of chronic infection in humans in developing countries. It is one of the major causes of childhood malnutrition, anemia, stunted physical and mental growth, and psycho-social problems. Educational Interventions focusing on developing healthier habits in school children through innovative approaches help in reducing the magnitude of this problem. **Aims and objectives:** The aim of the study was to assess the effectiveness of student-to- student teaching programme on prevention and management of worm infestation among school children in a selected school at Mysuru. **Methods:** Research design adopted for the study was pre-experimental, one group pre-test, post-test design. Convenience sampling method was used to select 60 school children for the study. The knowledge of school children regarding prevention and management of worm infestation was assessed using SKQ. Student-to-student teaching programme was conducted for the children to create awareness regarding prevention and management of worm infestation. **Results:** The results of the study revealed that 86.6% of school children students were having poor knowledge regarding prevention and management of worm infestation. Student-to-student teaching program was an effective strategy to increase the knowledge of school children as indicated by the computed 't' value which was statically significant at 0.05 level of significance t_{59}=16.01 P<0.05. **Conclusion:** Student-to-student teaching programme was effective in increasing the knowledge of school children regarding prevention and management of worm infestation and the study findings stresses the increasing responsibility of health professional in planning and implementing various innovative educational strategies to improve the knowledge of school children regarding the major health issues.

Keywords: Worm infestation, Student-to-Student teaching program, Prevention and management of worm infestation, Educational strategies.

INTRODUCTION

Soil-transmitted helminth infections are among the most common infections worldwide and affect the poorest and most deprived communities. More than 1.5 billion people, or 24% of the world's population, are infected with soil-transmitted helminth 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.. Amoebiasis, ascariasis, hookworm infection, and trichuriasis are among the ten most common infections in the world [1].

Worm infestation is a major public health problem in children of developing countries because of poor socio-economic conditions and lack of good hygienic livings. Helminth infestation contributes significantly to global burden of disease in children especially in the tropical and subtropical regions. Low socio-economic status, poor sanitation coupled with low literacy rates of parents particularly the mothers are the main causes for this problem [2].

Health status of the children of a nation is a highly reliable index of the health of its population. School going children contribute around 40% of the population. School children aged 5 - 12 years suffer the highest infection rate and worm burden that attributes to poor sanitation. Over 267 million preschool-age children and over 568 million school-age children live in areas where these parasites are intensively transmitted, and are in need of treatment and preventive interventions [1].

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Intestinal parasitic infections are responsible for considerable morbidity and occasional mortality among infected population throughout the world. It can result in impaired nutrition and development in children. Children have the greatest risk of morbidity due to soil transmitted helminth infections, which have a particularly debilitating effect on their health and cognitive development, causing anemia, malnutrition, stunted growth, and learning delays [2].

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. The global Strategy is health for all which move towards primary health care that can be possible only by encouraging the community participation and mobilizing the community resources.

Health education, an effective tool which aims at promoting health should therefore be given at a young age when habits are formed in the childhood and the child is in the process of beingeducatedtoleadacivilizedlifetakingresponsibilitiesinthesociety. Student-to -student approach to health education is an innovative, simple, cost effective and participatory approach that makes use of the potentials of children to maximize the spread of health information.[3]

STATEMENT

Effectiveness of student-to-student teaching program on prevention and management of worm infestation among school children.

OBJECTIVES

1. To assess the knowledge of school children regarding prevention and management of worm infestation.

2.To evaluate the effectiveness of student-to-student teaching program on prevention and management of worm infestation among schoolchildren.

3 To determine the association between the knowledge and the selected personal variables of school children.

HYPOTHESES

H_1. Mean post test knowledge scores of school children regarding prevention and management of worm infestation will be significantly higher than their mean pre test knowledge scores.

H_2. There will be significant association between the knowledge regarding the prevention and management of worm infestation and the selected personal variables of school children.

MATERIALS & METHODS

An evaluative approach using Pre experimental research with one group, pre-test post-test design was employed to determine the effectiveness of student-to-student teaching program on prevention and management of worm infestation among schoolchildren. Data related to the demographic variables of school children and the knowledge of school children regarding prevention and management of worm infestation was collected using structured questionnaire. Tools were validated by the subject experts and Split half method was used to establish the reliability of the tool. Pilot study was conducted to assess the feasibility of the tools.

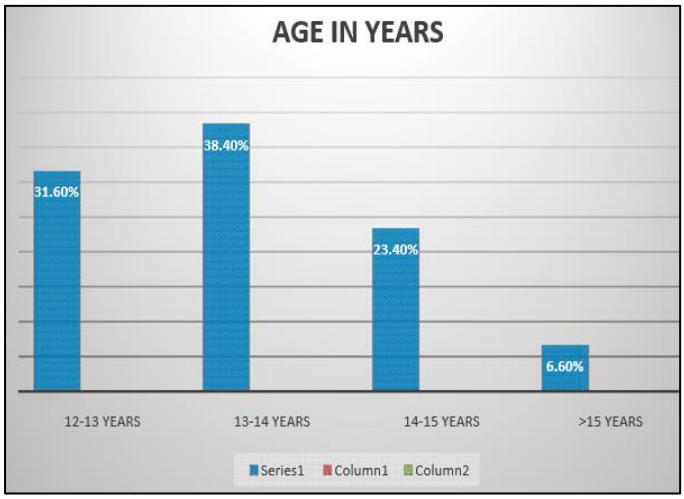
Formal administrative permission for conducting the study was obtained from the principal of the selected school. Convenience sampling was used to select 60 students studying in 8th and 9th standards of the selected school. An informed consent was obtained from each sample indicating their willingness to participate in this study. Structured knowledge questionnaire was administered to 60 selected participants to assess the existing knowledge of students regarding prevention and management of worm infestation.

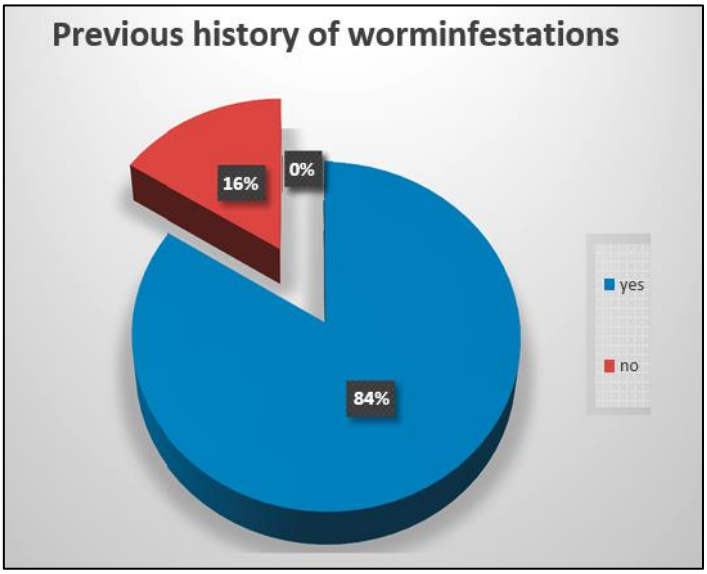
Student to Student teaching program on the prevention and management of worm infestation was done on the same day.Students were divided into 6 groups and from each group 1 student was identified as the student leader (Based on the reference of class teacher). 6 student leaders were trained by the Investigator. The training program included lecture and discussion regarding, definition, risk factors, signs and symptoms, diagnosis, complication, management and prevention of worm infestation using slides and models. All the queries of the leaders regarding prevention and management of worm infestation were clarified by the investigator. This was followed by training of remaining students in the 6 groups by the trained student leader under the supervision of investigator. Student-to-Student teaching program has taken approximately 15-20 minutes. Structured knowledge questionnaire was administered on the 7th day for all students to assess the posttest knowledge regarding prevention and management of worm infestation.

RESULTS

1. Findings related to the selected personal variables of Schoolchildren.

Of the total60 school children, 60% of school children were males and 38.4% were in the age group 13-14 years.. Data related to the educational qualification of parents of school children revealed that majority of parents (38.4%) had High school education. 84% of school children had previous history of worm infestation. Majority of school children (93.4%) had no previous exposure to any educational program on worm infestation.





2. Knowledge of school children regarding prevention and management of worm infestation

Table 1: Description of frequency and percentage distribution of knowledge scores of school children according to their pre-test and post-test scores **n=60**

Knowledge status	Pre-test	Post-test
Good knowledge	00	23
Average knowledge	08	30
Poor knowledge	52	07

Table 1 shows that in the pre-test, majority of school children (86.6%) had poor knowledge, 13.4% had average knowledge and no one had good knowledge regarding the prevention and management of worm infestation. In the post-test, there was an increase in the knowledge level of school children i.e., 38.3% scored good knowledge and 50% scored average knowledge

Table 2: Mean median, range and standard deviation of knowledge scores.

n=60

Test	Mean	Median	Range	Standard deviation
Pre-test	8.8	07	04-16	±1.77
Post-test	13.06	13	07-21	±3.20

The mean pre-test knowledge score was 8.8 with standard deviation of ±1.77 and the mean post-test knowledge score was 13.06 with the standard deviation of ±3.20. This indicates that there was an increase in knowledge scores of school children after the student- to student teaching program.

Significance of difference between the mean pre-test and post-test knowledge scores of school children regarding prevention and management of worm infestation

Table 3: Mean, Mean difference and Standard deviation difference of pre-test and post-test knowledge scores of school children.

n=60

Knowledge	Mean	Mean difference	S.D difference	"t" Value
Pre-test	8.8			
		4.26	1.43	16.01
Post-test	13.06			
$t_{(59)}$=2.02 p<0.05				

To find the significance of difference between the mean knowledge scores, paired t was computed and obtained value of paired $t_{(59)}$=16.01, was significant at 0.05 level of significance. Hence, it is inferred that Student-to-Student teaching program was effective in improving the knowledge of school children regarding prevention and management of worm infestation.

3. Findings related to the association between the level of knowledge of school children regarding prevention and management of worm infestation and their selected personal variables.

Table 4: Chi square values between the knowledge of school children regarding prevention and management of worm infestation and their selected personal variables.

n= 60

SI.No	Sample	Characteristics & Above	Poor Average Chi square	
1	**Gender**			
1.1	Male	07	40	11.81*
1.2	Female	08	05	
2	**Age inYears**			
2.1	13-14	05	41	20.03*
2.2	14-15	10	04	

χ^2=3.84, *S=p <0.05, NS= p>0.05

There was statistically significant association between the knowledge of school children and their personal variables viz: age and gender indicating that age and the gender of school children had an influence on their knowledge level.

DISCUSSION

The present study highlights the effectiveness of Student-to-Student teaching program on knowledge regarding prevention of worm infestations among school children in a selected school of Mysuru, Karnataka.

A study conducted in Mangalore to evaluate the effectiveness of traditional method of health education versus child-to- child approach to education reported that there was a significant improvement in the mean knowledge scores of children of two different groups.ie : health education group- I ($t=5.61$, $p<0.05$), child to child group- II ($t=6.42$,$p<0.05$).[3] Findings of another study conducted to evaluate the effectiveness of planned teaching programme regarding prevention of worm infestation among school children in Belgaum, Karnataka reported that planned teaching programme was effective in improving the knowledge of school children. [4]

The identified limitations of the study were inability to ensure a random sample of school children. Generalization of the study is limited as the study involves a small group of children. Similar studies could be conducted among children of diverse backgrounds; from rural and urban settings using a larger sample on various topics of public health interest

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Conflict of interest

Nil

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