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Research Article

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A STUDY TO ASSESS THE EFFECTIVENESS OF CHILD TO CHILD TEACHING PROGRAMME ON KNOWLEDGE AND PRACTICES REGARDING SCHOOL ENVIRONMENTAL SANITATION AMONG HIGH SCHOOL CHILDREN IN A SELECTED SCHOOLS OF GOTTIGERE PHC AREA, BANGALORE

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ABSTRACT

Children represent the future of any nation, and educational institutions are crucial in cultivating their comprehension of morality, as well as their worldview regarding life, society, and the globe. It is essential that children obtain education through the correct methodology in a suitable school setting. This study sought to assess the efficacy of a child to child teaching program on knowledge and practices related to school environmental sanitation by comparing pre and posttest scores. The study utilised a quasi experimental, one group pretest and posttest design, implementing an evaluative methodology with systematic random sampling. Data were gathered using a structured questionnaire and an observational checklist. The results demonstrated substantial enhancements in knowledge and practices following the intervention. Peer educators exhibited pretest mean scores of 56% for knowledge and 61% for practices, which rose to 84% and 76% post intervention, indicating substantial improvement ($t=14.5$, $p<0.05$; $t=8.8$, $p<0.05$). Likewise, among peer learners, the pretest mean scores for knowledge and practices were 50% and 46%, respectively, which increased to 70% and 61% post intervention, demonstrating significant improvements ($t=35.6$, $p<0.05$; $t=18.9$, $p<0.05$). The results demonstrate that the child to child teaching program was exceptionally effective in improving knowledge and practices concerning school environmental sanitation. The study concludes that children can act as effective change agents, conveying essential information to their peers. The child to child teaching method enhanced knowledge and practices while highlighting the efficacy of peerled interventions in advancing school environmental sanitation. Such programs can cultivate a profound understanding and dedication among children, ensuring their positive contributions to the school environment and the wider community.

Keywords: Effectiveness, Child to child teaching programme, Knowledge, Practice, High school children and School Environmental Sanitation.

INTRODUCTION

Children are fundamental to a nation's future, and schools are essential in moulding their values, attitudes, and behaviours. Education serves as the cornerstone for cultivating responsibility and awareness in children, especially concerning matters that affect their health and environment. Environmental sanitation in schools is essential for establishing a safe and conducive learning atmosphere, as it directly affects students' wellbeing and academic achievement. Inadequate sanitation in educational institutions can result in disease proliferation, increased absenteeism, and diminished academic performance, underscoring the necessity for effective educational interventions in this area. Schools possess the capacity to surpass all other societal institutions in fostering healthier, longer, more fulfilling, and more productive lives for children. The school serves as a second home for the child. He dedicates 68 hours daily to the school premises during his childhood.[1]

A school environment is the nexus that unites the diverse activities on a campus. A healthy school environment can be established through a consistent provision of safe water, effective waste collection, removal and disposal methods, regular sanitation and cleanliness, sufficient ventilation, and appropriate lighting. A conducive school environment is essential for optimal emotional, social, and personal wellbeing of the students. We collectively bear the responsibility to ensure that children develop in a secure and healthy environment.[2]

School children can be utilized as social and environmental change agent to spread and make other children and families aware of basic hygiene, sanitation as well as environmentally sound behavior.[3]Children are the better change agents to transfer the information to their peer group. The concept of child to child approach had evolved from the recognition of the role that older children can play in caring for their younger siblings. In rural areas, older children are often required to feed, bathe, dress and play with younger brothers and sisters and to protect them from getting injured. The child to child approach helps children to learn about health in active and meaningful ways. It helps them to find out information and to take action for bettering their health.[5]This approach identifies many ways in which the children can help themselves, help each other, and help younger children. They can also help families and communities through individual and joint action.[4]

OBJECTIVES

The objective of the study is to,

1. Assess the knowledge of high school children regarding school environmental sanitation through pre test.
2. Assess the practices of high school children regarding school environmental sanitation through pre test.

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3. Assess the effectiveness of child to child teaching programme on school environmental sanitation by comparing pre and post test scores.
4. Find out the association between the knowledge, practices of high school children with selected demographic variables.

OPERATIONAL DEFINITIONS

Assess: In this study it refers to the measures taken to find out the level of knowledge and practices regarding school environmental sanitation among high school children.

Effectiveness: In this study it refers to gain in knowledge and practice scores of high school children regarding school environmental sanitation after implementing child to child teaching programme.

Child to child teaching programme: In this study it refers to a planned teaching programme implemented to high school children regarding school environmental sanitation by their peer group.

School environmental sanitation: In this study it refers to the cleanliness maintained in the school environment such as physical structure, safe drinking water supply, food hygiene, washroom facilities and waste disposal.

Knowledge: In this study it refers to correct responses of children to the items listed in the structured questionnaire in relation to school environmental sanitation like physical structure, safe drinking water supply, food hygiene, washroom facilities and waste disposal.

Practice: In this study it refers to practices performed by high school children regarding school environmental sanitation like maintaining clean classrooms, drinking safe water, maintaining food hygiene, hand washing before and after having food and also after using washroom and proper disposal of waste.

High school children: In this study it refers to the school going children studying in 8th, 9th 10th standard in Gottigere PHC area Bangalore.

METHODOLOGY

Research methodology forms the foundation of any scientific investigation, providing a systematic framework for planning, executing, and analyzing the study. For the current study, the research methodology was carefully designed to assess the effectiveness of a child-to-child teaching programme in improving knowledge and practices regarding school environmental sanitation among high school children.

Research Approach and Design: An evaluative research approach was adopted for the study. The research design utilized was a one group pretest posttest design to assess the effectiveness of the child to child teaching programme.

Study Setting: The study was conducted in selected schools located in the Gottigere PHC area, Bangalore.

Sample Size and Sampling Technique: The sample size consisted of 120 high school children. From each class, 40 students were selected using systematic random sampling by choosing every third student. After the pretest, 10 top scorers from each class (30 students in total) were identified as change agents or Peer Educators. These Peer Educators subsequently taught the remaining 90 students (Peer Learners) in a 1:3 ratio.

Data Collection Tools

1. Structured Knowledge Questionnaire:

Comprised of 33 multiple-choice questions covering six key areas of school environmental sanitation:

- General concepts
- Physical structure
- Safe drinking water supply
- Food hygiene
- Washroom facilities
- Waste disposal
- Each correct response was scored “1,” and incorrect responses scored “0.”
- Scores ranged from 0 (minimum) to 33 (maximum).

2. Observational Checklist:

- Included 15 items to assess sanitation practices of students.
- Responses were recorded as “Yes” (score of 1) or “No” (score of 0).

Ethical Considerations

Ethical clearance was obtained before commencing the study. Formal permission was also secured from the school Headmaster to conduct the research.

Procedure for Data Collection

1. PreTest: The structured questionnaire and observational checklist were administered to all 120 students to assess baseline knowledge and practices.

2. Selection of Peer Educators: Based on pretest scores, the top 10 scorers from each class (30 students in total) were selected as Peer Educators.

3. Implementation of Teaching Programme: The teaching programme was conducted for the 30 Peer Educators. These educators were trained on various aspects of school environmental sanitation. Peer Educators then educated the remaining 90 students in their classes on a 1:3 basis.

4. PostTest: A posttest was conducted for all 120 participants eight days after the implementation of the childtochild teaching programme to evaluate changes in knowledge and practices.

Data Analysis

The collected data were analyzed using descriptive and inferential statistics to evaluate the effectiveness of the teaching programme.

RESULTS

The results chapter presents a thorough analysis of the data gathered during the study, emphasizing the efficacy of the child-to-child teaching program on knowledge and practices related to school environmental sanitation among high school students. This section delineates the results obtained from both descriptive and inferential statistical techniques, offering insights into the comparisons of knowledge and practices before and after testing.

Table No: 1 Overall knowledge scores of peer educators regarding school environmental sanitation.

n_1 = 30

Aspects	Max. Score	Respondents knowledge			Pairedttest	df	P value	Inference
		Mean		Mean (%)	SD (%)				
Pretest	33	21.5		65	1.9	14.5	29	0.0001	Significant
Posttest	33	27.9		84	2.3				
Enhancement		6.4	38	19					

Significant at 0.05 level

The above table shows that post test knowledge score is higher than pre test score among peer educators.

Table No: 2 Overall practice scores of peer educators regarding school environmental sanitation

n_1 = 30

Aspects	Max. Score	Respondents practice			Pairedttest	df	P value	Inference
		Mean	Mean (%)	SD (%)				
Pretest	15	9.2	61	0.8	8.8	29	0.0001	Significant
Posttest	15	11.3	76	0.9				
Enhancement		2.1	15					

Significant at 0.05 level

The above table depicts that post test practice scores are higher than pre test scores among peer educators.

Table No: 3 Overall knowledge scores of peer learners regarding school environmental sanitation.

n_2 = 90

Aspects	Max. Score	Respondents knowledge			Pairedttest	df	P value	Inference
		Mean	Mean (%)	SD (%)				
Pretest	33	16.4	50	1.4	35.6	89	0.0001	Significant
Posttest	33	23.0	70	1.5				
Enhancement		6.6	20					

Significant at 0.05 level

The above table shows that post test knowledge score is higher than pre test score among peer learners. Hence the child to child approach was effective in improving the knowledge of high school children regarding school environmental sanitation.

Table No: 4 Overall practice scores of peer learners regarding school environmental sanitation.

n_2 = 90

Aspects	Max. Score	Respondents practice			Pairedttest	df	P value	Inference
		Mean	Mean (%)	SD (%)				
Pretest	15	6.9	46	0.9	18.9	89	0.0001	Significant
Posttest	15	9.2	61	0.9				
Enhancement		2.3	15					

Significant at 0.05 level

The above table depicts that post test practice score is higher than pre test score among peer learners. Hence the child to child approach was effective in improving the level of practice among high school children regarding school environmental sanitation.

V. Effectiveness of child to child teaching programme on knowledge and practices regarding school environmental sanitation among high school children.

The present study confirmed that among peer educators after teaching programme the post test mean knowledge score was 84 percent was significantly higher than the pre test score 65 percent with enhancement of 19 percent, with regards to practice, peer educators scored 76 percent was significantly higher than the pre test mean score 61 percent with enhancement of 15 percent which was found to be statistically significant at 0.05 level (t=14.5,p<0.05)and (t=8.8,p<0.05) where as among peer learners after child to child teaching programme the post test mean knowledge score was 70 percent was significantly higher than the pre test score 50 percent with enhancement of 20 percent, and in practice, peer learners scored 61 percent was significantly higher than the pre test mean score 46 percent with enhancement of 15 percent which was found to be statistically significant at 0.05 level (t=35.6, p<0.05) and (t=18.9, p<0.05). Hence the child to child teaching programme was effective in improving the knowledge and level of practice regarding school environmental sanitation among high school children (Table 1,2, 3 and 4)

DISCUSSION:

Assessment of Knowledge and Practices of Peer Educators and Peer Learners

The findings of the present study revealed that before the implementation of the child-to-child teaching programme, the overall knowledge score of peer educators was 65%, while peer learners had a knowledge score of 50%. This indicates a moderate level of awareness regarding school environmental sanitation among both groups prior to the programme. Similarly, the practice scores were also assessed, and it was found that peer educators had an average practice score of 61%, while peer learners scored 46%. These scores suggest that, prior to the programme, both peer educators and peer learners had limited knowledge and practices concerning sanitation in the school environment.

Effectiveness of the Child-to-Child Teaching Programme

The results of this study highlight the significant improvement in both knowledge and practices following the child-to-child teaching programme. Among the peer educators, the post-test knowledge score increased to 84%, representing a substantial enhancement of 19%, compared to the pre-test score of 65%. In terms of practices, the peer educators 'post-test score increased to 76%, an improvement of 15% from the pre-test score of 61%. These changes were found to be statistically significant at the 0.05 level (t=14.5, p<0.05 for knowledge, and t=8.8, p<0.05 for practices), indicating that the child-to-child teaching programme had a positive impact on both knowledge and practices of the peer educators.

Similarly, among the peer learners, the post-test knowledge score increased to 70%, an enhancement of 20% from the pre-test score of 50%. The practice score of peer learners also showed an improvement, rising to 61%, which was 15% higher than the pre-test score of 46%. These improvements were also statistically significant at the 0.05 level (t=35.6, p<0.05 for knowledge and t=18.9, p<0.05 for practices). These results support the hypothesis that children, when engaged as change agents, can effectively transfer knowledge and influence their peers.

The findings of this study are consistent with those of **Leena K.C.**, who reported an improvement in the knowledge of high school children after a child-to-child teaching programme, with a post-test knowledge score of 64.75%. Similarly, the study by **Knight *et al.,*** found that child-to-child teaching programmes focusing on nutrition, environmental hygiene, and personal hygiene led to improved knowledge and practices at home, further supporting the positive impact of peer-led educational interventions.

Association Between Knowledge, Practices, and Demographic Variables

The study also explored the association between the knowledge and practice scores of high school children and selected demographic variables. The Chi-square test revealed a significant association between knowledge scores and certain demographic variables among peer educators. Specifically, the results indicated significant associations between knowledge scores and age, religion, and father's occupation. These findings align with a study by **Nagaratnamma B.C.**, which showed a significant association between the knowledge scores of high school children and their parents' occupation (X^2=10.51).

Among peer learners, a significant association was found only between father's education and knowledge scores. This finding is supported by **Leena K.C.**, who observed a significant association between knowledge scores and parental education (X^2=9.74, p<0.05). These findings suggest that parental factors, such as occupation and education, may influence the knowledge levels of children, particularly in the context of environmental sanitation.

Regarding practice scores, however, the study found no significant association with any demographic variables for either peer educators or peer learners. This suggests that while knowledge may be influenced by factors such as parental education and occupation, the actual practices related to school environmental sanitation might be influenced by other factors not explored in this study, such as peer influence, personal attitudes, or the school environment.

CONCLUSION

This study concluded that the child-to-child teaching program significantly improved knowledge and practices related to school environmental sanitation among high school students. The notable enhancements in the post-test scores of both peer educators and peer learners validate that peer-led education can significantly contribute to raising awareness and fostering improved sanitation practices in educational institutions. The study indicated that the program resulted in a significant enhancement in knowledge and practices, with peer educators exhibiting a 19% increase in knowledge and a 15% improvement in practices, whereas peer learners displayed a 20% rise in knowledge and a 15% enhancement in practices. These findings highlight the capacity of children as influential change agents capable of disseminating valuable information to their peers, thereby fostering positive behavioral transformation. The study indicated that demographic factors, including parental education and occupation, affected students' knowledge; however, no significant correlations were identified between demographic variables and practice scores. The findings endorse the efficacy of the child-to-child teaching methodology and indicate that analogous programs may be instituted in other educational institutions to enhance sanitation practices, cultivate healthier learning environments, and enable students to assume proactive roles in ameliorating their school settings.

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