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Effectiveness Of A Structured Teaching Program On Knowledge And Practice Regarding Selected Child-To-Child Care Activities Among School Children In Selected School Of The City

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Abstract
Background: *Children play a crucial role in shaping the future of a nation, and equipping them with essential health knowledge and practices can promote well-being at both the individual and community levels. The child-to-child care approach leverages peer influence to instil health-promoting behaviours in school settings.*
Objectives: *To assess the knowledge and practice of selected child-to-child care activities among school children and to evaluate the effectiveness of a structured teaching program in improving these parameters.*
Methods: *A pre-experimental one-group pretest-posttest design was conducted in an urban school with 60 students aged 12 years and above, selected through purposive sampling. Data were collected using a structured interview schedule comprising demographic details, a 21-item knowledge questionnaire, and a 15-item practice checklist. A video-assisted structured teaching program served as the intervention. Reliability coefficients were 0.97 (knowledge) and 0.96 (practice). Data were analyzed using descriptive statistics and the Wilcoxon Signed-Rank Test.*
Results: *Post-intervention results revealed a statistically significant improvement in both knowledge and practice scores. The mean knowledge score increased from 10.98 ± 2.84 to 13.31 ± 2.65, and the mean practice score improved from 7.76 ± 2.12 to 11.38 ± 1.43. The Wilcoxon Signed-Rank Test showed highly significant results (p < 0.001) for both knowledge (t = 6.741) and practice (t = 6.864). Associations were found between knowledge and variables such as age, sibling status, residence, and prior training, while practice was significantly associated with age.*
Conclusion*: The structured teaching program was effective in enhancing school children's knowledge and practice of child-to-child care activities. The findings highlight the potential of peer-led, structured educational interventions to foster sustainable health behaviors in school environments.*
Keywords: *Child-to-child care, structured teaching program, school children, health education, peer learning, knowledge and practice, Wilcoxon Signed-Rank Test.*

INTRODUCTION

Children are among the most valuable assets of any nation, representing its future human capital. Their optimal growth and development are not only vital to their well-being but also reflect the overall health and progress of society. Recognizing this, the WHO–UNICEF–Lancet Commission advocates for a child-centered approach to sustainable development, emphasizing the necessity of safeguarding children's health rights and ensuring nurturing environments that promote security, happiness, and active participation in society (1,2).

The child-to-child care approach, an innovative educational strategy, empowers children by enabling them to take active roles in their health development as well as that of their peers. Originating from the observation that older siblings often informally guide and care for younger ones, this approach formalizes that natural interaction into structured health education initiatives (4,5). By utilizing child-friendly materials and peer-led activities, it addresses essential topics such as nutrition, hygiene, disease prevention, and child safety in a culturally sensitive and age-appropriate manner (6).

Global organizations such as the World Bank, UNICEF, and UNESCO have recognized the transformative potential of this approach, promoting it across more than 60 countries to enhance community-level health education and behavior change (8). Schools, as structured environments where children of similar age groups are readily accessible, provide an ideal platform for implementing child-to-child interventions (9).

Despite technological advancements and increasing digital engagement among children, peer-led strategies remain highly effective in fostering sustainable health behaviors when well-facilitated and contextualized. The COVID-19 pandemic underscored the importance of basic hygiene practices such as handwashing, yet

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highlighted global disparities in access to hygiene facilities and education. Over 800 million children attend schools lacking basic hygiene services, making school-based interventions more crucial than ever (12).
Moreover, contemporary public health challenges such as poor oral hygiene, malnutrition, worm infestations, and hygiene-related illnesses continue to impact large numbers of school-aged children, particularly in low-income and marginalized communities (11,13–15). Studies show that children are not only effective learners but also powerful agents of change when adequately trained and motivated, capable of influencing their peers, families, and communities (3,13).
In this study, structured teaching programs aimed at enhancing children's knowledge and practice of child-to-child care activities offer a promising avenue to bridge gaps in health education. By equipping students with the skills and knowledge to support each other, such programs contribute to healthier school environments and improved community health outcomes.
The study aims to assess the knowledge and practice of selected child-to-child care activities among school children. It also evaluates the effectiveness of a structured teaching program in enhancing both knowledge and practice in this area.

MATERIALS AND METHODOLOGY

This study employed a quantitative research approach with a pre-experimental one-group pretest-posttest design to evaluate the effectiveness of a structured teaching program on the knowledge and practice of selected child-to-child care activities among school children. The study was conducted over a period of 18 months in a selected urban school.
A total of 60 school children aged 12 years and above were selected using a non-probability purposive sampling technique, with an additional 10% included to account for potential dropouts. Inclusion criteria involved children who were present during data collection, willing to participate, and aged 12 or older. Children with mental abnormalities were excluded. Participants were informed of their right to withdraw from the study at any time without explanation.
Data were collected using a structured interview schedule, which consisted of three sections:
Section A: Demographic details (age, gender, parents' education and occupation, religion, siblings, residence, etc.)
Section B: A 21-item knowledge questionnaire covering areas like personal hygiene, oral hygiene, environmental hygiene, food and nutrition, worm infestation, accident prevention, and first aid.
Section C: A 15-item self-rated checklist to assess the practice of child-to-child care activities.
A structured teaching program was developed and used as the intervention. The tool's content validity was established by a panel of nine nursing experts, and reliability was tested using the split-half method and Spearman-Brown formula, yielding correlation coefficients of 0.97 (knowledge) and 0.96 (practice), indicating high reliability.
Data collection was conducted on 20th September 2023. The researcher personally visited the classroom, introduced the study, and obtained informed consent. Students were assured of confidentiality and anonymity, and instructed not to discuss questions with peers to maintain data integrity.
Ethical clearance was obtained from the Institutional Ethics Committee and school authorities.
Data were analyzed using descriptive statistics, including frequency, percentage, mean, and standard deviation. The Wilcoxon Signed-Rank Test was employed to assess the effectiveness of child-to-child care activities, as the data did not meet the assumption of normality

RESULTS

Data collected from 60 school children using a structured teaching program designed to improve knowledge and practice regarding selected child-to-child care activities. The results are organized into four major sections: socio-demographic characteristics, assessment of knowledge and practice prior to the intervention, and evaluation of the effectiveness of the structured teaching program.

Section A: Socio-Demographic Profile of School Children

The socio-demographic characteristics of the study participants are shown in Table 1. Among the 60 school children included in the study, 33 participants (55%) were 13 years old, while 27 participants (45%) were 12 years old, indicating a fairly balanced representation of upper primary school children. Gender-wise, the sample consisted of 36 boys (60%) and 24 girls (40%), showing a slightly higher male representation in the study group.

When examining family structure, a majority of the children (48, or 80%) reported having siblings, whereas 12 participants (20%) were the only child in their family. This suggests that most children were likely to have prior experience interacting with and caring for younger or older siblings—an important contextual factor for child-to-child care activities. Religious affiliation revealed that 42 participants (70%) were Hindu, and the remaining were equally divided between Muslim (15%) and Christian (15%), reflecting a degree of religious diversity within the sample. (Table 1)
Regarding place of residence, 42 children (70%) were from urban areas and 18 (30%) were from rural areas. This urban majority may have better access to health, education, and media exposure, potentially influencing their knowledge and practice levels. A significant number of children, 45 (75%), had attended some form of training related to child care, while 15 (25%) had no such exposure. This prior training could be a contributing factor in baseline awareness and responsiveness to the structured teaching program. (Table 1)
In terms of communication facilities available at home, all participants (100%) had access to both a television and a smartphone, indicating high levels of digital and audiovisual exposure. Additionally, 50% of the children had access to newspapers, 25% had a computer at home, and 20% reported listening to the radio. These communication tools serve as potential sources of health and hygiene information and can play a supportive role in reinforcing the content of the structured teaching program. (Table 1)

Table 1: Distribution of Demographic Variables

Demographic Variables		Frequency (n)	Percentage (%)
Age in years	12	27	45%
	13	33	55%
Gender	**Boys**	36	60%
	Girls	24	40%
Siblings	**Yes**	48	80%
	No	12	20%
Religion	**Hindu**	42	70%
	Muslim	9	15%
	Christian	9	15%
Residence	**Urban**	42	70%
	Rural	18	30%
Attended a childcare-related training program	**Yes**	45	75%
	No	15	25%
Communication facility at home	**Television**	60	100%
	Radio	12	20%
	Newspaper	30	50%
	Smartphone	60	100%
	Computer	15	25%

Section B: Pre-Test & Post–Test Assessment of Knowledge and Practice

Table 2 provides a detailed comparison of the pre-test and post-test knowledge scores across various domains of child-to-child care activities among the study participants (n = 60). The table includes mean scores and standard deviations for each of the seven key domains assessed: personal hygiene, oral hygiene, environmental hygiene, food and nutrition, worm infestation, accident prevention, and first aid.

In the pre-test, the highest knowledge was observed in the domain of personal hygiene, with a mean score of 1.96 ± 1.88, indicating a relatively better baseline understanding in this area. This was followed by food and nutrition (1.78 ± 0.90) and environmental hygiene (1.71 ± 1.07). Moderate knowledge was seen in areas such as worm infestation (1.60 ± 0.84) and prevention of accidents (1.23 ± 0.67), while the lowest scores were reported in first aid (1.38 ± 0.82) and oral hygiene (1.45 ± 0.87). The overall pre-test mean knowledge score was 10.98 ± 2.84 out of a maximum possible score of 21, reflecting an average baseline knowledge level of 52.28%.

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Following the implementation of the structured teaching program, the post-test scores showed a marked improvement in all domains. The most notable gains were observed in first aid, where the mean score increased to 1.95 ± 0.83, and in food and nutrition (2.11 ± 0.78) and environmental hygiene (2.20 ± 1.07). In contrast to the pre-test, personal hygiene had a lower post-test mean of 1.41 ± 0.65, which may reflect the ceiling effect or prior knowledge saturation. Notable improvements were also seen in worm infestation (1.90 ± 0.77), oral hygiene (1.61 ± 0.78), and prevention of accidents (1.50 ± 0.65). The overall post-test mean knowledge score increased to 13.31 ± 2.65, representing a significant improvement to 63.38% of the total possible score.

Table 2: Distribution of Pre-Test & Post–Test Knowledge Scores Across Various Domains of Child-to-Child Care Activities Among School Children (n = 60)

	Aspects	Statements	Score Range	Pre-Test Knowledge Score		Pre-Test Knowledge Score	
				Mean	SD	Mean	SD
I	Personal Hygiene	3	0-3	1.96	1.88	1.41	0.65
II	Oral Hygiene	3	0-3	1.45	0.87	1.61	0.78
III	Environmental Hygiene	4	0-4	1.71	1.07	2.2	1.07
IV	Food and Nutrition	3	0-3	1.78	0.90	2.11	0.78
V	Worm Infestation	3	0-3	1.6	0.84	1.9	0.77
VI	Prevention of accidents	2	0-2	1.23	0.67	1.5	0.65
VII	First Aid	3	0-2	1.38	0.82	1.95	0.83
Overall		21	4-21	10.98	2.84	13.31	2.65

Table 3 presents the distribution of pre-test practice scores across various domains of child-to-child care activities among school children (n = 60). Each domain was assessed through a series of statements with defined score ranges, and the table summarizes the mean scores and standard deviations (SD) obtained before the implementation of the structured teaching program.

In the pre-intervention phase, the highest practice score was observed in the area of oral hygiene, with a mean of 1.3 ± 0.67 out of a possible score of 2, indicating that children were relatively more consistent in practicing oral care habits. This was closely followed by prevention of accidents (1.8 ± 0.76) out of a maximum score of 3, and personal hygiene (1.1 ± 0.70), suggesting a moderate level of existing awareness and practice in these domains.

However, lower mean practice scores were noted in other areas. For instance, environmental hygiene had a mean score of 0.86 ± 0.57, while food and nutrition scored 0.78 ± 0.55, pointing to limited practical application or awareness of healthy eating and cleanliness of surroundings. Similarly, worm infestation prevention scored 0.98 ± 0.58, and first aid scored 0.93 ± 0.66, highlighting gaps in children's practical preparedness for basic health issues and emergency response.

The overall mean pre-test practice score was 7.76 ± 2.12 out of a total possible score of 15, translating to 51.73%. This indicates a moderate baseline level of actual practice among school children regarding child-to-child care activities, suggesting significant scope for improvement.

Table 3: Distribution of Pre-Test Practice Scores Across Various Domains of Child-to-Child Care Activities Among School Children (n = 60)

	Aspects	Statements	Score Range	Pre-Test Practice Score		Post-Test Practice Score	
				Mean	SD	Mean	SD
I	Personal Hygiene	2	0-2	1.1	0.70	1.46	0.62
II	Oral Hygiene	2	0-2	1.3	0.67	1.55	0.62
III	Environmental Hygiene	2	0-2	0.86	0.57	1.41	0.59
IV	Food and Nutrition	2	0-2	0.78	0.55	1.48	0.53
V	Worm Infestation	2	0-2	0.98	0.58	1.53	0.62

VI	Prevention of accidents	3	0-3	1.8	0.76	2.43	0.62
VII	First Aid	2	0-2	0.93	0.66	1.5	0.62
Overall		15	2-14	7.76	2.12	11.38	1.43

Section C: Effectiveness of Structured Teaching Program

Table 4 displays the comparative analysis of pre-test and post-test knowledge scores among school children (n = 60) to evaluate the effectiveness of the structured teaching program on selected child-to-child care activities. The mean knowledge score before the intervention was 10.98 ± 2.84, which increased to 13.31 ± 2.65 after the intervention.

A Wilcoxon signed rank test was applied to determine the statistical significance of the difference between the pre-test and post-test scores. The computed test statistics for knowledge was 6.741 and practice was 6.864, with p-value was < 0.001 and which is highly significant at the 0.05 level.

Table 4: Effectiveness of structured Teaching Program on knowledge and Practice

		Mean	SD	Wilcoxon signed rank test	
				Test statistics	**p- value**
Knowledge	**Pre-test**	10.98	2.84	6.741	< 0.001*
	Post-test	13.31	2.65		
Practice	**Pre-test**	7.76	2.12	6.864	< 0.001*
	Post-test	11.38	1.43		

*P <0.05 considered significant

DISCUSSION

The findings demonstrated a statistically significant improvement in both knowledge scores after the implementation of the structured teaching program. The mean knowledge score increased from 10.98 (52.28%) in the pre-test to 13.31 (63.38%) in the post-test, with a paired t-value of 10.25 (p < 0.001). These results confirm that the structured teaching program was effective in enhancing both understanding and behavioral application of child-to-child care practices among the children.

These findings are consistent with earlier studies. For example, Mamata Pramod Kasle (2019) conducted a study on the effect of a Planned Teaching Program on worm infestation prevention among primary school children and found a significant increase in post-intervention knowledge. Similarly, Gamit Niketa and Gupta Aarati (2019) reported improvement in first aid knowledge among school students after scheduled instructional programs, aligning with our findings of increased post-test scores in first aid.

Regarding practice, the results align with prior studies such as that by Jasmine et al., who noted poor baseline oral hygiene practices among children, emphasizing the need for targeted education. In the present study, although oral hygiene showed relatively higher pre-test practice scores, areas like food and environmental hygiene initially scored low but showed considerable improvement post-intervention.

The findings also align with Bhavani B.B. and Cheerful Hadem's study, which demonstrated significant gains in both knowledge and practice using the child-to-child approach, especially in handwashing practices—further reinforcing the value of peer-led and structured educational models.

CONCLUSIONS

The study revealed that the structured teaching program was effective in improving both knowledge and practice among school children regarding child-to-child care activities. Post-test scores demonstrated significant improvements in most domains. Statistically significant associations were observed between knowledge and selected demographic variables, specifically age, sibling status, residence, and training attended. Practice was significantly associated only with age.

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