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Effectiveness of School Health Programs in Promoting Hygiene Practices Among School Children: A Pre-Experimental Study

Mrs.Jacinth Dhaya[1], Mr.Nirbhay Mohod[2], Ms.Ashlesha Moon[3] , Ms.Swati Gadegoane[4], Ms.Divayna Pawar[5]

[1]Professor, Cum Vice-Principal (Godavari college of nursing, Jalgaon),MUHS Nashik

[2]Associate Professor (Godavari college of nursing, Jalgaon), MUHS Nashik

[3]Msc Tutor (Godavari college of nursing, Jalgaon), MUHS Nashik

[4]Assistant Professor (Godavari college of nursing, Jalgaon), MUHS Nashik

[5]Msc Tutor (Godavari college of nursing, Jalgaon), MUHS Nashik

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ABSTRACT

Background: Inadequate hygiene practices among school children remain a significant contributor to communicable diseases, school absenteeism, and poor health outcomes in developing countries. Schools offer a strategic setting for implementing health promotion interventions aimed at improving hygiene behaviour during formative years.

Objective: To evaluate the effectiveness of a structured school health program in enhancing hygiene practices among school children in a selected community area.

Methods: A quantitative pre-experimental one-group pretest–post-test design was employed. Forty school children were selected using non-probability convenient sampling. Baseline hygiene practices were assessed using a structured questionnaire, followed by implementation of a school health education program. Post-intervention assessment was conducted using the same tool. Data were analysed using descriptive statistics and inferential tests, including paired t-test and chi-square test.

Results: Prior to the intervention, 65% of children demonstrated poor hygiene practices, while none exhibited good practices. Post-intervention, 82.5% of participants demonstrated good hygiene practices. The mean hygiene practice score increased significantly from 15.12 ± 1.95 to 24.75 ± 2.75 ($t = 16.84$, $p < 0.001$). Significant associations were observed between pretest hygiene practices and gender ($p = 0.048$) as well as source of health information ($p = 0.046$).

Conclusion: The findings indicate that structured school health programs are highly effective in improving hygiene practices among school children. Integrating regular, school-based hygiene education into routine academic activities may contribute to sustained behavioural change and reduced hygiene-related morbidity

KEYWORDS: School health program; Hygiene practices; School children; Health education; Preventive health..

1. INTRODUCTION

Hygiene is a fundamental determinant of health and plays a critical role in preventing communicable diseases. The World Health Organization emphasizes that appropriate hygiene practices, particularly hand hygiene, are among the most effective and cost-efficient strategies for disease prevention. Despite this, hygiene-related illnesses continue to pose a substantial public health burden among school-aged children, especially in low- and middle-income countries. School children are particularly susceptible to infections due to close interpersonal contact, shared educational materials, and frequent exposure to contaminated environments. Poor hygiene practices contribute to gastrointestinal

and respiratory infections, resulting in increased absenteeism and compromised academic performance. As children spend a significant portion of their day in school, educational institutions provide an ideal platform for implementing structured health promotion programs.

Although hygiene education is often included in school curricula, discrepancies persist between knowledge acquisition and actual hygiene behaviour. Therefore, systematic evaluation of school health programs is essential to determine their effectiveness in translating knowledge into practice and to inform future policy and program development.

2. Objectives

To assess baseline hygiene practices among school children

To evaluate the effectiveness of a school health program by comparing pretest and post-test hygiene practice scores

To examine the association between pretest hygiene practices and selected demographic variables

3. Hypotheses

H_1: Hygiene practice scores of school children will significantly improve following the school health program.

H_0: There will be no significant difference in hygiene practice scores before and after the school health program.

4. Materials and Methods

4.1 Study Design

A quantitative pre-experimental one-group pretest post-test design was adopted to assess changes in hygiene practices following an educational intervention. This design allows for within-group comparison and is suitable for preliminary intervention studies conducted in school settings where randomization is not feasible.

4.2 Study Setting and Population

The study was conducted in selected schools located in a community area. The study population consisted of school-going children aged 6–11 years enrolled in these schools.

4.3 Sample and Sampling Technique

A total of 40 school children were selected using a non-probability convenient sampling technique. The sample size was determined based on feasibility and accessibility of participants.

4.4 Inclusion and Exclusion Criteria

Children who were present during data collection, willing to participate, and able to understand the questionnaire language were included. Children who were absent or suffering from acute illness during the study period were excluded.

4.5 Data Collection Tool

Data were collected using a structured hygiene practices questionnaire developed through an extensive review of relevant literature. The tool comprised two sections:

Section A: Demographic variables such as age, gender, class, family type, parental education, and source of information

Section B: Items assessing hygiene practices related to hand hygiene, personal cleanliness, sanitation, and oral hygiene

The total practice score ranged from 0 to 30 and was categorized as poor, average, or good hygiene practice.

4.6 Validity and Reliability

Content validity was established through expert review by nursing and public health professionals. The structured format ensured consistency and minimized measurement bias. The tool demonstrated acceptable internal consistency for assessing hygiene practices.

4.7 Intervention

The school health program consisted of structured hygiene education sessions covering the importance of personal hygiene, proper handwashing techniques, oral hygiene, and environmental sanitation. Teaching methods included interactive lectures, demonstrations, and visual aids designed to enhance understanding and retention among children.

4.8 Data Collection Procedure

After obtaining formal permission and informed consent, a pretest was conducted to assess baseline hygiene practices. The school health program was then implemented, followed by a post-test conducted after a specified interval using the same questionnaire.

4.9 Ethical Considerations

Ethical approval was obtained from the concerned authority prior to data collection. Confidentiality and anonymity were maintained, and participation was voluntary with the option to withdraw at any stage.

4.10 Statistical Analysis

Data were analysed using statistical software. Descriptive statistics were used to summarize demographic characteristics and hygiene practice scores. Paired t-test was applied to compare pretest and post-test scores, and chi-square test was used to examine associations between hygiene practices and demographic variables. A p-value < 0.05 was considered statistically significant.

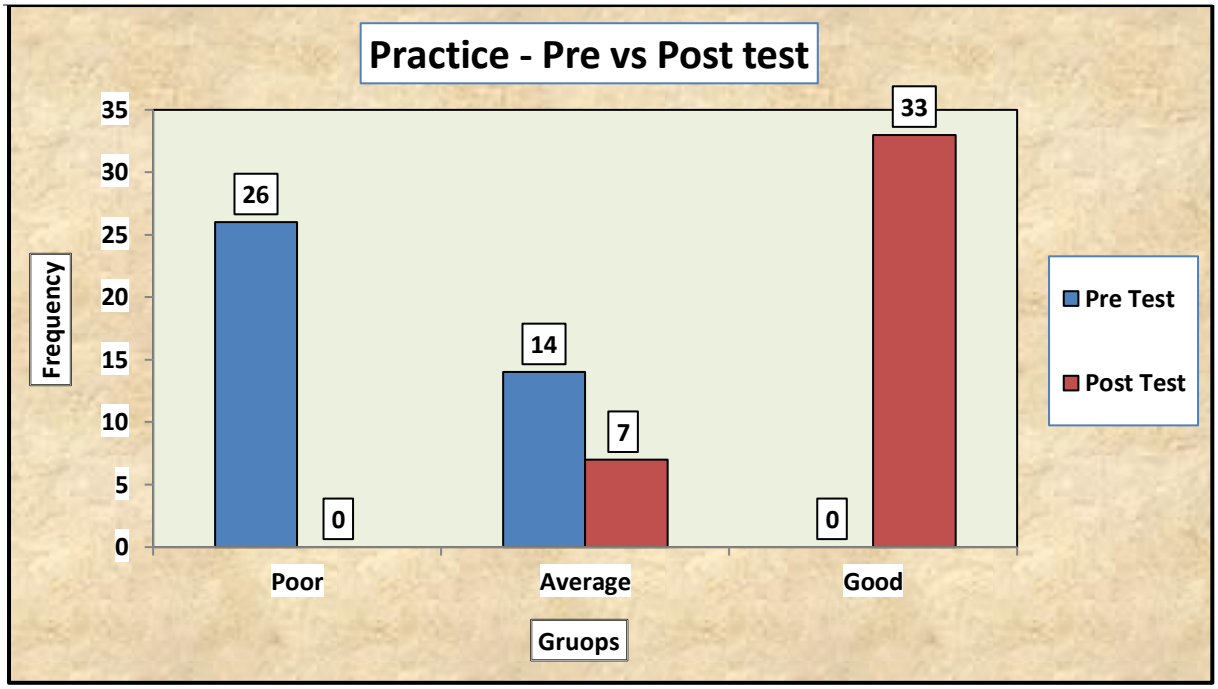
5. Results

Baseline assessment revealed that a majority of participants (65%) had poor hygiene practices, while none demonstrated good practices. Following the intervention, a substantial improvement was observed, with 82.5% of children demonstrating good hygiene practices.

The mean hygiene practice score increased significantly from 15.12 ± 1.95 during the pretest to 24.75 ± 2.75 during the post-test ($t = 16.84$, $p < 0.001$), indicating the effectiveness of the school health program.

Significant associations were identified between pretest hygiene practices and gender, as well as source of information. No statistically significant association was found with age, class, family type, or parental education.

Assesment of Practice - Pre vs Post Test						
Variable	**Groups**	**Score**	**Pre Test**		**Post Test**	
			Frequency	**Percentage**	**Frequency**	**Percentage**
Practice	Poor	0-15	26	65.00	0	0.00
	Average	16-22	14	35.00	7	17.50
	Good	23-30	0	0.00	33	82.50
Practice	Minimum		12		18	
	Maximum		22		30	
	Average (SD)		15.12 (1.95)		24.75 (2.75)	



6. DISCUSSION

The present study demonstrates that a structured school health program can significantly improve hygiene practices among school children. The poor baseline hygiene practices observed in this study reflect persistent gaps reported in similar populations and underscore the need for targeted health education interventions.

The substantial improvement in post-intervention hygiene scores indicates that school-based health education is effective in promoting positive behavioural change. These findings are consistent with previous research reporting significant gains in hygiene practices following structured educational interventions in school settings.

The observed association between hygiene practices and source of information highlights the influential role of schools and media in shaping health behaviours. The lack of association with several demographic variables suggests that hygiene education can be universally effective across diverse socio-demographic groups.

Although the study lacks a control group and has a limited sample size, the magnitude of improvement observed supports the effectiveness of the intervention. Future studies employing randomized controlled designs and larger samples are recommended to strengthen causal inference.

7. CONCLUSION

The study concludes that school health programs are effective in improving hygiene practices among school children. Incorporating structured hygiene education into routine school activities may contribute to sustained behavioural change, reduced disease burden, and improved child health outcomes.

8. LIMITATIONS

Small sample size

Absence of a control group

Limited generalizability

9. RECOMMENDATIONS

Regular implementation of school health education programs

Active involvement of teachers and parents

Periodic reinforcement and evaluation of hygiene practices

Further research using experimental designs and larger samples

REFERENCES

N\A