



A PRE-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO-ASSISTED TEACHING ON THE LEVEL OF KNOWLEDGE REGARDING DENTAL HYGIENE AMONG MOTHERS OF PRE-SCHOOLER'S IN THAMARAIPAKKAM VILLAGE, VELLORE DISTRICT

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ABSTRACT

Background: Dental hygiene in early childhood is critical for preventing oral diseases. Mothers play a central role in maintaining their children's dental health. However, in rural areas, knowledge about proper dental hygiene is often limited. Video-assisted teaching is a useful tool to enhance awareness and promote healthy practices. Aim: To assess the effectiveness of video-assisted teaching on the level of knowledge regarding dental hygiene among mothers of pre-schoolers in Thamaraiakkam Village, Vellore District. Methods: A pre-experimental one-group pre-test post-test design was adopted. A total of 100 mothers of preschool children were selected through purposive sampling. Data were collected using a structured knowledge questionnaire administered before and after a 20-minute video-assisted teaching session on dental hygiene. Statistical analysis was done using descriptive and inferential methods. Results: The mean pre-test knowledge score was 13.13 and SD 3.38, while the mean post-test score was 21.44 and SD is 1.697. The calculated 't' value is 29.752 is more than the table value 3.37. Hence there was a high statistically significant at $p < 0.001$. Conclusion: The study concluded that video-assisted teaching is an effective method to enhance knowledge about dental hygiene among mothers of preschooler. So awareness regarding knowledge of practice of dental hygiene among mothers of preschooler will prevent the dental carries.

INTRODUCTION

Oral health is an integral component of overall well-being, especially in early childhood when children

are vulnerable to dental caries and other oral health issues. The foundation for good oral hygiene begins during the preschool years, and parents particularly mothers play a pivotal role in establishing and maintaining these habits.

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In India, dental problems such as early childhood caries are prevalent due to factors such as poor oral hygiene practices, inadequate parental awareness, and



limited access to preventive dental care, especially in rural communities. Many mothers lack adequate knowledge about proper brushing techniques, the importance of a balanced diet for dental health, and the early signs of dental disease. This gap in knowledge often leads to delayed or improper care for dental issues in children.

Health education is a vital tool in empowering mothers with the necessary knowledge to care for their children's oral health. Traditional methods of health education, however, may not always be engaging or effective. With advancements in technology, video-assisted teaching has emerged as a powerful educational method that combines visual and auditory elements to enhance understanding and retention of information. This study aims to assess the effectiveness of video-assisted teaching on improving the level of knowledge regarding dental hygiene among mothers of preschool children in Thamaraiakkam Village, Vellore District. The findings will contribute to the development of effective educational strategies for promoting oral health in rural settings.

Need for the Study

Dental hygiene is a critical component of overall health, particularly in early childhood. Preschool-aged children are at high risk for dental caries due to frequent snacking, inadequate oral hygiene practices, and dependence on caregivers for dental care. Studies show that poor dental health in early years can lead to pain, infection, and difficulty in eating, speech problems, and poor academic performance.

In India, especially in rural areas, awareness and practice of preventive dental care remain inadequate. Many mothers are unaware of essential aspects such as the correct brushing technique, frequency of brushing, role of diet in dental health, and the need for regular dental check-ups. This lack of knowledge often results in preventable dental problems in children.

Since mothers are the primary caregivers, educating them on proper dental hygiene practices is essential for ensuring good oral health in their children. Traditional teaching methods may not be effective in creating lasting awareness, especially in populations with low literacy levels. Video-assisted teaching has emerged as an effective tool in health education, offering visual reinforcement and better engagement, leading to improved learning outcomes.

This study is necessary to evaluate the effectiveness of such innovative teaching methods in rural settings. By focusing on mothers of preschool children in Thamaraiakkam Village, Vellore District, this research aims to empower caregivers with knowledge that can lead to better oral health outcomes for their children.

Statement of the Problem

A Pre-Experimental Study to Assess the Effectiveness of Video-Assisted Teaching on the Level of Knowledge Regarding Dental Hygiene among Mothers of Pre-schooler's in Thamaraiakkam Village, Vellore District.

OBJECTIVES

1. To assess the pre-test level of knowledge regarding dental hygiene among mothers of pre-schooler.
2. To evaluate the effectiveness of video-assisted teaching in improving their knowledge.
3. To find the association between post-test knowledge scores and selected demographic variables

METHODOLOGY

The Quantitative research approach was adopted to the study. Pre-experimental, one-group pre-test post-test design were used. The study was conducted in Thamaraiakkam Village, Vellore District, Tamil Nadu. The Population were Mothers of preschool children (aged 3–5 years) residing in the selected village. The Sample Sizewere 100 mothers. Purposive sampling technique was used to select participants based on inclusion and exclusion criteria.

Inclusion Criteria:

- Mothers who have preschool children (3–5 years old).
- Mothers who are willing to participate.
- Mothers who are available during the data collection period.

Exclusion Criteria:

- Mothers with prior formal training or education on dental hygiene.
- Mothers who are not available or unwilling to participate.

Tool for Data Collection:

A structured questionnaire was used, divided into two sections:

Section A: Demographic data (age, education, occupation, income, number of children, prior dental knowledge).

Section B: Knowledge questionnaire on dental hygiene, consisting of 25 multiple-choice questions covering:

- Importance of dental hygiene
- Brushing techniques and frequency
- Diet and oral health
- Common dental problems and prevention

Scoring range	Knowledge level
0-8	Inadequate
9-17	Moderate
18-25	Adequate



Intervention:

A 20-minute video-assisted teaching session for each mother was conducted in the local language (Tamil), which included:

- Visual demonstrations of correct brushing technique
- Dietary advice for oral health
- Preventive dental care practices
- Tips for early identification of dental problems in children

Permission was obtained from the village authorities. The Data were analyzed using Descriptive Statistics:

Frequency, percentage, mean, and standard deviation used to describe demographic variables and knowledge scores.

Inferential Statistics:

Paired t-test was used to evaluate the effectiveness of the video-assisted teaching by comparing pre-test and post-test knowledge scores.

Chi-square test was used to find the association between post-test knowledge scores and selected demographic variables.

Table 1:

GROUP	PRE TEST O1	INTERVENTION X	POST TEST O2
Mothers of preschooler	Assessment of pretest knowledge using Structured questionnaire was administered to assess baseline knowledge.	video-assisted teaching on dental hygiene	Assessment of posttest knowledge after 7 days, the same questionnaire was re-administered to assess the improvement in knowledge

Table 1: Shows that pre-test level of knowledge score regarding dental hygiene among mothers of pre-schooler.

Pre-test level of knowledge	Frequency (n)	Percentage (%)
Inadequate (0-8)	25	25
Moderate (9-17)	75	75
Adequate (18-25)	0	0

Table 2: Shows that posttest level of knowledge score regarding dental hygiene among mothers of pre-schooler N=100

Post-test level of knowledge	Frequency (n)	Percentage (%)
Inadequate (0-8)	0	0
Moderate (9-17)	36	36
Adequate (18-25)	64	64

Table 3: Reveals that effectiveness of video-assisted teaching in improving the knowledge of mothers regarding dental hygiene.

S.NO	TEST	MEAN	MEAN DIFFERENCE	SD	SD DIFFERENCE	t-value
1.	Pre test	13.13	8.31	3.348	1.651	29.752 (S)
2.	Post test	21.44		1.697		

Table 4: Shows the association between post-test knowledge scores and selected demographic variables.

Demographic variables	Chi-square	p-value	Significance
Age	1.85	0.40	Significant
Education	12.4	0.01*	Not significant
Occupation	0.89	0.39	Not significant
Monthly income	1.12	0.29	Not significant
Type of family	6.30	0.01*	Significant



Figure 1: Shows that assessment of frequency and percentage distribution of the pretest and posttest level of knowledge of mothers of pre-schooler regarding dental hygiene.

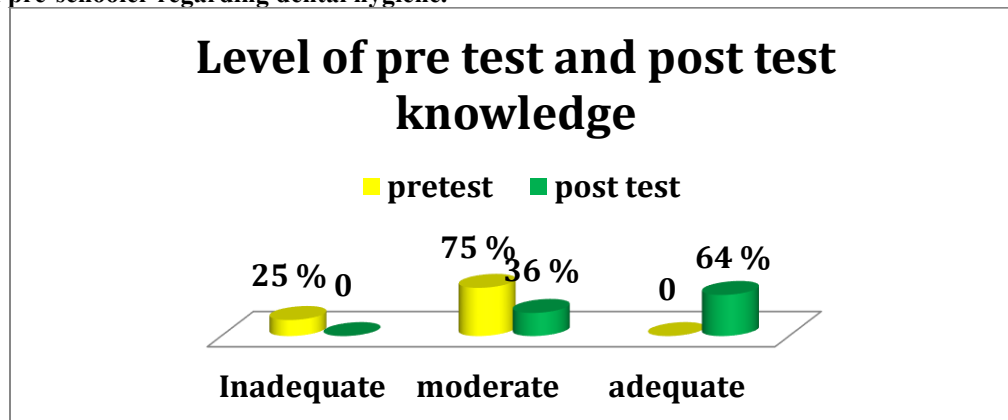


Figure 2: Shows that majority of the mother belongs to the age group of 31-35 years of while others 22% were in the age of 26-30 years, 23% were 36-40 years only 2% belongs to the above 40 years.

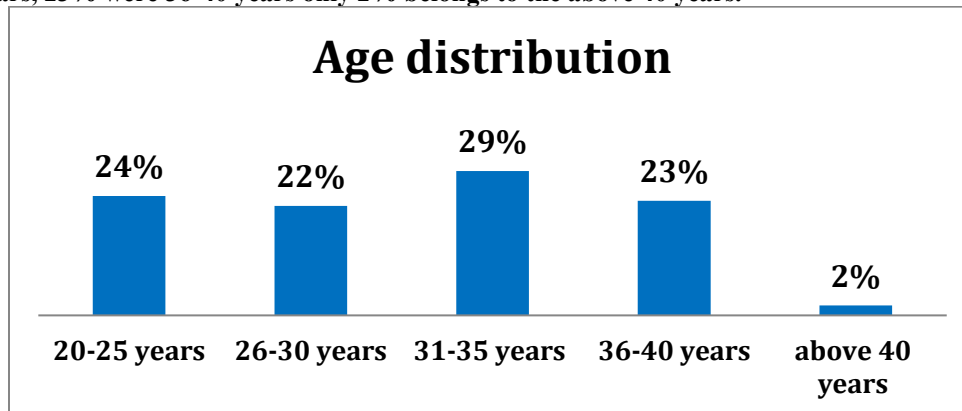


Figure 3: Depicts that majority of the mothers 30% of them had primary education while 19% of them were illiterate.

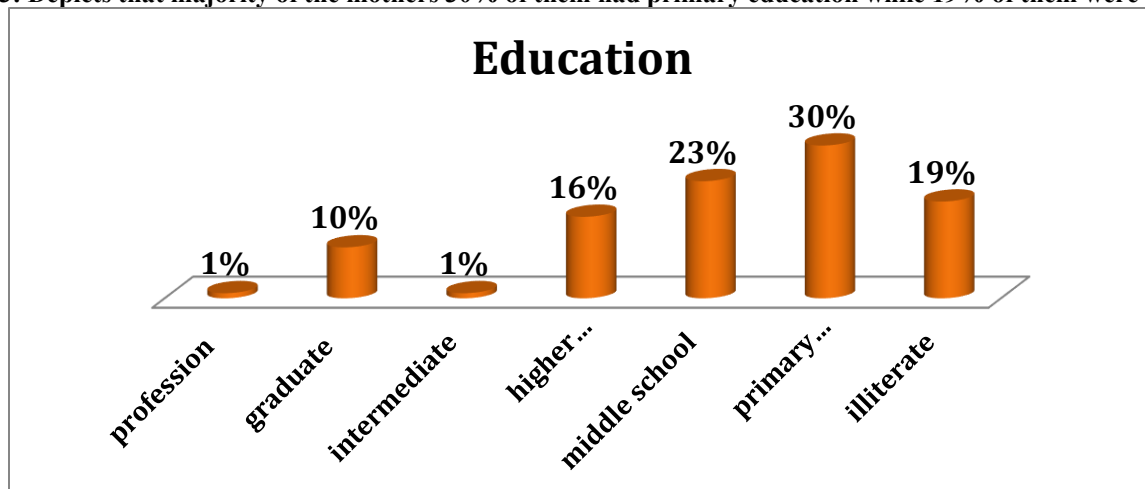
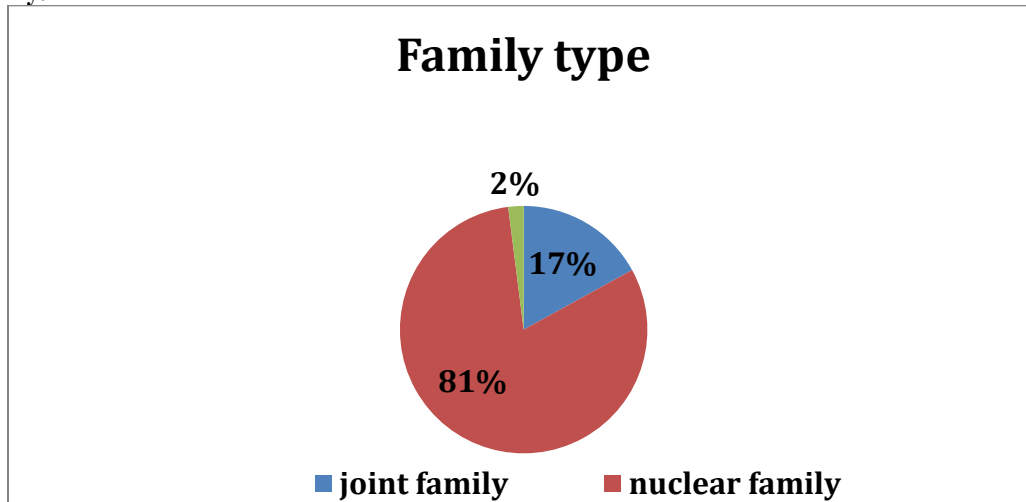


Figure 4: Shows that 81% were belongs to nuclear family, 17% were belongs to joint family only 2% were belongs to extended family.



DISCUSSION

Objective 1: To assess the pre-test level of knowledge regarding dental hygiene among mothers of preschooler.

The findings of the pretest revealed that majority of mothers of preschoolers, 25(25%) had inadequate knowledge, 75(75%) had moderate knowledge and none of them had adequate knowledge with a mean pre-test score of 13.13 and SD 3.381. Many mothers lacked awareness of essential dental hygiene practices such as proper brushing techniques, the influence of diet on oral health, and early signs of dental problems.

Rajeshwari, P., & Devi, K. (2020) studied Awareness of oral hygiene practices among mothers in rural areas. Found that 60% of rural mothers had low awareness regarding children's dental hygiene. There is a need to educate mothers in rural areas about basic oral hygiene for preschoolers.

Objective 2: To evaluate the effectiveness of video-assisted teaching in improving the knowledge of mothers regarding dental hygiene.

The post-test scores showed a significant improvement, with the mean knowledge score increasing to 21.44 and SD is 1.697($p < 0.001$). The calculated 't' value is 29.752 is more than the table value 3.37. Hence there was a high statistically significant at $p < 0.001$. This demonstrates that video-assisted teaching was highly effective in enhancing mothers' understanding of dental hygiene. The use of audio-visual aids likely facilitated better comprehension and retention of information by providing clear visual examples and engaging the learners more effectively than conventional teaching methods.

Sharma, N., & Thomas, S. (2021) proposed a study to assess the effectiveness of structured teaching program on dental hygiene among mothers of under-five children. After structured video teaching, 90% of participants had good knowledge. Visual-based teaching significantly improved mothers' awareness and understanding.

Objective 3: To find the association between post-test knowledge scores and selected demographic variables.

Analysis showed a significant association between post-test knowledge scores and mothers' educational status and type of family ($p < 0.05$). Mothers with higher education levels exhibited greater improvements in knowledge following the intervention. However, no significant association was observed with other factors such as age, occupation, or income. This indicates that educational background may influence how well mothers benefit from health education interventions. Anitha, J., & Rani, M. (2018) studied Influence of maternal education and family type on child health awareness. Mothers with higher education and nuclear families scored better in health knowledge tests. Education and type of family impact the effectiveness of health education programs.

Nursing Implications

1. Nursing Practice: Nurses working in community and primary health care settings can use video-assisted teaching as an effective educational tool to enhance mothers' knowledge about dental hygiene.
2. Nursing Education: Nursing educators can incorporate audio-visuals teaching strategies into their



curriculum to prepare future nurses with skills in innovative health education methods.

3. Nursing Administration: Nurse Administrators can facilitate the implementation of video-assisted health education programs in community health centers, schools, and maternal-child health clinics.
4. Nursing Research: Nurses can undertake studies to explore long-term impacts on behavior change and oral health outcomes, expanding evidence-based nursing practices.

Recommendations

- A study to assess the knowledge and practice of less than five can be done.

- A similar study could be conducted by increasing the samples size in different setting for better generalization.
- A comparative study can be done at various settings.

CONCLUSION

The study concluded that video-assisted teaching is an effective method to improve knowledge about dental hygiene among mothers of preschool children in Thamaraiakkam Village. After the intervention, there was a significant increase in mothers' understanding of proper oral care practices. This approach can be used as a practical and engaging way to educate caregivers in rural communities, ultimately helping to promote better dental health in young children.

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