

Innovations

A Study to Assess the Effectiveness of Video Teaching Programme on Knowledge Regarding Brushing Techniques on Oral Hygiene among School Children Between 8-11 Years in a Selected School at Krishnagiri District

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Abstract: Background: Oral hygiene is the practice of keeping your mouth clean and disease-free. It involves brushing and flossing your teeth as well as visiting your dentist regularly for dental X-rays, exams and cleanings. **Aim:** Assess the Effectiveness of Video Teaching Programme on Knowledge Regarding Brushing Techniques on Oral Hygiene Among School Children. **Methods:** Quantitative research approach and one group pre-test, post-test quasi experiment design was selected for the study. The population for present study included children from DK SAMY Matriculation School at Krishnagiri district. The total sample size was 50 school children selected using non probability purposive sampling technique. **Results:** The data analysis showed that among 50 samples 2 (4%) of them had adequate knowledge, 33(66%) samples had moderate knowledge and 15 (30%) were had inadequate knowledge. The pre-test mean score reducing knowledge on brushing technique among school children is 12.5 and in the post test mean score on improved knowledge on brushing technique was 27.34 with mean difference of 14.84. the calculated paired 't' value is 28.416 which is significantly higher than the table value 1.677 at $p \leq 0.05$. **Conclusion:** It is concluded that information education and communication were effective in the level of knowledge regarding brushing technique on oral hygiene among school Childrens. There was a significant association between the pre-test score on knowledge regarding brushing technique on oral hygiene.

Key words: Oral hygiene, knowledge, brushing technique.

Introduction

Oral hygiene is the practice of keeping your mouth clean and disease –free. It involves brushing and flossing your teeth as well as visiting your dentist regularly for dental X-rays, exams and cleanings. Oral health is an important aspect of general health with school going children at high risk for developing oral diseases. **(Subramanian P, Surrendering R 2020)**

Factors associated with oral disease include poor tooth brushing routine, poor dietary habits, low socioeconomic status and concurrent oral conditions. **(Jain R, Patil S. Indian I dent res. 2018)**. Improper oral health care and altered dietary patterns interrupt the microbial homeostasis within the oral cavity, promoting biofilm formation responsible for oral diseases such as dental caries and gingivitis. Effective tooth brushing disturbs this biofilm formation and prevents oral disease. **(Lamont Rj. Kooh, Hajishengallis G. 2018)**

Schoolers have inadequate tooth brushing behaviour because they did not follow tooth brushing recommendations. And were not supervised by their parents during tooth brushing. **(Mohd kenail N -2019)**

Eruption of teeth begins at about six months with wide variation in timing. All the twenty temporary teeth erupt by the age of 2 -3 years. Problems of oral cavity like delayed teeth, malocclusion of teeth, dental caries, gingivitis will also start to appear at this age among these complications, dental caries is very commonest among school children. **(Datta P. 2009)**. Effective daily tooth brushing reduces microbial plaque biofilm accumulation which is dependent on several factors which include the tooth brush design, duration of brushing, the frequency of brushing, the technique used and the individual's manual dexterity. **(Nassar et al 2013)**

A study of tooth brushing trends 20 countries in Europe and north American from 1994 to 2010 revealed that the largely positive trends was brushing twice daily was observed across all the countries studied with the younger age groups showing more potential of oral hygiene improvements from oral health education. **(Honkala et. Al, 2015)**

Need For Study:

According to World Health Organisation (WHO) 70% of Indian Population, rely on Traditional medicine. “According to the dental council of India (DCJ) Survey of 2019 in prevalence of Untreated caries of deciduous teeth in children 1-9 years in 43.3%. prevalence of untreated caries of permanent teeth in people 5+years in 28.8%. Poor oral health is related to significant morbidity and mortality. According to WHO done the prevalence of dental carries in 5-7 years age group was found to be 65.1%, whereas 8-10 years age

group was 56.7%- and 11-13-years age group was 45.4%. **WHO (2021)** Similarly, in Abu dhobi, United Arab Emirates, infrequent brushing was also found to be associated with dental caries, Sudan is one of the countries that suffer from a higher prevalence of dental caries among children therefore, we assume one of the possible causes of the high prevalence of caries in sudden is brushing habits. (**Abu Dhabi, Naidoo s.sudden,2016,2018**).

This study aims to compare the abrasiveness of natural and commercially available toothbrushes and chewing sticks. School children, particularly in developing countries like India, lack adequate knowledge of oral hygiene. By providing oral health education, we can empower them with essential knowledge. Implementing oral health education programs in schools can benefit children of all socio-economic backgrounds. The effectiveness of a video teaching program on oral hygiene among school children is being investigated.

Objectives:

1. To assess the knowledge of the school children regarding oral hygiene before the administration of video teaching programme.
2. To determine the effectiveness of level of knowledge regarding brushing techniques on oral hygiene among school children after administration of video teaching programme.
3. To find out the association between pre-test level of knowledge on oral hygiene on brushing techniques among school children with their selected demographic variables.

Hypothesis:

- H1-There will be a significant difference in the level of knowledge regarding brushing techniques on oral hygiene among school children before and after video teaching programme at $p \leq 0.05$ level.
- H2-There will be a significant association between pre-test score on level of knowledge regarding brushing techniques on oral hygiene among school children with their selected demographic variables values at $p \leq 0.05$ level.

Material and methods:

Quantitative research approach and one group pre-test, post-test quasi experiment design was selected for the study. The population for present study included children from DK SAMY Matriculation School at Krishnagiri district. The total sample size was 50 school children selected using non

probability purposive sampling technique. Inclusion criteria includes those who are studying Vth standard, who can read English and Tamil and who are willing to participate in the study. Exclusion criteria includes those who are sick at the time of data collection and who are having visual problem. This study was approved by General Hospital Institution Ethical Committee from Government of Pondicherry. The study was conducted after the approval of research committee. Structured questionnaires used to collect demographical data and to assess the knowledge of brushing technique on oral hygiene.

Data Collection Procedure:

Formal approval was obtained from the authority. Written consent was obtained. On the first day the tool (demographic variables and semi structured questionnaires) was administered to all the samples to assess the level of knowledge regarding brushing technique on oral hygiene. The sample taken maximum of 30 minutes to complete the pretest on the level of knowledge regarding brushing techniques. After that, video teaching programme is given by (Liquefied crystal display) in Tamil language, following which doubts are clarified. The post-test will conduct to assess the knowledge of all participants on the 7th day of the intervention by giving semi structured knowledge questionnaire.

Statistical Methods:

The analysis of data was done using SPSS statistics version 26. Demographic information will be calculated by using descriptive statistics. The effectiveness of video teaching programme on level of knowledge will be calculated by using inferential statistics (t-test). Association between the level of knowledge and their selected demographic variables will be calculated by using Inferential statistics (Chi-square- X^2)

Result:

Regarding demographic variables 50 individuals (100%) are 10 years old. Regarding gender, 26 participants (52%) are male. Concerning the educational background of fathers, 18 individuals (36%) reported their fathers had education up to higher secondary level. Similarly, 16 participants (32%) reported their mothers had education up to high school. In terms of occupation, half of the participants' fathers (50%) are engaged in their own businesses, while the majority of mothers (52%) are homemakers. Regarding monthly family income, 24 participants (48%) reported a monthly income below 10,000 units. In terms of accommodation, 35 participants (70%) reside

in urban areas. Interestingly, all 50 participants (100%) had no prior knowledge of proper brushing techniques. Furthermore, 39 participants (78%) reported no history of dental caries.

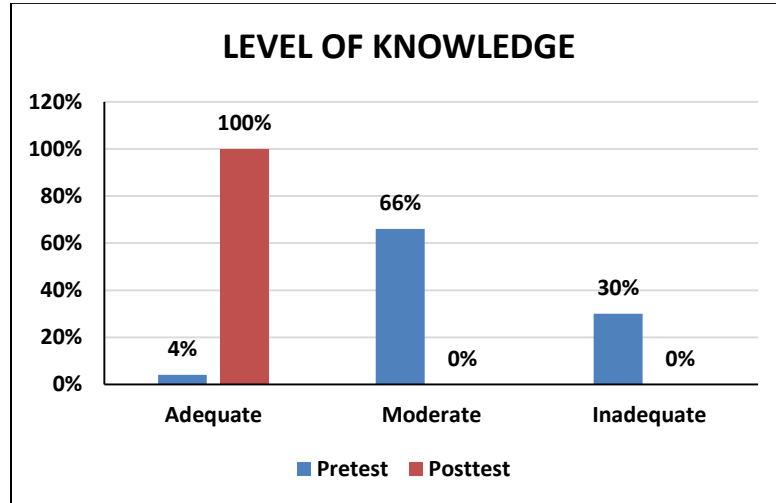


Figure: 1 Percentage distribution of sample according to their pre-test and post-test level of knowledge on in brushing techniques on oral hygiene among school children.

The bar diagram illustrates that in the pre-test, 33 participants (66%) exhibited moderately adequate knowledge of brushing techniques for oral hygiene, while 15 participants (30%) demonstrated inadequate knowledge. Only 2 participants (4%) showed adequate knowledge in this aspect. Conversely, in the post-test, all 50 participants (100%) demonstrated adequate knowledge of brushing techniques for oral hygiene.

Table 1: Mean, standard deviation, mean percentage and difference in mean percentage scores on knowledge regarding brushing technique(N=50)

Variables	Maximum Score	Pre test			Post test			Difference in mean percentage
		Mean	SD	Mean %	Mean	SD	Mean %	
Pretest and Post test	30	12.5	3.546	41.66	27.34	1.620	91.13	49.47

The above table revealed values that then the means pre-test score is 12.5 ± 3.546 and mean percentage is 41.66 whereas, in post-test mean score is

27.34±1.6202 and mean percentage is 91.13 which the reveals the difference in mean percentage is 49.41.

Table 2: Paired "t" value on knowledge regarding video teaching programme regarding brushing technique on oral hygiene among school Childrens

Effects of brushing technique on oral hygiene	Mean	SD	Mean differences	Df	Paired 't' value
Pre test	12.5	3.546	49.47	49	28.416*
Post test	27.34	1.62202			

The above table represents the mean pretest score on video teaching programme regarding brushing technique on oral hygiene among school children is 12.5±3.546 and in the post test mean score 27.34±1.6202 with a mean difference of 49.47 the calculate paired "t" test value is 28.416 which is significantly higher than the table value 1.677 at $p \leq 0.05$.

Chi square test done to find out association between pre-test level of knowledge on oral hygiene on brushing techniques among school children with their selected demographic variables. The result reveals that there is a significant association found between the age, sex, class, studying, Father education, mothereducation, fatheroccupation, motheroccupation, monthly family income, place of residence, previous knowledge of brushing technique have any dental carries about brushing technique on oral hygiene. Hence hypothesis H2 is accepted for the above-mentioned demographic variable at $p \leq 0.05$ level.

Discussion:

The assessment of the pre-test knowledge regarding brushing technique on oral hygiene in selected schools. The school student who met inclusion criteria had been selected and each of them was assessed with demographic variables and questionnaires method. The data analysis showed that among 50 samples 2 (4%) of them had adequate knowledge, 33(66%) samples had moderate knowledge and 15 (30%) were had inadequate knowledge.

A study done by **Rininta Adistia, Wade'ah Wafa et al.** in 2020 shows that educational video is effective in improving oral hygiene in preschool students by reducing the plaque accumulation. Present study shows that knowledge score for pre- test mean was 10 and post- test mean 12. The knowledge score for pre- test S.D was 2 and post- test S.D was 2. Mean difference between both pre-test and post- test was -2.367, the obtained P value is <0.0001 and 't' value is 4. 839. Present study reveals that there is an association exists between the knowledge of school going student's regarding oral hygiene with religion and age, sex, education, type of family, type of diet was non -significant.

The present study shows that there was a significant association between the pre-test score on reducing the level of knowledge regarding video teaching programme among school Childrens. Hence hypothesis H₂ is accepted for the above-mentioned demographic variables at p≤0.05 level. There is significant association between the reducing the level of knowledge on brushing technique at their selected demographic variables such as age, sex, class studying, education of father, education of mother, occupation of father, occupation of mother, monthly family income, place of residence, previous knowledge on brushing technique, children have any dental caries.

The study consistent with the findings of **Thomas. Shija., (2010)** regarding oral health practices among school children in selected school in Palakkad District, Kerala. There was no significant association between brushing techniques and age, sex, education of mother, occupation of mother. Family income and decayed tooth in family members (p>0.05). Hence the research hypothesis H₂: There will be significant association between the video teaching programme among school children with their selected demographic variables was rejected.

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