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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:

Introduction: Oral hygiene is the practice of maintaining a clean and disease-free mouth, which includes brushing and flossing teeth, and visiting a dentist regularly for dental X-rays, exams, and cleanings. **Objectives of the study:** The study objective to evaluate the knowledge of school children about oral hygiene before and after a video teaching program, assess the effectiveness of brushing techniques, and determine the relationship between pre-test knowledge and selected demographic variables. **Methodology:** The research approach used for this study was quantitative research approach. The researcher adopted for this study one group pre-test, post-test quasi experiment design. The total sample size was 50 school children selected based on inclusion and exclusion criteria. The sampling techniques adopted for this non probability simple random sampling technique. **Results:** In pre-test 33(66%) samples have moderately adequate knowledge regarding brushing technique on oral hygiene and 15(30%) samples have Inadequate knowledge Regarding brushing technique on oral hygiene and only 2(4%) samples have adequate knowledge regarding brushing techniques on oral hygiene. **Conclusion:** The result of this study revealed that information education and communication were effective in the level of knowledge regarding brushing technique on oral hygiene among school Children. There was a significant association between the pre-test score on knowledge regarding brushing technique on oral hygiene among school Children with selected demographic variables.

Keywords: Oral hygiene, Knowledge, Brush technique, school children

INTRODUCTION:

Oral hygiene is the practice of maintaining a clean and disease-free mouth, which includes brushing and flossing teeth, and visiting a dentist regularly for dental X-rays, exams, and cleanings.

Children are at high risk for developing oral diseases due to factors such as poor tooth brushing routine, poor dietary habits, low socioeconomic status, and concurrent oral conditions.

Improper oral health care and altered dietary patterns interrupt 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. Recommendations for tooth brushing include starting with the eruption of the first primary tooth, supervised twice a day with an appropriate soft bristled tooth brush and pea-sized fluoridated tooth paste, and minimizing post-brushing mouth rinsing to retain fluoride effect in the oral cavity.

Schoolers often have inadequate tooth brushing behaviour due to not following recommendations or not being supervised by their parents. Eruption of teeth begins at about six months, and all twenty temporary teeth erupt by the age of 2-3 years. Problems of oral cavity, such as delayed teeth, malocclusion, dental caries, and gingivitis, will also appear at this age.

The council of dental health plans organizes oral health programs, including dental health education in schools, dental camps, exhibitions, essay writing, and painting competitions. Effective daily tooth brushing reduces microbial plaque biofilm accumulation, which is dependent on factors such as brush design, duration, frequency, technique, and manual dexterity. A study of tooth brushing trends in 20 European and North American countries from 1994 to 2010 found that brushing twice daily was largely positive, with younger age groups showing more potential for oral hygiene improvements from oral health education.

NEED FOR THE STUDY

The World Health Organisation (WHO) reports that 70% of the Indian population relies on traditional medicine, and untreated caries of deciduous teeth are prevalent in children aged 1-9 years and permanent teeth in people aged 5+ years. Oral cancer affects 2.4 billion people worldwide and is linked to poor oral hygiene, diet, and infrequent dental visits.

Dental caries is a major health problem affecting 2.4 billion people worldwide in 2010. Poor brushing habits are associated with dental caries, with 31 of 31 children in Nepal suffering oral pain and high decay index having poor brushing habits. In Saudi Arabia, brushing frequency was found to be associated with dental caries, while in Abu Dhabi, United Arab Emirates, infrequent brushing was also found to be associated with dental caries.

This research aims to evaluate and assess various tooth-brushing techniques and their association with dental caries among school children in Omdurman locality, Sudan. Conducting research on the cause of the high prevalence of dental caries in Sudan will help in tailoring prevention measures most suitable for the country.

In developing countries like India, many school children are not aware of the importance and correct method of using tooth brushes and chewing sticks. Oral health education programs implemented through schools have the advantage of importing primary preventive instructions to all socio-economic statuses. The investigator is interested in studying the effectiveness of a video teaching program regarding oral hygiene among school children.

STATEMENT OF THE PROBLEM

“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”

OBJECTIVES

The study aims to evaluate the knowledge of school children about oral hygiene before and after a video teaching program, assess the effectiveness of brushing techniques, and determine the relationship between pre-test knowledge and selected demographic variables.

RESEARCH METHODOLOGY:

The methodology of research indicates the general pattern of organization of the procedure of gathering valid and reliable data for the purpose of investigation (**Polit and Hungler 2003**).

This chapter deals with a brief description of different steps which will be taken by the investigator for the study. It includes the research approach, research design, variables, setting, population, sample technique, sample size, development of the tools and data collection procedure.

RESEARCH APPROACH:

The research approach adopted for this study is quantitative research approach.

RESEARCH DESIGN:

The researcher adopted for this study one group pre-test, post-test quasi experiment design.

POPULATION:

The population for present study included school children of Vth standard in DK SAMY Matriculation school at Krishnagar district.

DESCRIPTION OF SETTINGS:

The study was conducted in the DK SAMY matriculation school, this school is located at Krishnagiri.

SAMPLE:

In this study, samples were selected from school children from DK SAMY matriculation school at Krishnagiri.

SAMPLE SIZE:

The total sample size was 50 school children selected based on inclusion and exclusion criteria.

SAMPLING TECHNIQUE:

The sampling techniques adopted for this non probability simple random sampling technique. It is found to be appropriate and the selected experimental method.

CRITERIA FOR SELECTION:**SCHOOL CHILDRENS:**

- 1.Those who are studying Vth standard.
- 2.Those who can read English and Tamil.
- 3.Those who are willing to participate in the study.
- 4.Those who are present during the time of data collection.

EXCLUSION CRITERIA:**SCHOOL CHILDRENS:**

- 1.Those who are absent

- 2.Those who are sick at the time of data collection.
- 3.Those who are having visual problem.

RESULTS:

The study finding 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 $p \leq 0.05$. In pre-test 33(66%) samples have moderately adequate knowledge regarding brushing technique on oral hygiene and 15(30%) samples have Inadequate knowledge Regarding brushing technique on oral hygiene and only 2(4%) samples have adequate knowledge regarding brushing techniques on oral hygiene.

There is a significant association found between the age, sex, class, studying, Father education, mother education, father occupation, mother occupation, 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

Table 1: Frequency and percentage of sample according to demographic variables

S.NO	DEMOGRAPHIC VARIABLES	F	%
1.	Age		
	a) 9 years	0	0%
	b) 10 years	50	100%
	c) 11 years	0	0%
2.	Sex		
	a) Male	26	52%
	b) Female	24	48%
3.	Education of father		

	a) literature	6	12%
	b) Primary education	14	28%
	c) Higher secondary	18	36%
	d) High school	11	22%
	e) Graduate	1	2%
	f) post graduate	0	0%
4.	Education of mother		
	a) Illiterate	8	16%
	b) Primary education	9	18%
	c) Higher secondary	8	16%
	d) High school	16	32%
	e) Graduate	7	14%
	f) Post graduate	2	4%
5.	Occupation of father		
	a) Unemployed	3	6%
	b) Private employed	9	18%
	c) Government employed	4	8%
	d) Farmer	9	18%
	e) Own business	25	50%
6.	Occupation of mother		
	a) House wife	26	52%
	b) Private employed	10	20%
	c) Government employed	1	2%
	d) Farmer	1	2%
	e) Own business	12	24%
7.	Monthly family income		
	a) Below 10,000	24	48%

	b) 10,000-20,000	16	32%
	c) 20,000-30,0000	7	14%
	d) 30,000 and above	3	6%
8.	Place of residence		
	a) Urban	35	70%
	b) Rural	15	30%
9.	Previous knowledge on brushing technique		
	a) Yes	0	0%
	b) No	50	100%
10.	Have any dental caries		
	a) Yes	11	22%
	b) No	39	78%

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

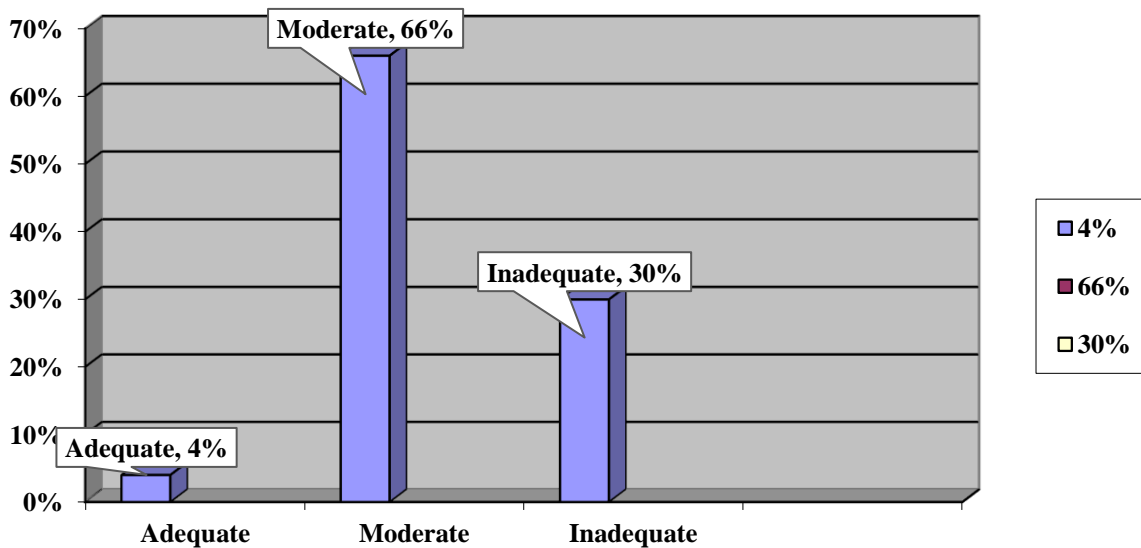


Figure 2 : Percentage distribution of samples according to their post-test level of knowledge on brushing technique on oral hygiene among school children.

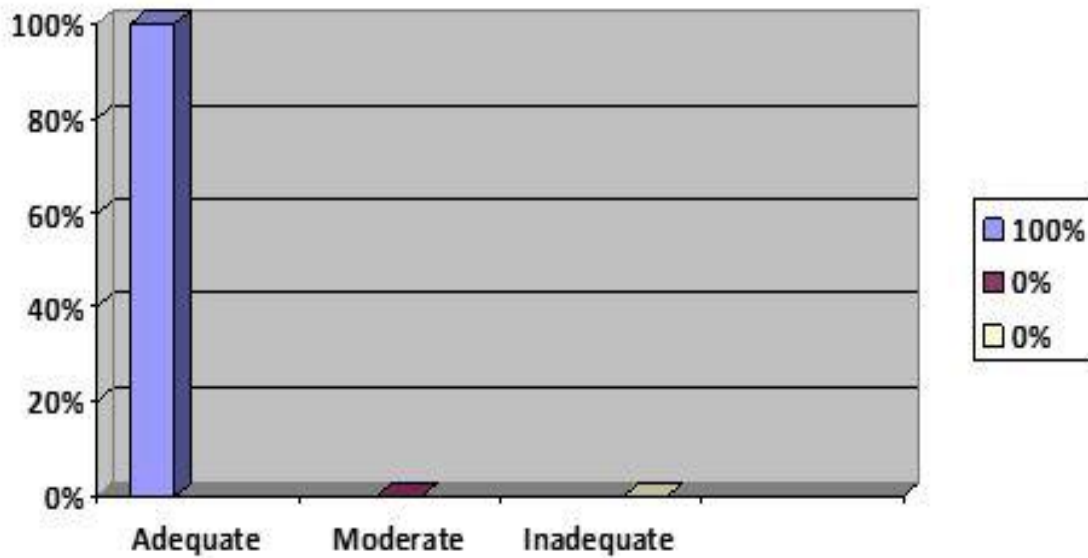


Table:2

Mean, standard deviation, mean difference and paired "t" value on knowledge regarding video teaching programme regarding brushing technique on oral hygiene among school Childrens n=50

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			

DISCUSSION:

A Quasi experimental one group pre-test and post-test research study was done to assess the effectiveness of video teaching programme regarding brushing teaching on oral hygiene among school Children in selected school, Krishnagiri.

The distribution of sample according to their demographic variables. According to the

age, 50 (100%) children belong to 10 years, relating to sex 26 (52%), samples belong to male. Relating to class studying 50 (100%) samples belong to fifth standard father education were higher secondary 18 (36%), mother education were high school 16 (32%), father occupation were own business 25 (50%), mother occupation were house wife 26 (52%), sample monthly family income below 10,000, 24 (48%) and place of residence urban 35 (70%), previous knowledge on brushing technique no 50 (100%), the Childrens have any dental carries no 39 (78%).

The present study was done by **Ms. Jiji. K. George in 2012** found that 58.33% of the subjects were below 13 years of age and Most of the subject's mothers (90%) were educated which is very similar to present study findings. Present study depicts the frequency and percentage between pre-test and post-test level of knowledge of school going student's regarding oral hygiene. Pretest knowledge shows that 10% samples have poor knowledge, 73, 33% have average knowledge, 16.66% have good knowledge. Post-test knowledge shows that 0% samples have poor knowledge, 60% have average knowledge, and 40% have good knowledge.

The assessment of the pre-test knowledge regarding brushing technique on oral hygiene in DK SAMY Matriculation School, Krishnagiri. 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 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 $p \leq 0.05$. Hence the research hypothesis H1 was accepted. this shows that improving the knowledge on brushing technique regarding video teaching programme.

The present study was conducted by Muhammad Sayeed ahamed(2020) about assess the knowledge of school children regarding brushing techniques on oral hygiene. Statistically finding revealed that the pre-test mean score of knowledge was 5.56 with SD 1.36 and post-test mean score of knowledge was 12.12 with SD 1.76. The mean difference was 6.56 and the calculated paired 't' value 24.453 was found to statistically significant at $p < 0.001$ level.

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 Children. Hence hypothesis H2 is accepted for the above-mentioned demographic variables at $p \leq 0.05$ 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.

CONCLUSION:

The study was to determine the effectiveness of information education and communication on knowledge regarding brushing technique on oral hygiene. Among school Childrens at selected school Krishnagiri. The result of this study revealed 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 among school Childrens and this selected demographic variables such as age, sex, education of father, education of mother, occupation of father, occupation of mother, monthly family income, place of residence, previous knowledge on brushing technique.

RECOMMENDATIONS

- A similar study can be conducted for a larger group of school children.
- A similar study can be conducted with a true experimental design.
- The same study can be conducted in a different setting such as a hospital.

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