

Effect of Oral Care on Oral Hygiene among Children in Kancheepuram District, Tamil Nadu

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Abstract

Oral debris is most commonly seen in children with poor oral hygiene. Thorough brushing of the teeth at least twice a day is basic to an effective oral hygiene programme. Around a million new cases of poor oral hygiene (i.e. one child every minute) are diagnosed each year. Hence the investigator ended up using a simple procedure brushing technique to prevent poor oral hygiene.

The objectives of this study were to assess the effectiveness of oral care with a view to improve oral hygiene among children between five to eight years of age. Demonstration of brushing procedure was done among school children with poor oral hygiene, knowledge regarding oral care, attitude and practice were assessed. The pre and post-test assessment was done by using debris index simplified assessment scale. After analysis the results showed that health education and proper brushing technique are very effective among children in improving the knowledge and awareness about maintenance of good oral hygiene.

Oral debris, dental caries and periodontal diseases being quite pandemic, it is essential that even the layman should be made aware of the importance of proper oral care, and also educated regarding the consequences of poor oral hygiene.

Along with dental plaque, oral debris is the causative factor for both dental caries and periodontal diseases. If proper hygienic measures are taken, debris may not get accumulated and hence dental diseases will be prevented. Gingival diseases are seen in higher frequencies during the late mixed dentition periods; hence the study is restricted to children aged between five to eight years.

In spite of the fact that oral problems are increasing day by day, not much attention is given to its prevention. These problems can be prevented by educating the children at earlier stage in relation to the maintenance of good oral hygiene. Oral health is now seen as a preventive measure that maintains health and contributes to good looks and quality of life.

Need for the Study

Various studies have revealed that one cannot be said to have good health without proper oral health; further, health for all by the year 2025 can only be achieved through the medium of primary health care approach. The concept of Dental Health under the theme "Health for All by 2025 A.D" is a significant issue among human beings because 95 percent of all human beings have one or other dental problems at least once in their life time. A significant portion of them belong to paediatric population. The researcher found that oral de-



bris is commonly seen in mouth with poor oral hygiene in the age group of 5-8 years. The children going to school need to think of the maintenance of proper oral hygiene.

"Prevention is better than cure." In order to develop healthy teeth for the children, they should be taught about the dental hygiene, dental visit, daily mouth care, common dental problems and the methods of prevention. Personal oral hygiene is the single most effective measure for prevention of dental caries. If the children are

taught preventive methods, this problem would be minimised.

Objectives

This study was undertaken to:

1. Assess the knowledge, attitude and practice of oral care among children,
2. Evaluate the effectiveness of oral care procedure (method of brushing) among children, and
3. Find out the association between demographic variables and effectiveness of oral care among children.

Conceptual Framework

The conceptual framework of the study parameters is shown in Fig 1.

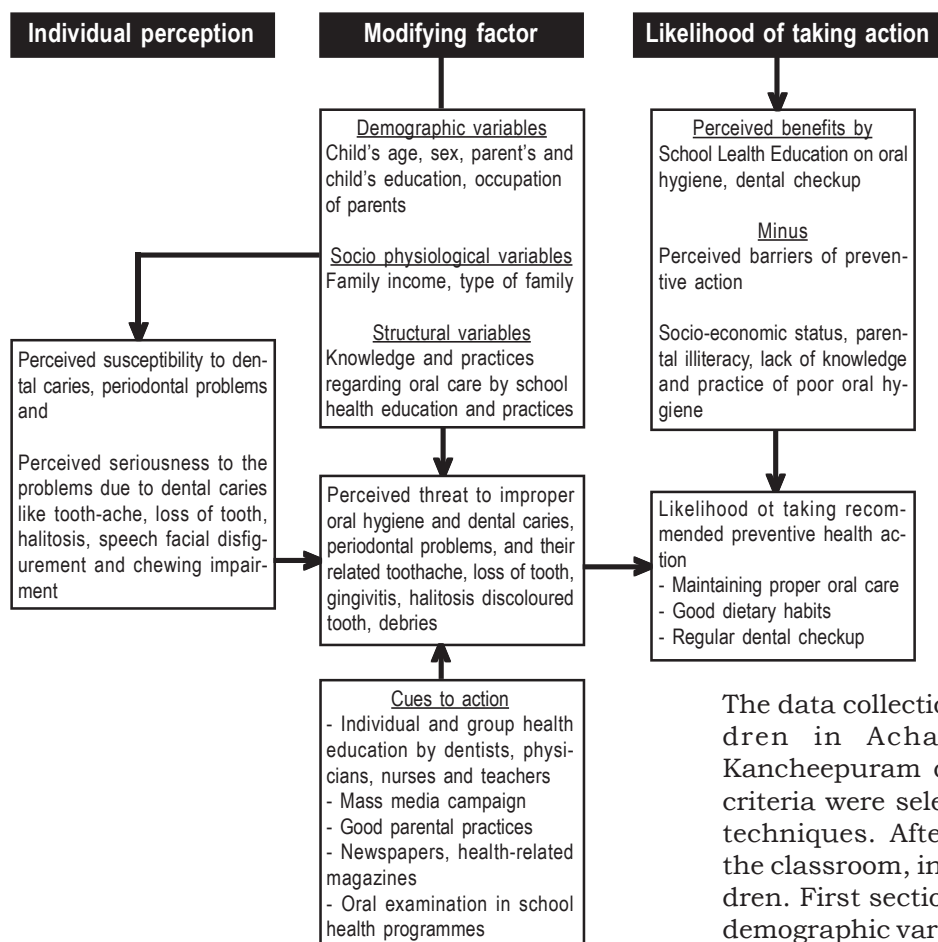
Methodology

Research Design : Quasi-experimental design type was chosen consisting of a pre-test group and a post-test group.

Setting : The study was conducted in Acharapakkam Primary School at Kancheepuram district. The school has a population of 182 children.

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Fig 1 : Modified version Rosenstoch and Becker Health Belief Model (2002)



Population : The children in the age group of 5 – 8 years and those who were studying in I, II, and III standard, at Acharapakkam Primary School, Kancheepuram District were included.

Sample Size : A total number of 50 school children (5-8 years) were selected.

Sampling Technique : Convenient Sampling technique was used for sampling the children.

Criteria For Sample Selection

a. Inclusion Criteria

- ♦ Children with poor oral hygiene
- ♦ Children who could understand Tamil and English.
- ♦ Both male and female students.

b. Exclusion Criteria

- ♦ Children below the age of 5 years and above the age of 8 years.
- ♦ Children sick and with other oral problems at the time of study.
- ♦ Children with good oral hygiene.

Description of the Tool

Part - I : Demographic variables.

Part - II : Questionnaire to assess the knowledge and practice regarding oral care.

Part - III : Observation check list to assess the practice regarding oral care.

Part - IV : Debris index – simplified assessment scale was used to assess the children with poor oral hygiene

Oral hygiene was evaluated by using debris index-simplified assessment scale. The total number of selected children was 50. The debris assessment was scored from 0-3 which was characterised as good, fair, poor. The major portions of index had been adapted from simplified oral hygiene index which was developed in 1964 by John C Greene and Jack R Vermillion.

Data Collection

The data collection was made among the school children in Acharapakkam primary school at Kancheepuram district and who met the inclusion criteria were selected by using convenient sampling techniques. After making proper arrangements in the classroom, instructions were given to school children. First section of the questionnaire guide on the demographic variable was completed, after which the second and third part of the questionnaire guide on general knowledge, attitude and practice of oral care were given to the selected students who were asked to fill the answers in the box provided. The duration for answering the questionnaire was prolonged from 30-40 minutes, and then debris index scales were used to assess the oral condition of the selected children. A planned brushing procedure was conducted for 45 minutes after the pre-test.

Then 15 minutes were allotted for discussion. All the school children participated in the proper brushing procedure with great interest. The same procedure was adopted for four weeks. They were cooperative and attentive. After 14 days of proper brushing procedure post-test was conducted with the same questionnaire with the same school children.

Data Analysis and Interpretation

Section – A : Frequency and percentage distribution of demographic variables of children.

Section – B : Comparison of level of knowledge (Fig 2), attitude (Fig 3), and oral care practices (Fig 4) using debris – index simplified assessment scale among children in terms of adequacy between pre and post-tests (over all scores) has been shown in Figs 2-4.

Section – C : Mean and standard deviation and comparison between pre and post-test scores regarding knowledge, attitude, and oral care practices among

Fig 2: Comparison of level of Knowledge regarding oral care among children between pre-test and post-test

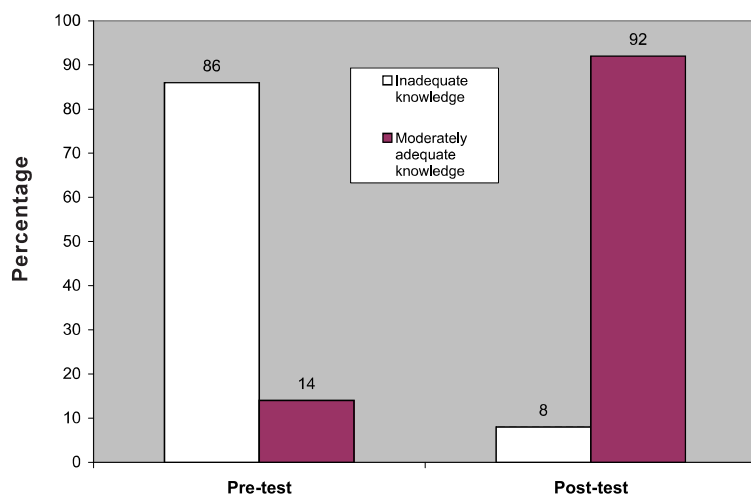


Fig 3 : Comparison of level of attitude regarding oral care among children between pre-test and post-test

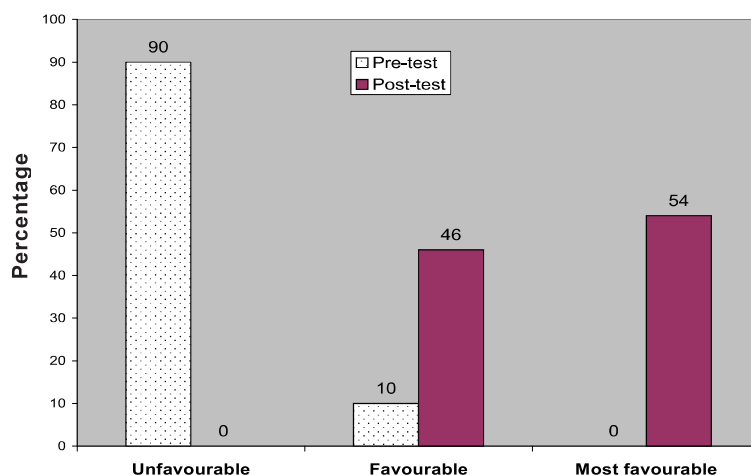
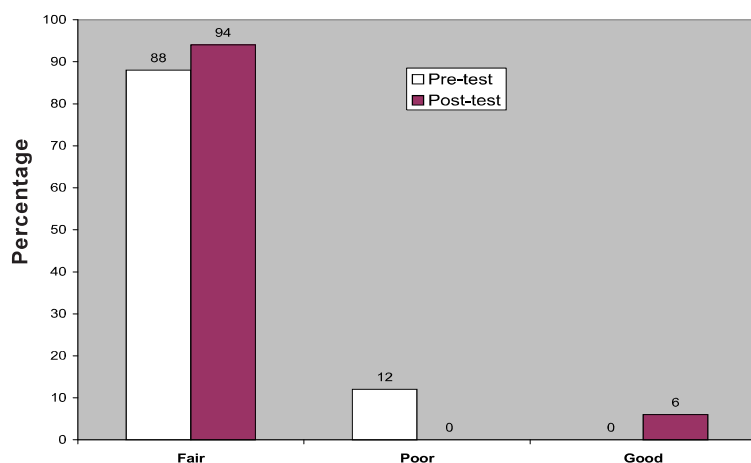


Fig 4: Comparison of level of practice regarding oral care among children between pre-test and post-test



children.

Section – D : Correlation of the level of knowledge, attitude and practice about oral care among children.

Section – E : Inferential statistics, especially Chi-square test was carried out to assess the association between the demographic variable with knowledge of oral care, at-

titude and practice among children. The assumption was examined at 0.1 level of significance.

Findings of the Study

Maximum school children in post-test were as follows: 46 (92%) had adequate knowledge, 27 (54%) school children had most favourable attitude, and 23 (46%) had favourable attitude about oral care, 47 (94%) school children had fair oral practice.

In the post-test regarding knowledge, the mean was 13.44 with the standard deviation of 0.733. Regarding attitude, the mean was 11.72 with the standard deviation of 1.278. Regarding practice the mean was 0.95 with the standard deviation of 0.227. Statistically there was an improvement in the knowledge and attitude of oral care among children. The overall mean and standard deviation was lower on the post-test in practice. Statistically there was a reduction of debris in the teeth of children.

The improved mean and standard deviation in knowledge of oral care were 7.220 and 1.075 respectively and in attitude the improved mean was 5.860 with the standard deviation of 1.414 and in practice, the improved mean was 0.538 with the standard deviation of 0.1356. The comparison of improved mean and standard deviation regarding the level of knowledge, attitude and practice in pre-test score as well as post-test score of children shows some improvement. The calculated value was less than the tabulated value. This proves that statistically there was an improvement in oral care among children after effective health education and brushing procedure with a significance level of $p < 0.001$.

Health education and brushing procedure was more effective among children in the maintenance of good oral hygiene. Brushing chart was given to all 50 samples to maintain regular tooth brushing practice twice a day among children. The children had statistically significant increase in knowledge, attitude and practice regarding oral care ($p < 0.05$). In relation to effectiveness of oral care procedures there had been marked increase in oral care after brushing procedures among children with poor oral hygiene.

There was a significant association between level of knowledge, attitude and practice with demographic variables such as family income, occupation of the father and mother, religion, history of previous visit to dentist by family members at $p < 0.05$ level.

Nursing Implication

Nursing care is the core of any care. Holistic

nursing care could be provided for individual family and community to achieve optimum oral care.

1. The present study can help nurses to enrich the knowledge on oral care.
2. Understanding the needs of school children with poor oral hygiene may help the nurse to plan and provide appropriate oral care to students.

Nursing Service

1. Nurses working in Paediatrics units should have special training about paediatrics nursing.
2. Nurses working in Paediatrics ward should have enough knowledge about oral care of children; they should be a keen observer since the children cannot speak out their needs.
3. Nurses should never fail to assess the children before starting oral care so that they can plan the nursing care accordingly.
4. Not only nurses but all the health care providers such as the auxiliary nurses and mid wives, village health nurses, nurses working in community centre should be also given in-service education.
5. Rewards can be given to the outstanding nurses each year in all institutions which will boost the morale of nurses.
6. Facilities to be made available for managing children with poor oral hygiene in all hospitals including the community setup.

Nursing Education

1. Nursing curriculum can be modified with increased emphasis on child health nursing.
2. It is recommended to have short-term courses on Paediatrics nursing.
3. Students can be also trained to work in Paediatrics care under proper guidance.

Nursing Administration

1. People at the administration position can make necessary policies to implement the concept of child health nursing.
2. Administration can organise in-service education programmes.
3. Adequate staff in Paediatrics ward to be given as per norms.

Nursing Research

1. The study is a preliminary step for exploring the concept of nurse and involved nursing care with respect to the involvement of the children.
2. Further investigator can use this study as a reference material.
3. The study provides awareness for further studies among the student in their area

Recommendations

Based on the findings of the present study the following recommendations are made:

- ◆ The study can be repeated by taking a larger sample which would help to generalise the findings of this study.

- ◆ Comparative study may be conducted to find out the similarities or differences between the knowledge and practices of urban and rural school children.

- ◆ Annual dental check up may be conducted for school children.

- ◆ School syllabus may include topics related to oral care.

- ◆ Education of school teachers on oral care who are the sources of knowledge for children.



Conclusion

About a million new cases of poor oral hygiene are being diagnosed each year making it about 2000 children everyday or one child each minute for a day. The study was conducted to find out the effectiveness of oral care programme among school children. It is concluded that health education and proper brushing procedure twice a day is very effective among children in improving the knowledge and awareness about maintenance of good oral hygiene.

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