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## Impact of teaching on dental knowledge in fifth standard of MCD primary school children of south delhi

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### ABSTRACT

Effect of teaching in dental knowledge in 5<sup>th</sup> standard of MCD primary school children. Design cross sectional study. This study was carried out in children of 9-15 years age group of two MCD primary schools of New Delhi, India. The Data was collected in 180 children in two stages i.e. in pre-teaching assessment, by WHO structured questionnaire in local language and after 30 days in post teaching assessment with same questionnaire was done after providing dental health education. The knowledge about tooth eruption, no. of milk teeth and permanent teeth were 72.78%, 3.89% and 60.56% in pre teaching assessment respectively while 100%, 91.11% and 97.78% were in post teaching assessment respectively. The function of teeth, essential of food chewing and importance of oral health were 70.56%, 43.89% and 47.22% in pre teaching assessment respectively while 97.22%, 94.44% and 91.11% were in post teaching assessment respectively. The healthy gum colour, calcium and vit- C are essential elements of teeth were 33.89%, 45.0% and 17.22% in pre teaching assessment respectively while 90.56%, 92.22% and 91.11% were in post teaching assessment respectively. There is significant improvement in the knowledge by teaching about oral health to the children.

**Key words:** Oral Health, Deciduous Teeth, Dental Caries, Malocclusion And Dental Calculus.

### INTRODUCTION

Health is a universal human need for all cultural groups. General health cannot be attained or maintained without oral health. It is an important aspect of overall health status of an individual. The mouth is regarded as a mirror of body and the gateway of good health. Poor oral health has also been related to poor social relationship and permanent disabilities that affect the ability to learn and grow. Children with chronic dental pain might also have to limit their food choices because of chewing problems. Inadequate childhood nutrition can affect school readiness, school performance and behavior (US department of health and human services 2003). According to Unani literature, most of the oral problems are caused by a lack of proper hygienic practices. Therefore, the maintenance of proper hygiene is of utmost importance to prevent dental diseases. For example, toothache is mostly caused by lack of regular brushing and in appropriate dietary habits. Often, this leads to dental caries. Improper dental hygiene is also responsible for discoloration of teeth which leads to bad appearance and bad odor. Eventually, it causes loosening of the teeth. Sometimes, intestinal parasites infestation may lead to irritation of teeth which causes uneasiness in the teeth. Excess consumption of sour diet may also cause irritation of the teeth (Khan, 1983).

Teeth should be cleaned properly on a regular basis but care should be taken not to harm the gums. So, vigorous brushing is not advised. Teeth should be cleaned properly after every meal. Any remnant of diet, if stuck between teeth, must be removed. Very sour fruits cause insensitivity of teeth, should be avoided. Very hot or very cold food should not be eaten (Avicenna, 1927, Razi, 1991).

Tooth decay remains one of the most common diseases among children. More than half of children aged 5-9 years old had at least one cavity or filling. 78 % of 17-year-olds have experienced tooth decay. By age 17, more than 7 % of children have lost at least one permanent tooth. The daily reality for children with untreated oral disease is often persistent pain, inability to eat comfortably or chew well, embarrassment at discolored and damaged teeth, and distraction from play and learning. More than 51 million school hours are lost each year because of dental-related illness (CDCP, 2003).

Oral problem is a serious public health problem worldwide, especially among children, the school can play a vital role in developing proper health attitudes and correct practices based on correct information regarding oral health and other aspects to make the children attain the highest level of oral and general health (Bhat et al, 2006). A survey was conducted among 5-6 and 12-13 years old school children to assess the prevalence of dental caries, malocclusion and dental calculus. A total of 427 subjects from 7 schools were studied. They revealed that the prevalence of malocclusion was 1.79% and 36.95% among those aged 5-6 year and 12-13 year, respectively (Goel et al, 2000).

WHO focused its attention on oral health in 1994 and choose the theme "Oral Health for Healthy Life" for World Health Day. National oral policies have been formulated by the "Dental council of India", through the inputs of two national workshops organized way back in 1991 at Delhi and Mysore respectively.

Ideally the main objective for dental health education is to impart knowledge and information so as to equip the people and enable them to attain dental health by their own efforts and actions, because this is possible only when people appreciate dental health. Health education assumes paramount importance since majority of oral diseases which are essentially preventable and non life threatening. Oral health education can be effective only when complete, accurate and scientifically valid message are given to the community to maintain healthy oral cavity. The key to prevention or control of oral health is thus the preaching of preventive oral health through dental health education.

## MATERIAL METHOD

This cross sectional study was conducted in two MCD primary schools of Zakir Nagar and okhla village, Jamia Nagar, New Delhi, India from September to November 2009, keeping in mind the feasibilities of research. The population under study was students of class fifth of two primary schools (morning and evening shift) in the age group of 9-15 years of both boys and girls. The total no of children were 180 in the study.

## Exclusion criteria

- (i) Students of other than class 5th.
- (ii) Who have very serious dental problems
- (iii) Who can't understand the Performa
- (vii) Not willing to take part in study

The data was collected in two stages, in the pre-teaching assessment, the WHO structured questionnaire in local language was given to the students for the assessment of oral health knowledge about structure, function and essential elements of teeth and gums in the average time of one hour. After 30 days, in the post teaching assessment with same questionnaire for one hour was done after providing dental health education. The dental health education was given with the help of chart, models, and audiovisual aid followed by question answer session.

The data was analyzed in SPSS-12 package. The statistical test such as Chi-square test was applied besides taking frequency and percentage analysis. The P value of  $> 0.05$  and  $> 0.01$  is considered as significant and highly significant respectively

## OBSERVATION AND DISCUSSION

Table 1 shows that only 60.0% boys knew about tooth eruption take place twice in the life while 83.0% girls knew the same in pre teaching assessment. In the pre-teaching assessment out of 180 children only 72.78% children having knowledge that tooth eruption take place twice in a life while in post teaching 100% knew the same. After giving the education, all the children knew about eruption of the teeth. It was found that there was no statistically significant difference in pre & post teaching assessment. It is also shows that out of 180 children only 3.89% children knew about no of milk teeth in pre teaching assessment while in post teaching 91.11% knew the same and there was no statistically significant difference in pre and post teaching assessment.

**Table No 1:** Distribution of children by their knowledge about structure of teeth during pre & post teaching. (n=180).

Questions	Pre- teaching			Post- teaching		
	Boys	Girls	Total	Boys	Girls	Total
	No (%)	No (%)	No (%)	No (%)	No (%)	No (%)
Q1	48 (60.0%)	83 (83.0%)	131 (72.78%)	80 (100.0%)	100 (100.0%)	180 (100.0%)
Q2	0 (0.0%)	7 (7.0%)	7 (3.89%)	74 (92.5%)	90 (90.0%)	164 (91.11%)
Q3	49 (61.25%)	60 (60.0%)	98 (60.56%)	78 (97.5%)	98 (98.0%)	176 (97.78%)

**Q1:** How many times tooth eruption takes place in our life time?

**Q2:** How many milk teeth do children have?

**Q3:** How many deciduous/permanent teeth do children have?

Regarding the knowledge about permanent teeth in pre teaching assessment 60.56% children knew but in post teaching it is increased up to 97.79%. It showed highly statistically significant difference in pre and post assessment ( $\chi^2 = 0.249 < 0.01$ ).

The similar observation was found by Mahmoud et al, regarding structure of the teeth. They revealed that only 2.7% of the subjects knew the correct no of deciduous teeth, while 54% knew the correct no of permanent teeth. This depicted that students are receptive to teaching which is reflected as increased in frequency in post teaching. Table 2 indicates that in the pre-teaching assessment, only 70.56% children knew that chewing is a function of teeth while in post teaching 97.22% knew the same. This study found, there is significant difference in pre and post teaching assessment. ( $\chi^2 = 0.150 < 0.05$ ). It was found that only 43.89% children knew that chewing is essential for digestion in pre teaching assessment while in post teaching 94.44% knew the same. There is statistically significant difference between pre and post teaching assessment. ( $\chi^2 = 0.170 < 0.05$ ).

**Table No 2:** Distribution of children by their knowledge about functions of teeth during pre & post teaching (n=180).

Questions	Pre- teaching			Post- teaching		
	Boys	Girls	Total	Boys	Girls	Total
	No (%)	No (%)	No (%)	No (%)	No (%)	No (%)
Q4	62 (77.5%)	65 (65.0%)	127 (70.56%)	79 (98.75%)	96 (96.0%)	175 (97.22%)
Q5	37 (46.25%)	42 (42.0%)	79 (43.89%)	78 (97.5%)	92 (92.0%)	170 (94.44%)
Q11	40 (50.0%)	45 (45.0%)	85 (47.22%)	78 (97.5%)	86 (86.0%)	164 (91.11%)

**Q4:** what is the function of teeth?

**Q5:** Chewing of food is most essential for:

**Q11:** Has oral health got any role on general health?

Regarding the importance of oral health in general health 47.22% children knew in pre teaching assessment while in post teaching it's increased up to 91.11% and found highly statistically significant difference between pre & post assessment. ( $\chi^2 = 0.212 < 0.01$ ). The similar finding was observed in another study by Mahmoud et al they found 54% children knew the importance of oral health in general health in pre teaching assessment which is nearer to our study. Table 3 depicts that in the pre-teaching assessment only 33.89% children knew about the colour of healthy gums while in post teaching assessment, 90.56% knew the same and it shows that there is no statistically significant difference between pre and post teaching assessment. There is only 45.0% children knew that calcium is the essential elements for healthy teeth in the pre-teaching assessment while in post teaching assessment, 92.22% children said that calcium is essential elements for healthy teeth and there was statistically significant different in pre and post assessment. ( $\chi^2 = 0.185 \leq 0.05$ ).

In the pre-teaching assessment only 8.75% boys said that Vit C is essential for healthy gums while 24.0% girls having the same knowledge so there was no significant difference between boys and girls. Among the total 180 children, in pre teaching assessment only 17.22% knew that Vit C is essential for healthy gums while in post teaching assessment 91.11% knew the same and there was no significant difference in pres and post teaching assessment.

**Table 3:** Distribution of children by their knowledge about colour and essential elements of teeth/gums during pre & post teaching. (n=180).

Questions	Pre- teaching			Post- teaching		
	Boys	Girls	Total	Boys	Girls	Total
	No (%)	No (%)	No (%)	No (%)	No (%)	No (%)
Q6	27 (33.75%)	34 (34.0%)	61 (33.89%)	78 (97.5%)	85 (85.0%)	163 (90.56%)
Q7	32 (40.0%)	49 (49.0%)	81 (45.0%)	77 (96.25%)	89 (89.0%)	166 (92.22%)
Q8	7 (8.75%)	24 (24.0%)	31 (17.22%)	77 (96.25%)	87 (87.0%)	164 (91.11%)

**Q6:** What is the colour of healthy gums?

**Q7:** One main essential element required for healthy teeth?

**Q8:** Which one vitamin is most essential for healthy gums?

## CONCUSSION

It was found that there was significant improvement in the knowledge of structure, function and essential elements after dental health education session. Hence the dental health teaching programmed should be incorporated in annual syllabus of the primary school children, which may create awareness and prevention.

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