

A Study on Oral Health Condition of Children in Angadwadi Centres of Amboli, Andheri (W), Mumbai.

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ABSTRACT:

Context:

In Mumbai city, the prevalence of dental caries among 3 to 6 yrs. old preschool children is 42.5% to 69.75% which can be reduced by oral health promotion strategies through education.

Aims:

To study the prevalence of Dental carries and association of it's with oral health education among pre-school children in ambolimahatarpada slum, Andheri west Mumbai district of Maharashtra state in India.

Settings and Design:

A community-based cross-sectional study was conducted in 6 Anganwadi centres selected using multistage sampling technique for selecting 133 children in the age group of 3 to 6 years during Nov. 2019.

Methods and Material:

Children register prior to 3 months in Anganwadi were selected and data collection was done on the google form.

Statistical analysis used:

Analysis was done on epi info and excel.

Results:

Prevalence of Dental carries among the study population was 42.11% with Odds of developing dental carries 1.20 times higher among female child as compared to the male child (P=0.31). Odds of developing dental caries was 0.51 times low among children who brush their teeth before bedtime (P=0.07), 2.02 times higher among child who used adult toothpaste as compared to kid toothpaste for brushing teeth (P=0.09), 0.70 times low among children who washed their mouth with water after eating sweet or anything regularly other than brushing (P=0.17), 0.60 times low among children whose parent supervise their child for brushing of teeth (P=0.12) and Ayurveda influence was 1.81 times higher in the child with dental caries (P=0.07).

Conclusions:

Presence of dental carries was found higher among those with unhealthy dental practices. A significant association was found between the presence of dental caries among children aged 3 to 6 years and health education given by Anganwadi worker (P<0.05).

Key-words:

Preschool, Oral health, Practicing healthy oral habit

Key Messages:

In urban areas of India, there is a need for the National oral health programme (NOHP) for an affordable, accessible and equitable oral health care delivery in children.

I. INTRODUCTION:

Through this study prevalence of dental carries and association with oral health education ⁽¹⁾ and oral health habits practised ⁽²⁾ are analysed. Prevalence of dental caries is 50% to 60% among preschool children in India ⁽³⁻⁵⁾. In Mumbai city prevalence of dental caries among 3 to 6 yrs. old preschool children are 42.5% to 69.75 % ⁽⁶⁾. Oral health promotion strategies ⁽⁸⁾ through education are required for reducing the prevalence of dental caries and an overall improvement in oral health amongst 3 to 6 yrs. children ^(1,8).

Subjects and Methods:

Aim and Objective

- 1) To study the prevalence of dental caries in children between the age group of 3 to 6 years of Amboli, Andheri (W), Mumbai Suburban area.
- 2) To find an association between dental caries and oral health education.
- 3) To find an association between dental caries and oral health habits practised.

As per the convenience of the investigator, Amboli, Andheri West area of Mumbai suburban was selected for study in the month of Nov 2019. Multi-stage sampling technique was used for

the research study. There are 25 AWCs functioning in these study areas. Out of these, 6 AWCs were selected by using Simple Random sampling method after enumerating all the AWCs. All the children enrolled in the AWC were included in the study after taking assent from the parents. This gave a sample size of 133 children comprising 58 male and 75 female children. All the children who were registered in these AWCs at least prior to 3 months were selected for research purpose. For data collection, google form was used along with epi info for data analysis. Ethical Approval was taken from Parul Institute of Public Health, Parul University, Vadodara, Gujarat.

II. RESULTS:

A total of 133 children among 6 AWCs where examined which comprises of 58 (44%) male children and 75 (56%) female children along with interviewed 133 parents which comprises 32 (24%) male and 101 (76%) female and their responses estimated in (table 1).

III. DISCUSSION:

The children's with poor oral health can harm their performance in their school and then later on in their life. The children's with poor oral health are 12 times more likely to have more restricted-activity days which includes missing their school, not completing their project on time, etc. compare to those children's who don't have poor oral health⁽¹⁾.

Carbohydrate plays a very important role in caries development by plaque bacteria which are metabolized or fermented. Mono-saccharides that are directly obtained by food or are formed by digestion in the mouth by saliva are used by bacteria to produce acids that erode mineralized dental tissues. If the mouth is clean regularly with water just after eating may reduce caries by acting as a buffer and may reducing neutralization span from 20-40 minutes which can reduce demineralization because when we eat anything due to plaque bacteria and digestion processes pH decreases to approximately 5.5 or below and then gradually return to neutral over the span of 20 -40 minutes as saliva buffers the acid⁽⁹⁾.

From the descriptive analysis, it can be pointed out that children seem to have varied oral health habits some of which are healthy and others are not. These habits seem to be largely influenced by the parents' knowledge and wisdom related to oral and dental health. The health-seeking behavior is also not appropriate sometimes due to lack of resources and sometimes due to lack of awareness.

Basic knowledge related to dental and oral health seems to be grossly lacking. This was also found in a similar study^(5, 10). The factors associated with dental caries are widely prevalent. Some of the factors even though not statistically significant play a major role in determining the outcome. Not brushing teeth regularly before bedtime or lack of supervision, not washing mouth are all preventable factors and can be changed with regular reinforcement from the peripheral and field-level workers. Anganwadi workers seem to play a major role in this. Those counselled by them have lesser dental carries than their counterparts. This is also supported by other studies⁽⁷⁾.

IV. CONCLUSION

It can be concluded from the study that the parents are not aware regarding various aspects of oral health and its impact on the dental health of the children. Health education given by Anganwadi workers play a significant role in improving the practices as reflected in the statistical association. Parents do not take their children for treatment of Dental caries and gum problems largely due to either lack of dental experts in Govt. hospitals or too high a cost of treatment. Also it is clearly evident that there is very little knowledge regarding the existence of National oral health programme in the study settings and also the community. The percolation of the relevant knowledge and reflection in the practices can take place only after regular reinforcement by the appropriate stakeholders and this shall go a long way in improving the dental health of children.

V. RECOMMENDATIONS

1. There is a need for a structured oral health education programme on basis of participatory epidemiology practices as participation is a tool for empowerment.
2. Information Education and communication (IEC) materials containing when, how and what to use for brushing teeth along which regularly wash mouth after eating any things.
3. Stakeholders intervention are needed for upscaling oral health in the community through providing structured training to teachers and AWS worker, conducting education camps for parents and children along with screening once in fortnightly and referral services for vulnerable children.
4. In urban areas of Mumbai, there is a need for the National oral health programme (NOHP)

like rural areas for an affordable, accessible and equitable oral health care delivery in children.

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Table. 1 Table showing details of the oral health of children enrolled for the study

QUESTION (n=133)	YES	NO
Does the child have dental caries?	56 (42%)	77 (58%)
Does the child have bleeding from gums?	5 (4%)	128 (96%)
Does the child have periodontal (gum) disease other than bleeding from gums?	3 (2%)	130 (98%)
Does the child visit the dentist for dental caries treatment?(n=56)	8 (14%)	48 (86%)
Does the child visit the dentist for bleeding gum treatment?(n=5)	2 (40%)	3 (60%)
Does the child brush his teeth before bedtime?	30 (23%)	103 (77%)
Does the child wash his mouth regularly with water after eating anything other than brushing his tooth?	49 (37%)	84 (63%)
Do parents supervise the child while brushing his teeth?	102 (77%)	31 (23%)
Does a parent know about oral hygiene or oral health?	125 (94%)	8 (6%)

Do the parents know about "Child Oral Health Card"benefit under National oral health programme?	0 (0%)	133 (100%)	
Does AWS worker educate the child about oral hygiene or oral health?	121 (91%)	12 (9%)	
Is there an influence of Ayurveda in the selection of toothpaste?	34 (26%)	99 (74%)	
Has any of the children been treated for a root canal?	1 (1%)	132 (99%)	
Has any of the children been treated for a tooth extraction?	1 (1%)	132 (99%)	
Toothpaste used for cleaning teeth?	Kid toothpaste	Adult toothpaste (regular)	
	21 (16%)	112 (84%)	
Reason for not using kid toothpaste?(n=112)P=0.0012	Don't know	costly	don't want to use
	60 (54%)	9 (8%)	43 (38%)

Table 3 Table showing details of the oral health of study subjects

QUESTION	REPLY (n=133)				
What is the reason for not visiting the dentist for dental caries or bleeding gums?(n=56) P=0.0187	Fear of dental treatment	No dentist available nearby	Cost of treatment is high	No availability of Govt. setup near nearby	No good service offered at Govt. setup
	11 (20%)	0 (0%)	32 (57%)	8 (14%)	5 (9%)
How often does thechild brush his/her teeth?	Once-daily	twice daily	Less than thrice a week	No	
	92 (69%)	29 (22%)	12 (9%)	0 (0%)	
Which one of the following is used for cleaning tooth?	Toothbrush & paste	Powder with toothbrush	Finger with toothbrush or powder	neem twig only	
	133 (100%)	0 (0%)	0 (0%)	0 (0%)	

Table 3Dental Caries and the associated factors

Sr.No	Dental Caries Yes VS No (n=133)	Odds Ratio	95% confidence limit of OR		Chi-square	P-value
			Lower	Upper		
1	Dental caries in Female VS Male child	1.20	0.5960	2.3986	0.25	0.31
2	Brushing teeth before bedtime Yes VS No	0.51	0.2135	1.2211	2.33	0.07
3	Toothpaste used Adult toothpaste (regular) VS Kid toothpaste	2.02	0.7289	5.5768	1.87	0.09



4	Wash his mouth with water after eating sweet or anything regularly other than brushing his tooth Yes VS No	0.70	0.3413	1.4476	0.92	0.17
5	Parents supervise for brushing of teeth Yes VS No	0.60	0.2694	1.3580	1.50	0.12
6	Ayurveda influence in the selection of toothpaste Yes VS No	1.81	0.8230	3.9628	2.20	0.07
7	Parent knowledge about oral health Yes VS No	1.23	0.2808	5.3609	0.07	0.41
8	AW worker educated children for oral health Yes VS No	4.03	0.8469	19.1763	3.50	0.03

*Significance level 0.05