

Prevalence of caries in special children and the awareness of parents towards their oral health care

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Introduction

Children with Special Healthcare Needs (CSHN) are defined by the **Maternal and Child Health Bureau** as “Those who have one or more chronic physical, developmental, behavioral or emotional conditions and who also require health and related services of a type or amount beyond that required by children generally.”¹

CSHN pose a greater risk for health problems and need additional help and rely heavily on the care takers for maintaining a good overall health including oral health. CSHN have marked oral pathologies which could be due to their actual disability or because of other medical (eg: medicines with high sugar content) or economic conditions, self mutilating behaviors or because of their parents inability to carry out their oral hygiene measures efficiently.^{2, 3}

An oral health problem should be suspected in a child if they exhibit signs like grinding of teeth, refusal or intake of softer foods, touching in or around the mouth, teeth, jaws and cheeks, halitosis or discoloration of teeth.⁴

Dental caries is usually found in children with developmental disabilities. These children have poor

eating habits mainly comprising of soft and sticky food. Also their inability to chew properly and presence of dysphagia in several children interferes with the mastication of hard and fibrous food items. This eventually leads to plaque accumulation and caries initiation. ⁵ However, the most important risk factor for dental caries in disabled children is poor oral hygiene and inadequate tooth brushing. Several studies and surveys have shown that CSHN fail to receive oral health care primarily due to negligence by the guardians and also because oral health is given the least priority owing to the debilitating general and mental health.⁶ Also very few studies have been conducted in Mangalore which evaluates the oral health status of the special children and the awareness about oral health among the parents of these children. Hence the aim of our study was to assess the prevalence of caries in children with special health care needs in an institution and the assessment of parental awareness about oral health.

Methodology

An informed consent was obtained from the concerned authorities of an institution for children with special

health care needs in Mangalore. Dental examination was carried out in a group of 100 differently abled children in an age group of 2-19yrs. def and DMFT scores were recorded using a mouth mirror and a blunt probe under natural sunlight.

DMFT index revealed decayed, missing and filled teeth in the permanent dentition. The def index was used for the same purpose in deciduous teeth (decayed, extracted tooth due to caries and filled deciduous tooth). A sum of def and DMFT scores was obtained for children with mixed dentition.

Also a validated questionnaire was given to a group of 53 parents of the children from the above mentioned institution. It consisted of the demographic data and questions regarding various aspects of oral health care. The questionnaire was filled by the parents under our guidance.

Statistical Analysis

Using SPSS software version 22, analysis of the data was performed using Descriptive Statistics (Mean, Frequency and Percentage).

Results

The sample consisted of 51 boys and 49 girls. Out of 100 children, 55 had sensory disabilities, 29 were mentally challenged and 16 were physically challenged.

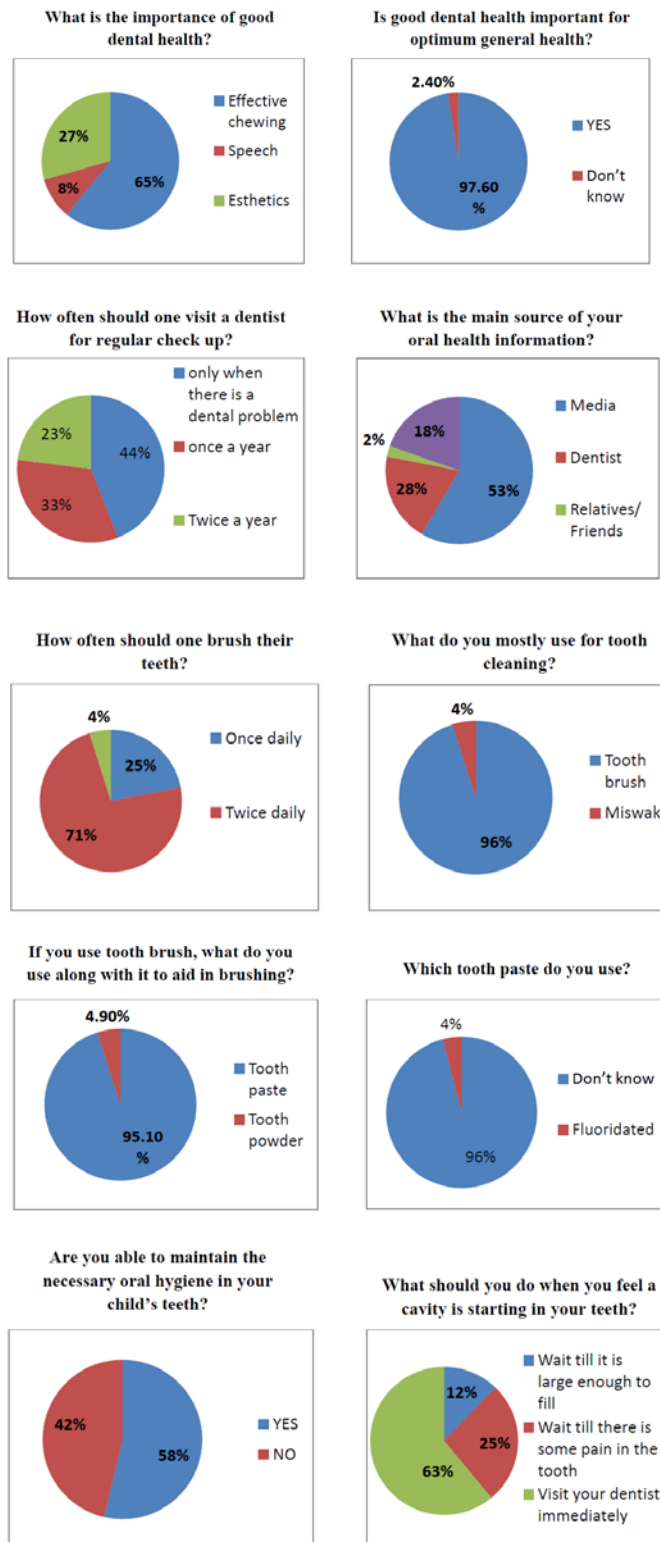
Caries prevalence:

Only 19% of the children were caries free. The def score ranged from 0-16 with a mean score of 1.8 (d - 63%, e - 18% and f - 19%) and the DMFT score ranged from 0-8 with a mean score of 2.25 (D - 72%, M - 8% and F - 20%). There was no significant difference of caries prevalence between the two genders.

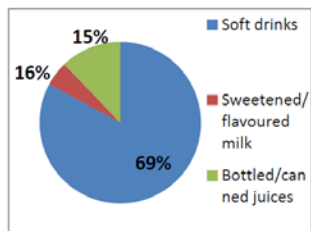
Questionnaire Analysis:

Out of the 53 parents who answered the questionnaire, 94.2% were females and 5.8% were males. 59.6% mothers were educated till 10th standard; 25% were

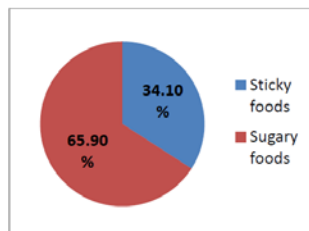
illiterate and 67.3% were non-working. 51.9% fathers were educated till 10th standard; 11.5% were illiterate; 58.8% were skilled workers and 19.6% were non-working. 74.5% were nuclear family and 26.5% were joint families. 82.7% had a mixed diet.



Which of the following drinks can have harmful effects on the teeth?



Which of the following food groups mainly causes tooth decay?



How many times in a typical week does your child consume the following food items?

Food items	Never	Once a week	2-4 days a week	5-6 days a week	Once a day
Sweets	2%	50%	23%	6%	19%
Soft drinks / sugary drinks	6%	42%	33%	9%	10%
Cake / pasteries	36%	42%	12%	6%	4%
Potato chips	21%	38%	15%	19%	7%

Discussion

A 2011 census revealed that over 21.5 million people in India suffer from some form of disability i.e almost 2.1% of the population. This number is said to increase significantly with each passing year.⁷ Various studies have reported that dental treatment is the greatest unattended health need of the disabled. Some reasons cited for this include inadequate recall system, practical difficulties during treatment, communication problems and poor patient compliance.⁸

The oral health of the child depends upon the parental awareness regarding the same. Hence there is a need to assess the knowledge of the parents regarding the oral hygiene measures.

The prevalence of caries in our study was found to be 81%. The mean def score and DMFT scores were found to be 1.8 and 2.25 respectively. However, higher mean def scores were reported by Alvarez-Arenal et al.⁹ (2.10), Natasa et al.¹⁰ (3.42), Rao et al.¹¹ (3.06) and high DMFT scores were reported by Purohit et al.¹² (2.52), Shyama et al.¹³ (4.5) In contradiction to our study, low mean def and

DMFT scores (1.03 and 1.22 respectively) were reported by Mokhtar et al.¹⁴

Our study reported a low level of parental awareness about oral health maintenance. Most of them visited a dentist only when there is pain, did not know the importance of fluoridated toothpastes and almost half of them were not able to maintain necessary oral hygiene in their child’s teeth. This could be the reason for higher number of decayed teeth and less number of restored teeth in these children. Similar findings were reported by Bodhale et al.¹⁵ and Hegde et al.¹⁶. However, Wyne et al.¹⁷ has reported a satisfactory oral health knowledge and practices among the caregivers in his study.

The present study had certain limitations like small sample size and a disparity between the number of children and the parent included in our study.

Conclusion

The caries prevalence among the children with special health care needs was found to be high along with a low level of awareness among the parents regarding oral hygiene maintenance. Thus, emphasizing the need for conducting oral health awareness programs and suggesting suitable methods of maintaining oral hygiene in these children.

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