Original Article

Oral health status of special health care needs children attending a day care centre in Chennai

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ABSTRACT

INTRODUCTION: Oral health is an important aspect of health for all children and is all the more important for children with special needs.

AIM: To evaluate the oral health status of special health need children at Vidya Sudha, a day care centre in Chennai.

MATERIALS AND METHOD: A modified WHO oral health assessment form was used to assess the caries experience, gingival, and oral hygiene status.

RESULT: Data were analyzed using ANOVA and chi-square test. No statistical significant differences were found between the evaluated groups regarding age or gender, and medical conditions.

CONCLUSION: Majority of the children had poor oral hygiene, showing high caries prevalence as well as moderate gingivitis.

Key words: Autism, delayed development, special health needs children

INTRODUCTION

Special health care needs (SHCN) children are those who have physical, mental, sensory, behavioral, emotional, and chronic medical conditions that require health care beyond that considered routine and which involves specialized knowledge, increased awareness, attention, and accommodation. Medical conditions such as attention deficit hyperactivity disorder (ADHD), autism, cerebral palsy, Down's syndrome, delayed development, delayed speech and language, and mental retardation are included in this study. The provision of dental services to children with SHCN historically has been given limited attention by the dental profession.[1] Many published studies have reported relatively poor oral hygiene and high level of gingival disease in SHCN children. Dental diseases and its treatment present several problems in this group of patients. This group of individuals may also not understand and assume responsibility for cooperative with preventive oral health practices. Many care givers do not have the requisite knowledge or values to recognize the importance of oral hygiene and do not practice appropriate oral hygiene or choose a proper diet. They may be more susceptible to dental caries if they reside at home and are pampered with cariogenic snacks and other unhealthy eating habits. Simple dental procedures can be done on chair-side, anesthesia, either local or general may require special facilities and care. Several agents including Ketamine and Enflurane have been found to induce seizures and are therefore contraindicated in few of the above-mentioned conditions.[2]

The prevention and treatment of the early stages of dental disease lie in the provision of self-care but this may be difficult for the SHCN children. In India, there is little data available relating to dental health in SHCN children and hence this study was done to assess the oral health status in those children.

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MATERIALS AND METHODS

The study population consisted of children attending Vidya Sudha, a private day centre for children with SCHN. At the time of this study, there were seventy children attending Vidya Sudha. Consent forms were also sent to parents to indicate their children's or wards participation in the screening exercise. Only subjects whose parents consented to their ward's participation and were present in school at that time were examined. The screening for each subject included a record of the child's bio-data, type of disability, and parent's educational background, as provided by the parent or from the school record [Table 1]. Oral examination was carried out on all the children in the dental clinic of

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the school. The oral health status of all the children were recorded using a modified WHO oral assessment form (1997). Mouth mirror and explorer were used to evaluate the presence of decay, missing, and filled teeth. The oral cavities of children were examined for oral lesions and caries exposure was recorded using the dft, DMFT indices. Gingival status was recorded using gingival index given by Silness and Loe. The oral hygiene status of the children were assessed according to criteria used in the simplified oral hygiene index (OHI-S) proposed by Green and Vermillion.[3] The children were examined in the dental chair under light illumination using a sterile mouth mirror and CPITN probe, while taking protective cross infection control measures using disposable gloves and masks. Each examination was conducted by the same examiner.

RESULTS

After evaluation of SHCN children, data were reported and statically analyzed using ANOVA and Chi-square test. No statistically significant differences were found between the evaluated groups regarding age or gender, and the medical conditions. Out of 21 delayed development children 13 (61.9 %) were having dft with a mean dft indices. 22±0.14, 14 (66.7%) were had gingivitis and three were having poor oral hygiene. Out of 20 autistic children seven (35%) had dft with a mean dft index. 18± 0.16, 13 (65%) had gingivitis, and four (20%) had poor oral hygiene. Out of ten cerebral palsy five (50%) had dft with mean dft 0.18±0.16, two (20%) had gingivitis and two (20%) had poor oral hygiene. Out of five Down's syndrome three (60%) had dft with mean dft 0.41±33, two (40%) having gingivitis, two (40%) had poor oral hygiene. Out of five delayed speech language three (60%) had dft with mean dft index 0.13±0.02, 1 (20%) having gingivitis and 1 (20%) had poor oral hygiene. Out of five mental retardation cases, one (20%) had dft with mean dft index. Out of three, two (40%) had gingivitis and one (20%) had poor oral hygiene. Out of four ADHD, one (25%) had dft with mean dft index 0.05, one (25%) had gingivitis, and one (25%) had poor oral hygiene [Table 2, Figures 1 and 2].

The study is limited by the small number of subjects who participated in the screening program**.** Most of the previous studies did not analyze this considered age group, children with special health care (SHCN) with these many medical conditions, whether patients were institutionalized, dft index, thus making it difficult to make a direct comparison with previous data. Until now, no research was specifically concerned with the prevalence of periodontal disease in the deciduous dentition of SHCN children. A number of surveys and controlled studies have been conducted to determine the effects of handicaps on the prevalence of oral disease. The results of these studies, however, have been inconclusive. As Swallow suggested, there are conflicting accounts of the prevalence of dental caries in handicapped children.[4,5]

In orthopedically handicapped children, the prevalence of gingival disease, dental caries, and malocclusion found to be noticeably high, and this attributed to a loss of function.[6] Oral health status of cerebral palsied children and their siblings, they found that the DMF rate and the status of oral hygiene in cerebral palsied children were not higher than their nonhandicapped sibling, whereas the incidence of gingival disease and oral habits was greater in the cerebral palsied children.[7] This investigation showed that there were few differences in caries prevalence between handicapped and control children. Although no single group consistently rated highest or lowest, the nature of the handicap seemed to have a definite effect upon the prevalence of oral disease in the orthopedically handicapped children include in the study. Down's syndrome subjects, age for age, did have less caries, but this was probably due to local factors rather than inherent resistance. In addition, institutionalized handicapped groups had a lower caries incidence than those living at home, probably as a result of dietary control.[8-11]

Swallow demonstrated a trend of lower caries incidence in the primary teeth of children with a wide range of physical and medical handicaps. While Miller and Taylor showed somewhat greater caries incidence in the permanent teeth

Table 1: Various medical conditions in children

Medical condition	Frequency	Percent
ADHD	4	5.7
Autism	20	28.6
Cerebral palsy	10	14.3
Delayed development	21	30.0
Down's	5	7.1
DSL	5	7.1
Mental retardation	5	7.1
Total	70	100.0

Table 2: Caries experience in children

dft Index	Frequency	Percent
0.05	7	10.0
0.10	5	7.1
0.15	4	5.7
0.20	4	5.7
0.25	6	8.6
0.33	1	1.4
0.35	1	1.4
0.40	1	1.4
0.45	1	1.4
55	2	2.9
0.80	1	1.4
Total	33	47.1

Table 3: Oral hygiene status of children

OHS	Frequency	Percent
Poor	12	17.1
Fair	36	51.4
Good	22	31.4
Total	70	100.0

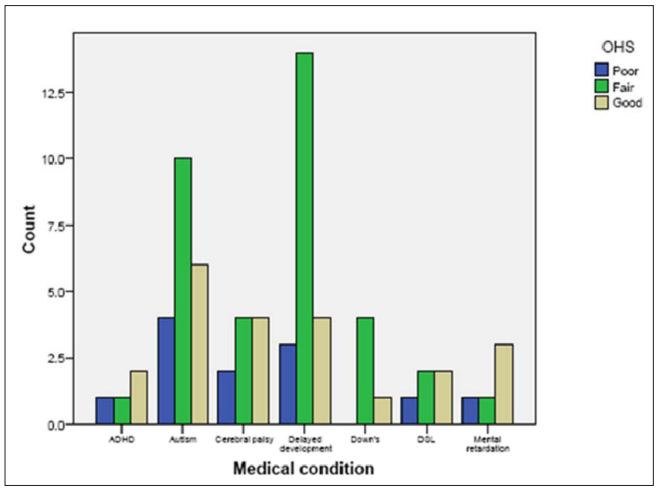

Figure 1: Oral hygiene status of the study group

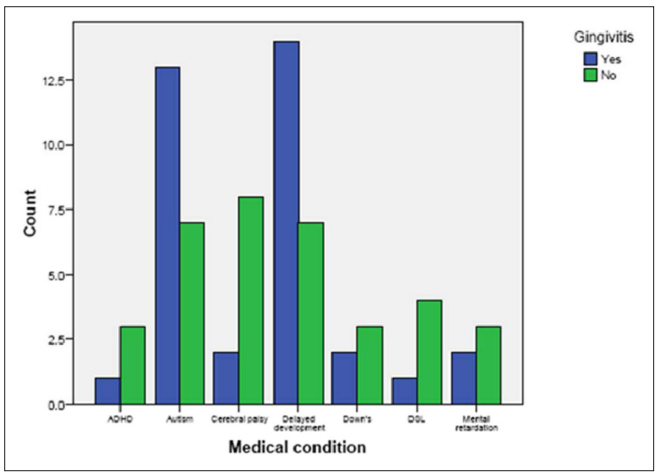

Figure 2: Distribution of gingivitis in the examined children

of orthopedically handicapped children.[4,5] In short, it was found that the dental caries rate was generally higher in handicapped children than nonhandicapped children. Its prevalence was highest in mentally retarded children, followed by those with cerebral palsy, those who were blind, with epilepsy, physically handicapped children with Down syndrome, and the hearing impaired.[12,13,14] In this study, dft index was highest in delayed development children, followed by Down syndrome and delayed speech and language children, cerebral palsy, autism, attention deficit hyperactivity disorder, and those with mental retardation that is par with the previous studies.

The type of handicapped condition had a significant effect on the gingival problems observed; children with mental retardation had the poorest levels of oral hygiene and the greatest periodontal treatment requirement. Various investigators have reported poor oral hygiene in handicapped children. Prolonged retention of food particles in the oral cavity might result in a higher incidence of dental caries and gingival inflammation. The most obvious reason for poor oral hygiene in an orthopedically handicapped child is a physical inability to clean the oral cavity adequately. Another reason is a lack of self-discipline because of overprotective parents.[15-19] In this study gingivitis was found to be high in delayed development children (66.7%), followed by autistic child (65%), Down syndrome (40%), and mental retardation (40%), (25%) attention deficit hyperactivity disorder (ADHD) and delayed speech and language (20%).

CONCLUSION

Overall, this study revealed

- Most of the children were proven to have a poor oral hygiene.
- There was an overall increase in the prevalence of dental caries among most of the children.
- The prevalence of gingivitis was found out to be moderate [Table 3].

RECOMMENDATIONS

- Promote training of personal dental care.
- In severe cases, the parents should be counseled regarding the importance in maintaining their children oral health.
- Implementation of complete preventive procedures by trained pediatric dentists, for improving and maintaining the oral hygiene of children with special needs.

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