



Oral Health Status of Handicapped Children Attending Various Special Schools in Belgaum City Karnataka.

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Oral Health Status of Handicapped Children Attending Various Special Schools in Belgaum City Karnataka.

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Abstract

Aim: To assess the oral health status of handicapped children attending various special schools.

Objective: To assess oral hygiene practice, dental caries and treatment needs, gingival and periodontal treatment needs malocclusion status.

Materials and Methods: The study group consisted of 263 subjects out of which 155 were males and 108 females.

Results: 67% of subjects used tooth brush to clean their teeth and around 29.3% used finger. 12.8% of subjects were brushing twice a day. Overall females had more mean DMFT score than males. In males it was 3.48 and in females it was 3.98. 13.6% of subject's required elective orthodontic treatment and 4.62% had severe or handicapping malocclusion.

Conclusion: The mean DMFT score was higher in physically handicapped when compared to mentally retarded subjects. Mentally retarded subjects were having poor periodontal status than physically handicapped students.

Key Words: Oral Health, Hygiene practice, Handicapped children, Treatment needs.

Introduction

It has been established that the children in a population are priority group in planning any health programme. A normal child gets the benefits of love and care from parents and society whereas the unprivileged children such as physically handicapped, mentally handicapped and socially handicapped are neglected by their own kith and kin as well as society.[1]

Dental diseases are one of the common problems found in children. Good oral hygiene is important to all normal children for proper mastication, digestion, appearance, speech and health, but it is even more important for handicapped children as some of them use mouth as a functional limb. They use teeth to manipulate an electric chair and manipulate bite stick. The likelihood of a child surviving to adulthood today bears little comparison with child of 1880's. Whilst the

killing and crippling diseases of 19th century have virtually been eradicated, their place today has taken by accidents, cancer, congenital malformation as a major cause of morbidity and mortality on childhood.

Increasing availability and sophistication in perinatal care has meant that not only will the number of children born with a handicap increase, but that multiplicity of such handicaps may also rise. In addition, life span of many handicapped individuals has been extended so that the total number of both children and adults with impairments is of such proportion that they can no longer be ignored as group when it comes to demand-oriented services like dentistry. The first institution to devote its entire resources to the physical care of disabled handicapped was established in 1780 in Switzerland. In USA many community care schemes have been introduced for the special dental needs of handicapped children.

Few such schemes have been developed in U.K., in spite of the fact that the professional attention was drawn to the subjects as early as 1884. [2]

BDA entitled "mouth of insane". It reported that the general conditions of their mouth was bad owing to the total absence of any means for securing cleanliness of teeth and surrounding tissues, inflammation of gums, resorbstion of bone, decay, loss of teeth.

In the report of the committee on child health services (UK 1976), it was recommended in relation to handicap group, that their dental care should be brought up to and maintained at level provided for other children. It was also recommended that graduates to undertake work and general dental practitioners and schools officers to co-operate in providing dental care for handicapped children at district level.

1981 was declared as "International year of handicapped" so as to initiate normal health for these special groups. Therefore the current study was conducted of physically handicapped and mentally retarded individuals to find out nature and severity of dental problems among handicapped children attending schools of Belgaum so that measures can be taken accordingly.

AIM: To assess the oral health status of handicapped children attending various special schools in Belgaum

City.

Objectives:

1. To collect information regarding oral hygiene, oral hygiene practice methods.
2. To assess the dental caries status and treatment needs
3. To assess the malocclusion status.

Materials and methods

Total number of subjects included in the study was 263, of which 155 were males and 108 females. General information regarding name, age, and oral hygiene habits was recorded with the help of respective class teachers who were used as co-ordinate's for the study.

Discussion

A total of 263 subjects that is 155 males and 108 females were examined.

Oral Hygiene Practice: In the present study 65.16% of males and 68.51% females used Brush for cleaning their teeth and 29% of subjects were using finger. But according to study conducted by [3] 99% of the subjects were using finger to clean their teeth. Only 24.3% of subjects used brush to clean their teeth according to. [4]

In the present study 78.3% subjects were using tooth paste and 17.87% subjects used tooth powder and only 2.9% of subjects used other agents like brick powder and charcoal powder. But surprisingly 99% of subjects used charcoal powder in a study conducted by [3] in a Govt. Institutions because these institutions were supplied only by charcoal powder. 1% of subjects were using tooth powder, sand and brick powder. No subjects were using tooth paste.

In study conducted in [24] South Canara Hearing and visually impaired subjects had better oral hygiene (1.49 and 2.04, respectively) than other disabled individuals. Subjects using toothbrush and toothpaste had better oral hygiene than those using other indigenous modes of cleaning. Many different types of specially designed manual toothbrushes have been developed. Among them is the triple-headed brush, which is designed to clean the oral, buccal, and occlusal surfaces of the teeth with a single stroke and is recommended for certain individuals with limited manual skills.[25]

In the present study 87.1% of subjects were brushing once a days the results are similar to the study conducted by [3] in which 80% of subjects were

brushing once a day.

Enamel Opacities: In the present study 12 (4.57%) subjects had different types of enamel opacities. Hypoplasia and demarcated was seen in 3 cases each and diffuse type was seen only in 2 cases.

Study conducted by [4] in U.K. showed 18% of subjects had enamel opacities showed demarcated opacities were the most common type.

Fluorosis: Only 4.1% of the subjects exhibited fluorosis (questionable and very mild). 95.9% of subjects were free from fluorosis. This is because the subjects are living in optimum fluoridated area.

Periodontal Status: In the present study only 13.30% of subjects were having healthy periodontium, 31.93% had bleeding on probing and 47.3% of subjects had calculus.

In study conducted by [3] in Mysore the average Russell's periodontal index score was 0.78 in boys and 0.57 in girls. The scores speak of reasonable good periodontal health.

A study [13] showed 27% of handicapped subjects had calculus in U.K. According to [10] 10 only 3% of severely subnormal children were having healthy gingiva.

A survey conducted in [22] Singapore handicapped children and found 40% of children of 6-11 yr. age group had calculus. Bleeding on probing was more in females than males; similar results are obtained in present study also.

In present study 31.9% had gingival bleeding. Similar results were found in study conducted by [20] among mentally retarded children.

Among physically handicapped in the present study 19.4% had healthier periodontium, similar results were obtained in study conducted by [2] in Bombay i.e. (17.1% had healthier periodontium). [11] conducted a survey in U.K. which showed amount of calculus was present within normal range and 80% of children had gingivitis.

The periodontal condition is poor in this group the reason may lack of visibility in blind group and improper handling due to physical nature of handicapped.

In mentally retarded patients in present study 6.7% subjects had healthier periodontium, 31.4% had gingival bleeding and 62.9% had calculus. In study conducted by [2] 11.85% had healthier periodontium, 54.16% had bleeding on probing and 33% of subjects had calculus. According to [12] most of the subjects had bleeding on probing or calculus. Only 8.5% were having healthier periodontium.

The periodontal condition of mentally retarded is poor because of reduced manual dexterity. Overall, males had more calculus and females had more bleeding on

probing.

Dental Caries: In the present study mean DMFT was 3.74 and mean dft was 3.41. Females had higher DMFT rate than males. In study conducted by Rao N.G. (1985) dft score in 6-14 year group was 0.43 which is very low when compared to present study. The mean DMFT rate was 1.06. According to [17] DMFT rate was 2.59 and dft was 1.92.

According to [12] DMFT rate was 1.56 and dft rate was 2.23. [11] conducted a survey in Newcastle and found DMFT rate was 2.43 in age group of 11-16 yr. and dmft rate was 2.78 in 2-9 yr. age group. In study conducted by [16] showed mean DMFT was 2.35 among 11-17 year and dft was 3.38 in 6-11 year group.

All the above studies show less DMFT and def score when compared to the present study.

Similar results like in present study were obtained in study conducted by [16] (i.e. Mean DMFT 3.91 and mean dft was 3.71 in 6-11 years) in Calcutta.

In present study physically handicapped subjects had more DMFT than mentally retarded subjects i.e. 4.39 in P.H. and 2.88 in M.R. patients. Similar results were obtained in study conducted by [2] i.e. 3.3 in P.H. and 2.7 in M.R. subjects.

In study conducted by [9] there was no difference in caries prevalence between P.H. and M.R. subjects.

The present study showed steady increase in DMFT values with age and decrease in dmft score. Similar findings are seen in studies conducted by [22]

Treatment Needs: In present study 30 (12.5%) subjects does not require any treatment. Only 0.2% subjects did not require any treatment in study conducted by Rao N.G. [15]. In present study 70.7% of subjects require one surface filling and 26.4% require two surfaces filling.

But in contrast most of them required one surface filling in study conducted by [3] and 30.5% required filling in study conducted by [15]

In present study 20.2% of subjects required extraction. In study conducted by [5] subjects out of 109 required extractions. 13.4% subjects required extraction in study conducted by [15]

Malocclusion: In the present study 77.94% of subjects required slight or no treatment. 14.06% subjects had definite malocclusion. 3.8% had severe malocclusion and 4.18% had handicapping malocclusion.

In study conducted by [21] 97% of subjects had at least one anomaly of occlusion among mentally retarded individuals. Overjet, overbite and openbite were more commonly seen.

[12] Showed in his study than 67% of his study group had a malocclusion with greater predominance of angle class III. In physically handicapped children [13]

showed 84% prevalence of malocclusion (Class II Div I).

In present study only 3.8% of subjects had severe malocclusion. But in study conducted by [22] in Singapore he concluded 29% of subjects had severe malocclusion.

The reason for increase in occlusion anomalies in handicapped children may be growth retardation, poor muscular co-ordination and may be habits associated with handicapping conditions [13]. A high prevalence of unmet needs is still evident in this study despite the educational background of the parents and the fact that the school and residence of the subjects are located in an urban area of the state. Other studies in developed countries have shown that dental care is the most prevalent unmet health care need for children with special health care needs.[26] A family's inability to be committed to the children's dental care may also result from lack of understanding of the long-term health risks that may burden a child who does not receive urgently-needed care.[27] The establishment of relationships with family support groups to reach parents and other caregivers will improve the oral health of these children.[28]

Conclusion(s)

- Overall 263 subjects were examined out of which 155 were males and 108 were females.
 - 67% of subjects used tooth brush to clean their teeth and around 29.3% used finger.
 - 78% of subjects used tooth paste and only 3.4% subjects were using agents like charcoal and brick powder.
 - Only 12.8% of subjects were brushing twice a day.
 - Most of subjects i.e. 83.8% had normal extra-oral appearance and 13.1% had enlarged lymph nodes.
 - Only 7 subjects complained of having TMJ symptoms.
 - Around 9.2% had ulceration of commissures.
 - 95.43% of subjects were free from enamel opacities.
 - 2.5% & 6.7% of subjects had questionable and mild type of fluorosis. Nobody had moderate or severe fluorosis.
 - Only 13.54% males and 12.28% females were having healthier periodontium. Males had more calculus (57.1) than females (39.1).
 - As the age increased mean def decreased in both males and females.
- Overall females had more mean DMFT score than males. In males it was 3.48 and in females it was 3.98.
- Only 7.74% of males and 16.66% of females did not require any treatment.
 - 13.6% of subjects required elective orthodontic

treatment and 4.62% had severe or handicapping malocclusion.

- The mean DMFT score was higher in physically handicapped when compared to mentally retarded subjects.
- Mentally retarded subjects were having poor periodontal status than physically handicapped students.

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Illustrations

Illustration 1

Table 1

Distribution of Sample according to Schools

S.No.	Name of the School	Males	Females
1.	Maheshwari Blind School	77	32
2.	Govt. Deaf and Dumb School	14	41
3.	M.E.S. Aradhana School for Slow Learners	30	17
4.	Ajay Deaf & Dumb School	34	18
	Total	155	108

Illustration 2

Table 2

Distribution of Sample according to Age and Sex

Age (Years)	Males		Females	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
6-9	69	45.51	49	45.37
10-12	45	29.03	24	22.22
13-15	30	19.35	26	24.07
Above 15	11	7.09	9	8.3

Illustration 3

Table 3

Distribution of Sample according to Oral Hygiene Practice

Cleansing Habits	Males		Females	
	<i>No.</i>	<i>%</i>	<i>No</i>	<i>%</i>
Finger	47	30.32	31	28.70
Brush	101	65.16	74	68.51
Others	7	4.5	3	2.7

Illustration 4

Table 4

Distribution of Sample according to Agent for Brushing

Agent for Brushing	Males		Females		Total	
	<i>No.</i>	<i>%</i>	<i>No</i>	<i>%</i>	<i>No</i>	<i>%</i>
Tooth Paste	121	76.06	85	78.70	206	78.32
Tooth powder	27	17.41	20	18.51	47	17.87
Others	7	4.5	3	2.7	10	2.9

Illustration 5

Table 4a

Distribution of Sample According to Frequency of Brushing

No. of Times	Males	Females
Once	131 (84.51%)	97 (89.8%)
Twice	24 (15.49%)	11 (10.2%)

Illustration 6

Table 5

Distribution of Subjects by Highest CPI Score

Condition	No. of Subjects					
	Male		Female		Total	
	<i>No.</i>	<i>%</i>	<i>No</i>	<i>%</i>	<i>No</i>	<i>%</i>
Healthy	21	13.54	14	12.28	35	13.30
Bleeding	44	28.38	40	37.1	84	31.93
Calculus	87	57.1	41	39.1	128	47.3
Pocket	4	3.7	3	2.58	7	2.84

Illustration 7

Table 6

Distribution of Sample according to the Treatment needs

Treatment Needs	Male		Female	
	No.	%	No.	%
0	12	7.74	18	16.66
P	17	10.96	21	19.44
F	20	12.9	27	25
1	120	77.4	70	64.48
2	49	31.61	21	19.44
5	14	9.1	12	14.11
6	28	18.2	24	22.22

Illustration 8

Table 7

Distribution of Sample according to DAI Score

DAI Score	Males		Females		Total	
	No.	%	No.	%	No.	%
≤25	121	78.06	84	77.77	205	77.94
26-30	23	14.83	14	12.96	37	14.06
31-35	7	4.5	3	2.77	10	3.8
≥36	4	2.5	7	6.4	11	4.18

Illustration 9

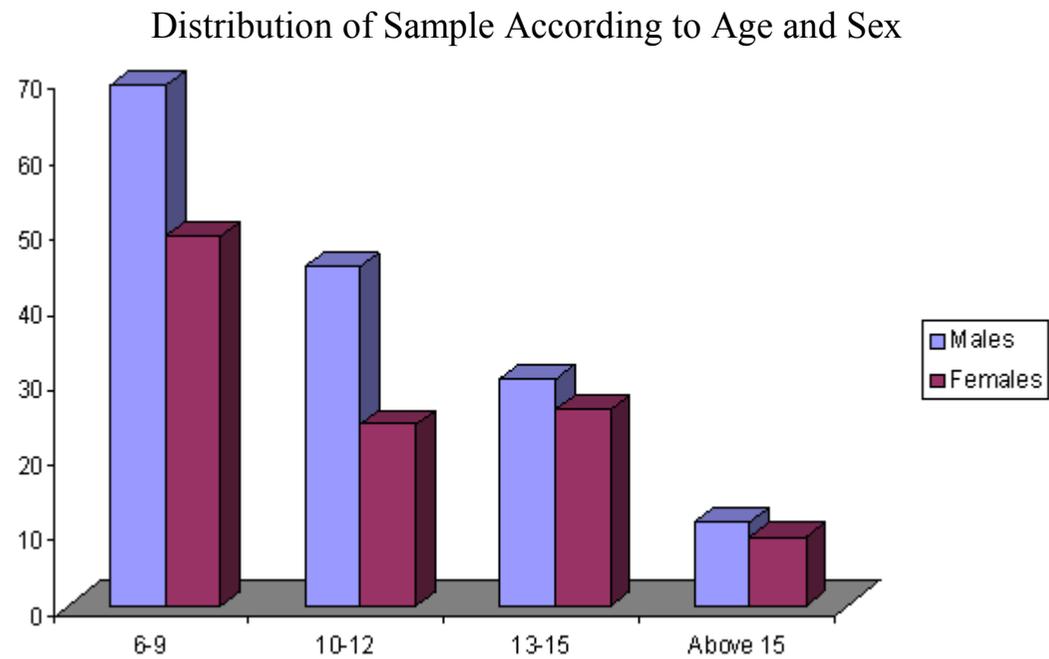
Table 8

Periodontal Status of Physically and Mentally Retarded Subjects

	Healthy	Bleeding	Calculus	Pocket
Physically Handicapped	19.4%	28.5%	51.3%	-
Mentally Retarded	6.7%	31.4%	60.1%	2.84%

Illustration 10

Graph



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