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Comparison of oral health status and DMFT score of special children and normal children in Burhanpur city

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Abstract
Aim: To compare the oral health status and DMFT score among institutionalized dumb and deaf children to normal children, within age range 7- 17 years, in Burhanpur city of Madhya Pradesh located in Central India.
Introduction: Special care group children have many health issues. They are usually dependent on parent or guardian for carrying out daily activities including oral health care. These children have various muscle disabilities which includes muscle hyper tonicity. Children who suffer from poor oral health are 12 times more likely to have more restricted-activity days than those who do not. It is essential to have good oral health as it touches every aspect of our lives but is often taken for granted. Our mouth is a window into the health of our body. It is documented that more than 50 million hours annually are lost from school due to oral diseases.
Material and Method: The present descriptive cross section study was carried out among the various special group in Burhanpur city (Madhya Pradesh).There are total 7 government recognized special group children institutions in Burhanpur. By coin toss method, one school was selected as study group where intervention was planned and other was selected as the control group. Ethical approval was obtained for the institution before commencement of the study. Informed consent was taken. All the subjects present on the day of examination were included.

Keywords: oral health, DMFT, special children, normal children, Burhanpur

Introduction

Health is a state of complete physical, mental and social well-being, rather than solely by an absence of disease or infirmity. Oral health is a state of being free from chronic mouth and facial pain, oral and throat cancer, oral sores, birth defects such as cleft lip and palate, periodontal (gum) disease, tooth decay and tooth loss, and other diseases and disorders that affect the oral cavity [1].

Oral health touches every aspect of our lives but is often taken for granted. Our mouth is a window into the health of our body. It can show signs of nutritional deficiencies or general infection Systemic diseases, those that affect the entire body, may first become apparent because of mouth lesions or other oral problems. E.g. of systemic Disease like AIDS, hairy leucoplakia etc. There is an upward trend in most dental disease in spite of developing economy in India. There is an upward all to be a report of WHO in 2007 "95% of adults in India suffer from gum disease and 50% of our citizens don't use a toothbrush, 70% of children under the age of 15years have dental caries [2].

Oral diseases such as dental caries and gingival diseases affect about 80% of the school children. Children who suffer from poor oral health are 12 times more likely to have more restricted activity days (including missing school) than those who do not. More than 50 million hours annually are lost from school due to oral diseases [4]. A special needs child is the child who has been determined to require special attention & specific necessities [2]. Hearing impaired children have hearing loss of 60 DB or more in the better ear in the conventional range of frequencies [3].

Special care group children example: Deaf and dumb children have many health issues. They are usually dependent on parent or guardian for carrying out daily activities including oral health care [4]. These children have various muscle disability which includes muscle hyper

Tonicity [5]. Some health issues are more common such as-strokes, multiple sclerosis, perilymph fistula, viral infection (measles, mumps, herpes virus infection) meningitis, syphilis, down syndrome, AIDS and HIV infection [5]. Children who suffer from poor oral health are 12 times more likely to have more restricted-activity days (including missing school) than those who do not. It is essential to have good oral health as it touches every aspect of our lives but is often taken for granted. Our mouth is a window into the health of our body. It is documented that more than 50 million hours annually are lost from school due to oral diseases [6].

A study was conducted which has been found that mean DMF value in special care group children, were 3.71 which is higher than normal children [7]. Some other studies and systematic review have also reported poor oral hygiene especially among children with intellectual disabilities as compared to normal school going children of similar age [8].

Therefore the aim of the study is to compare the oral health status and DMFT score among institutionalized dumb and deaf children to normal children, within age range 7- 17 years, in Burhanpur city of Madhya Pradesh located in Central India.

Objective

1. To access the dental caries status of normal children.
2. To access the oral health status of normal children.
3. To access the dental caries status of deaf and dumb children.
4. To access the oral health status of deaf and dumb children.
5. To compare the oral hygiene status and dental caries status.

Inclusion criteria

Inform consent was taken from government school of dumb and deaf and normal children were included in the study.

Exclusion criteria-Children affected with mental retardation, physically and mentally handicapped, orthopedic defects, cerebral palsy, medically compromised and those whose consent inform were excluded.

Methodology

The present descriptive cross section study was carried out among the various special group children from special children and normal children from school located in Burhanpur city (Madhya Pradesh).There are total 7 government recognized special group children institutions in Burhanpur. Among these institutions 2 schools was included in the study; number of subjects examined included dumb and deaf children -265 and normal children-279. By coin toss method, two schools were selected as study group where intervention was planned and other was selected as the control group. Ethical approval was obtained for the institution before commencement of the study. Informed consent was taken. All the subjects present on the day of examination were included. All children including both males and females aged 6 -16 years, who made the inclusion criteria were included. Children care takers and the examiners were aware of the study protocol. Oral examinations were carried out in their schools on a chair under artificial illumination of a head lamp using a mouth mirror and probe. Baseline plaque status was recorded using oral hygiene simplified index (John. c. Greene) and DMFT index (Henry. T. Kelin). The clinical examination was performed by two trained and calibrated examiners. Inter examiner variability was within the acceptable range (K value 0.8).

Result

Table 1: Prevalence of dental caries in dumb and deaf children and normal children

	Boys				**Girls**				**Total**				**p value**
Dumb and deaf children	Caries Positive		Caries Free		Caries Positive		Caries Free		Caries Positive		Caries Free		
	N	%	N	%	N	%	N	%	N	%	N	%	
	131	71.98	51	28.02	134	87.58	19	12.42	265	79.1	70	20.9	
Normal children	Boys				Girls				Total				0.018*
	Caries Positive		Caries Free		Caries Positive		Caries Free		Caries Positive		Caries Free		
	N	%	N	%	N	%	N	%	N	%	N	%	
	127	64.47	70	35.53	152	66.37	77	33.63	279	65.49	147	34.51	

*p value ≤ 0.05 (Mann-Whitney U test)

Table 2: Distribution of study population according to comparison of dental caries in permanent teeth with type of school.

Dmft component	**Dumb and deaf children**	**Normal children**	**P-value**
Decayed (D)	2.81±1.69	1.16 ± 1.35	0.024*
Missing (M)	1.85±1.26	0.97 ± 1.72	0.816
Filled (F)	1.03±0.76	1.47.± 1.28	0.421*
Total (D+M+F)	5.69±1.45	3.6 ± 1.82	0.003*

*p value <0.05(paired t-test)

Table 3: Distribution of study population according to comparison of dental caries in primary teeth with type of school

Dmft component	**SPECIAL GROUP**	**NORMAL GROUP**	p-value
Decayed (d)	1.83±1.45	0.87±1.1	0.79
Missing (m)	0.06±0.34	0.01±0.09	0.12
Filled (f)	0.01±0.09	0.12±0.38	0.37
Total (d+m+f)	1.9±1.46	1.00±1.57	0.82

*p value <0.05(paired t-test)

Table 4: Comparison of oral hygiene status of normal children and special children

Oral health findings	Normal children	Special children	z-value	P- value
Debris index	0.7(0.38)	0.86(0.46)	1.17	0.089
Calculus index	0.45(1.51)	0.65(0.7)	1.65	0.834
OHI-S	1.15(0.72)	1.51(0.93)	2.10	0.034

Table 5: Prevalence of calculus in dumb and deaf children and normal children.

	Boys				Girls				Total				p value
Dumb and deaf Children	With calculus		Without calculus		With calculus		Without calculus		With calculus		Without calculus		
	N	%	N	%	N	%	N	%	N	%	N	%	
	71	36.04	126	63.96	74	32.31	155	67.69	145	34.04	281	65.95	
Normal Children	Boys				Girls				Total				0.834*
	With calculus		Without calculus		With calculus		Without calculus		With calculus		Without calculus		
	N	%	N	%	N	%	N	%	N	%	N	%	
	64	35.16	118	64.83	49	32.03	104	67.97	113	33.73	222	66.27	

Discussion

The disabled and handicapped form a substantial section of the community. The effects of disabling conditions are many and varied. Children with physical disabilities come under a group as "special needs population". They have little knowledge about their oral health; also experience considerably higher levels of dental diseases and also more difficulty for accessing oral health care. The three principle components – impairment, disability and handicap – would operate independently, with impairment addressing impact on the body, disability to impact on the person and handicap to impact on the person interacting with the environment.

Oral disease represents a major health problem among individuals with disabilities. The prevalence and severities of oral disease among this group are higher when compared to the general population. In disabled individuals, the process of developing gingival /periodontal diseases does not differ from non-disabled individuals. Poor periodontal health and oral cleanliness have been observed in children with disabilities. These results may be related to the low physical abilities of these individuals and consequent difficulties in tooth brushing. Dinesh [1] and Azrina [2] concluded that disabled children experienced greater challenges to proper oral hygiene and health care, often due to lack of basic manual skills and intellectual abilities that precludes adequate practices, such as tooth brushing. Oral health may be affected by following: Limited understanding on the importance of oral health management(3) difficulties in communicating oral health needs [4] anticonvulsants medications that impact upon gum health [5] & a fear of oral health procedures. In contrast to individuals without disabilities, who usually manage their own oral health. Oral health management of individuals with disabilities often depend on other people, such as parents or employees with assisted living services [6].

In accordance with one previous national policy survey, rates of caries among the disabled population were found to be higher in comparison to the general population for all age groups studied [7] Not only did children with disabilities tend to have more decayed teeth when compared to children without disabilities, they also had more missing teeth and higher incidence of poor gingival health [7] In the present cross-sectional study conducted to assess and compare the prevalence of dental caries and oral health status of 335 children in a special children school and to identify factors related to dental caries with a match group of 426 normal children in a normal school, in Bhopal (M.P.). It was found the mean DMFT in special children was5.69±1.45 and caries Prevalence was 79.1%, in healthy children mean DMFT was 3.6 ± 1.82 and caries prevalence was 65.49% respectively. Our finding was similar with Shyama *et al* [7] who reported that mean DMFT of 4.5 for the disabled group. On the contrary there are quite number of studies examining dmft and DMFT scores of disabled children and some authors report better dmft and DMFT values among this group than among the general population of children. Shaw *et al* [8] reported dmft and DMFT values of 1.36 and 1.85, respectively for children with disabilities. A study conducted in Flanders (Belgium) on twelve year old disabled children showed that poor oral hygiene in 31.8% of children with no significant differences found among disability types[9] Relatively lower proportion of awareness on dental health knowledge and lower proper practice of dental health behavior have been observed among deaf and dumb students compared with the control group. Multiple logistic regressions showed that the risk factors of dental caries in special children involved high frequency of consuming dessert and carbonate beverages. The dental treatment for the two groups was urgently needed.

When DMFT indexes were examined with regard to sex, the mean DMFT was found to be higher for females. This is consistent with literature which has typically found dental caries to exhibit a higher prevalence among females than males. Similarly in presence study we found that dental caries experiences are higher among female than male.

A study conducted by Brown a in 2009, hearing impaired showed lack of communication as a major hindrance for their access to oral health. This group depended upon their teachers trained in special education [10]. Increased dental school training and continuing education programmes are needed to meet this end School teacher's need proper training and practical support from experience in dental health to train these disabled children. Chemical plaque control has been recommended as alternative and adjunctive to mechanical plaque control in these special patient groups.

If good oral health is to become a reality in the future for people with special needs it is essential that people in daily contact with the individuals become involved in oral care. With increasing number of people with special needs, the oral health fraternity should actively involve with other parts of the community to bring about general and social wellbeing and benefit them with sustained lifetime oral health [11].

Conclusion

The results of our study concluded that there was a significant difference in DMFT among deaf & dumb and normal children ($p<0.05$). Teenagers belonging to the disability groups inculcate habits under the influence of surroundings capability and interest of parents and caretakers. The impairment leads

to disability, and deprivation of these groups resulted in poor oral hygiene and subsequent periodontal diseases. A holistic approach is needed from periodontitis and other specialists to achieve satisfactory periodontal health in these subjects. In addition, the oral hygiene habits of individuals with disabilities can be improved by close monitoring and periodic dental checkups. Constant motivation of the parent and caretakers to comply for the demands of the treatment and necessary training of the dental team in matters of behavior management and treatment strategies is needed to break the jinx that these special subjects are neglected by the society. Dental health education concerning dietary behavior and prevention program to the deaf students and their parents should be reinforced; the supervision of oral health behavior for deaf and healthy students' needs to be strengthened.

References

1. Glassman P, Miller CE. Preventing dental disease for people with special needs: The need for practical preventive protocols for use in community settings. Spec care Dentist. 2003; 23:165-7. [PubMed]
2. Anaise JZ. Periodontal disease and oral hygine in a group of blind and sighted Israeli teenagers (14-17 years) Community Dent Oral Epidemiology.1979; 7:353-6. [PubMed]
3. Lindemann R, Zaschel-Grob D, Opp S, Lewis MA, Lewis C. Oral health status of adults from a California regional center for developmental disabilities. Spec Care Dentist. 2001; 21:9-14. [PubMed]
4. Faulks D, Hennequin M. Evaluation of a long-term oral health program by carers of children and adults with intellectual disabilities. Spec Care Dentist. 2000; 20:119-208. [PubMed]
5. Marshall RI, Bartold PM. A clinical review of drug-induced gingival overgrowths. Aust Dent J. 1999; 44:219-232. [PubMed]
6. Beange H. Caring for a vulnerable population: Who will take responsibility for those getting a raw deal from the health care system? Med J Aust. 1996; 164:159-160. [PubMed]
7. Shyama M, Al Mutawa SA, Morris RE, Sugathan T, Honkala E. Dental caries experience of disabled children and young adults in Kuwait. Community Dent Health. 2001; 18:181-186. [PubMed]
8. Shaw L, Maclaurin ET, Foster TD. Dental study of handicapped children attending special schools in Birmingham, UK. Community Dent Oral Epidemiol. 1986; 14:24-27. [PubMed]
9. 9 Gizani S, Declerck D, Vinkier F, Martens L, Marks L, Goffin G. Oral health condition of 12-year-old handicapped children in Flanders (Belgium) Community Dent Oral Epidemiol. 1997; 25:352-357.
10. Brown A. Caries prevalence and treatment needs of healthy and medically compromised children at a tertiary care institution in Saudi Arabia. East Mediterr Health J 2009; 15:378-86. Back to cited text no. 19. [PUBMED]
11. Geneva: world Health Organization. WHO. International classification of impairments, disabilities and handicaps, 1980.