ORIGINAL RESEARCH PAPER
Volume-8 | Issue-11 | November - 2019 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

ORAL HEALTH STATUS OF MENTALLY CHALLENGED WITH NORMAL CHILDRENS- A COMPARATIVE ANALYSIS

Dental Science

Dr. Amarpreet Singh Assistant Professor, Dept Of Public Health Dentistry, Himachal Dental College And Hospital, Sundar-Nagar. Himachal Pradesh.

Dr. Ashish Bali* Assistant Professor, Dept Of Periodontology, Pacific Dental College And Hospital, Udaipur. Rajasthan. *Corresponding Author

Dr. Rajib Bishwas Professor Dept Of Physiology, Himachal Dental College And Hospital,sundar-nagar. Himachal Pradesh.

ABSTRACT

BACKGROUND AND OBJECTIVES: Oral health contributes to the general health, selfesteem and quality of life of an individual. Children with disabilities, having serious psychological, physical and intellectual problems, should obtain special preventive care in dental office. The aim of this study was to compare the oral health status in mentally challenged individuals with normal children's.

METHODS : This Cross-sectional study is conducted on 152 childrens in age group of 10 to 20 years. The demographic data was recorded for each subject and the dental examination was done by using modified WHO basic oral health surveys in which DMFT index was used for assessment of dental caries, (Community Periodontal Index and Loss of Attachment CPI-LOA) Index for assessing periodontal status

RESULTS : Majority of the childrens with mental retardation had poor periodontal status, dental caries was found in 81.6% of the subjects, and malocclusion was observed in highest number of subjects 59% (47).

CONCLUSION: Health professionals should therefore be aware of the impact of mental illness and its treatment on oral health, Health personnel should receive training to support and provide all possible services to this population

KEYWORDS

Mentally Challanged , Oral Health, Dental Caries

INTRODUCTION

Oral health contributes to the general health, selfesteem and quality of life of an individual. Many published studies have reported relatively poor oral health status in mentally challenged children.[1] Mental retardation has been defined by the American Association of Mental Deficiency (AAMD) as a deficiency in theoretical intelligence that is congenital or acquired in early life. The AAMD classifies retardation into four categories according to intelligence quotient (IQ): mild, moderate, severe or profound retardation. An individual is classified as having mild mental retardation if his or her IQ score is 50-55 to about 70; moderate retardation, IQ 35-40 to 50; severe retardation, IQ 20-25 to 35; and profound retardation, IQ below 20-25.[2] It is estimated that there are about 500 million people with disabilities worldwide.[3]The recent NSSO report suggests that the number of disabled persons in the country is estimated to be 18.49 million, accounting for about 1.8% of the total population, while the mentally retarded population amounted to 0.44 million individuals.[4]Developmental disabilities can develop due to a variety of conditions which include cerebral palsy, Down's syndrome, mental retardation, autism, seizure disorders, hearing and visual impairments, congenital defects, and even social or intellectual deprivation.[5]Children with disabilities, having serious psychological, physical and intellectual problems, should obtain special preventive care in dental office.[6] Consequently, inadequate dental care or poor dental public health measurements may have negative influence on the oral health status. Because of the insufficient or sometimes complete dysfunction of their stomatognathic apparatus, often due to anatomical malformations of the orofacial cavity and children's uncooperative behaviour, accomplishment of good oral hygiene measurments usually implies the assistance of parents or caretakers.[7]

The most important risk factor of poor oral health status in disabled children is due to poor oral hygiene and inadequate tooth brushing. Preventive measurements should thereby include adequate education and motivation both for patients and their caretakers, finally aiming at obtaining and maintaining satisfactory oral hygiene throughout the lifespan.[8,9] Literature on the dental management of handicapped subjects is scarce compared with that of the normal child. In India there is little data available relating to dental health in mentally challenged,[10] so the aim of this study was to compare the oral health status in mentally challenged individuals with normal children's.

METHODOLOGY

This Cross-sectional study is conducted on 152 childrens in age group of 10 to 20 years. Among the total subjects 79 were mentally challenged childrens from two specialised schools namely Sehyog School for Specialized Children, Nagchala and Sakar School for Specialized Children, Dodwan, and 73 normal childrens were selected from Govt School Kenwar located in Dist Mandi, Himachal Pradesh.

The inclusion criteria for selecting samples was

- Only those children who were present on the day of examination.
- Those who were cooperative
- Those whose guardians gave the consent to carry the examination.
- Permanent dentition only

The exclusion criteria involves

- The uncooperative childrens.
- Mixed dentition
- Those childrens who were having Detrimental systemic disorders like cardiac defects.

An informed consent was taken from the school management and guardians of childrens before the start of the study. Study approval and clearance was taken from Ethical Committee of Himachal Dental College Sundarnagar, Himachal Pradesh. The examination was carried by two examiners who were well trained and calibrated before the conduction of study in department of public health dentistry. Type 3 kind of dental examination was made and the subjects were made to sit on comfortable chair in a well illuminated room.

The demographic data was recorded for each subject and the dental examination was done by using modified WHO basic oral health surveys in which DMFT index was used for assessment of dental caries, (Community Periodontal Index and Loss of Attachment CPI-LOA) Index for assessing periodontal status. The armamentarium included sterilised sets of PMT(probe, Mirror, Tweezers) and WHO Probe.

RESULTS

Table -1 Demographics of Mentally Challenged and Normal Childrens-

Parameters	Mentally challenged (N=79)	Normal children (N=73)
Age	(Mean+SD) 15+5.14	14+3.14
Gender - Male	52	42
-Female	27	34

Table no 1 shows that description of 79 mentally challenged childrens and 73 normal childrens genderwise who were examined .

Table -2 Summary of Dental Caries Prevalence

Parameters	Mentally challenged children N, Mean+SD	Normal children Mean+SD
Decayed tooth	120, (1.5+2.09)	67,(0.8+1.4)
Missing tooth	13,(0.1+0.5)	6(0.1+0.2)
Filled tooth	14,(0.1+0.6)	21(1.0+0.3)
DMFT Score	147,(1.9+2.3)	94(1.3+1.1)

Table 2 dipicts the prevalence of decayed, missing and filled teeth and total DMFT score

Table 2.a- relationship between decayed missing and filled teeth of mentally challenged and normal childrens

DMFT tooth category		Mentally challenged (N=147)		Normal (n=94)		Chi square	p- value	Sig
		N	%	N	%			
Decayed	Present	120	81.6	67	71.3	3.537	0.05	Significant
	Absent	27	18.4	27	28.7			
Missing	Present	13	8.8	6	6.4	0.478	0.489	NS
	Absent	134	91.2	88	93.6			
Filled	Present	14	9.5	21	22.3	7.587	0.006	Significant
	Absent	133	90.5	73	77.7			

Table 2a depicts that prevalence of decayed tooth and filled tooth among mentally challenged and normal childrens shows a significant relationship.

Table – 3 Summary of Periodontal Disease Prevalence

Score	0	1	2	3	4
Mentally challenged children(n. %age)	24, 30%	9, 11.3%	41, 51.8%	5, 6.3%	0
Normal children (n. %age)	37, 50%	3, 4%	18, 24%	0	0

Table 3 predicts that 51.8 % of mentally challenged childrens shows periodontal score of 2, while in normal childrens 50% of childrens shows score of 0.

Table – 4 Oral Hygiene Status

Score	Excellent	Good	Fair	Poor
Mentally challenged children (n. %age)	1, 1.2%	10, 12.6%	60, 75.9%	8, 10.1%
Normal children (n. %age)	19, 26%	29, 39%	21, 28 %	4, 5.4%

Table 4 shows maximum of 75% of mentally challenged childrens had fair oral hygiene score,and among normal childrens maximum of 39% of students had good oral hygiene score.

Table- 5 Other Findings

Conditions	Mentally challenged children (N, %)	Normal children (N, %)
Malocclusion	47, 59%	18, 24%
Delayed eruption	17, 21%	3, 4%
TMJ Disorder	19, 24%	3, 4%
Macroglossia	3, 3.7%	0
High Palatal arch	16, 20%	1, 1.3%
Attrition	24, 30%	4, 5%
Tooth fracture	7, 8.8%	0

Table 5 shows that 59% of mentally challenged childrens had malocclusion, and 30% of mentally challenged childrens had attrition, whereas among normal childrens only 24% of childrens showed malocclusion,and attrition was present in only 5%of students.

DISCUSSION –

Maintaining a good oral hygiene is very challenging among individuals with disabilities because of increased oral health risks due to underlying disease, limitations on access to care and competing demands. The lack of oral hygiene has been implicated as a fundamental factor in the development of periodontal diseases and dental caries in mentally challenged individuals.The present study has shown a statistically significant difference in decayed (p= 0.05) and filled (p=0.06) score of DMFT index between the control and the examined groups of children. Similar findings has been reported by study done by Deepika Shukla etal.[11] These findings were consistent with previous studies which reported prevalence of dental caries ranging from 78% to 90% in disabled individuals.[12] The mean DMFT score in the present study is 1.9 which confrorm to that reported in other studies.[13,14]

We hypothesize that this could be attributed to muscle weakness and inadequate muscular coordination meddling with daily hygiene procedures. Moreover, less frequent brushing, and some sociodemographic factors may be important determinants of dental caries prevalence in these group.

Most studies assessing oral health status among people with mentally handicapped subjects reported poor periodontal status [15-18] which is in accordance with the findings of this study, in the present study the maximum number of study subjects were reported to have calculus 41(51.8%) which was very high in comparasion to normal childrens (24%) followed by bleeding 9(11.3%) whereas in normal children it was only 2% which is due to improper cleaning of teeth, maximum numbered the subjects didn't used tooth brush to clean their teeth while 6.3 % of the subjects were found to have periodontal pocket of 4-5mm whereas none children from normal group reported of periodontal pockets. Similar results were reported by study conducted by Dr Jitendra Solanki,[19]which showed 54.2% of mentally challenged children had calculus,followed by bleeding on probing in 39% of subjects. Many dentofacial anomalies were also observed such as high arched palate, malocclusion, delayed eruption of teeth, macroglossia and abnormal TMJ movements all these factors collectively leads to poor periodontal health and a cause of dental caries. Lymphadenopathy was observed in 76.3% of the subjects followed by Malocclusion (62.5%), these results are similar to the results of Mary E. Dávila.[20] . Griffiths J [21] showed 44.3% of malocclusion. Abnormal TMJ movement was observed in 13.8% of the subjects whereas in the study carried out by Bhowate R et al.,[22] 35.7% of the subjects had abnormal TMJ movements it may be due to hypotonia and hyperextensibility of joints uncoordinated and uncontrolled movements of jaw.[23]

REFERENCES

1. Mitsea AG, Karidis AG, Donta-Bakoyianni C, Spyropoulos ND. Oral health status in Greek children and teenagers, with disabilities. J Clin Pediatr Dent. 2001;26:111-18.
2. American Psychiatric Association, Diagnostic and statistical manual of mental disorders. 4th ed, Washington. 1994)
3. Watson N. Barriers, discrimination and prejudice. In:Disability and Oral Care, Nunn J, ed, FDI World Dental Press, London 2000; 15-28.
4. National Sample Survey Organization. Disabled persons in India. NSS Report No. 485 (58/26/1), New Delhi. 200)
5. Tesini DA, Fenton SJ. Oral health needs of person with physical or mental disabilities. Dent Clin North Am. 1994;38:483-98.
6. MC Donald RE, DR Avery, Odontoiatria per bambino e l'adolescente (Piccin, Padova, 1988).
7. Storhaug K, Nor Tannlaegeforen Tid, 101 (1991) 262.
8. Bortolotti L, Cetrullo L, Frezza R, Il dentista modreno, 10 (1986) 65.
9. Palin-Palokas T, Hausen H, Heinonen I, Community Dent Oral Epidemiol, 15 (1987) 19
10. Bhowate R.a, Dubey A ;Dentofacial changes and oral health status in mentally challenged children. Journal of international societyof preventive and paediatric dentistry ;July 30, 2019, IP: 169.149.221.17
11. Deepika Shukla1*, Deepika Bablani1, Aman Chowdhry1, Zeba Jafri2, Nafis Ahmad3 and Shashwat Mishra; Oral Health Status and Dental Caries Experience in Mentally Challenged Individuals. Ann Public Health Res 1(2): 1008.
12. Kalia S, Shetty SK, Patil K, Mahima VG.Stature estimation using odontometry and skull anthropometry. Indian J Dent res. 2008;19:150-154.
13. Soparkar P, Rose L, De Paola. A comprehensive dental survey of Kuwaiti school; children. Ministry of health, state of Kuwait. 2001;1-43.
14. Shyama M, Al- Muttawa SA, Morris RE, Sugathan T. Dental caries experience of disabled children and young adults in akauwait. Community Dent Health . 2001;181-

186.
15. Kumar S, Sharma J, Duraiswamy P, Kulkarni S. Determinants for oral hygiene and periodontal status among mentally disabled children and adolescents. J Indian Soc Pedod Prev Dent. 2009; 27:151-57.
16. Nunn. The dental health of mentally and physically handicapped children: a review of the literature. Community Dent Health. 1987;4(2):157-68.
17. Martens L, Marks L, Goffin G, Gizani S, Vinckier F, Declerck D. Oral hygiene in 12-year-old disabled children in Flanders, Belgium- related to manual dexterity. Community Dent Oral Epidemiol. 2000; 28: 73-80.
18. Rao Dinesh, Hegde Amitha, Avatar Kishan Munshi. Oral hygiene status of disabled children and adolescents attending special schools of south canara, India. Hong Kong Dental Journal. 2005;2:107-13.
19. Jitender Solanki, SariKa Gupta, Astha arya. Dental Caries and Periodontal Status of Mentally Handicapped Institutilized Children; Journal of Clinical and Diagnostic Research. 2014 Jul, Vol-8(7).
20. Mary E Dávila I, Maritza Gil II, Damelis Daza III, et al. Dental caries in people with mental retardation and Down Syndrome. Journal of Public Health Dent. 2006;8(3):207-13.
21. Griffiths J. Guidelines for oral health care for people with a physical disability. Journal of Disability and Oral Health. 2002;3(2):51-58.
22. Bhowate R, Dubey A. Dentofacial changes and oral health status in mentally challenged children. J Indian Soc Pedod Prevent Dent. 2005;23(2):71-73.
23. Ahlborg B. Treatment cushions in the dental care of patients with disabilities. J Disabil oral health. 2001;2:37