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Research Article

**ANALYSIS OF ORAL HEALTH STATUS AMONG HEARING
AND SPEECH IMPAIRED CHILDREN IN PAKISTAN**¹Dr Nida-e-Haque Mahmud, ²Dr Tayyaba Ashraf, ²Dr Asad Mahmood¹Senior House Officer at Sheikh Zayed Hospital, Lahore, ²House Officer at Punjab Dental Hospital, Lahore.

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Abstract:

Introduction: Children and adolescents with disabilities appear to have poorer oral health than their nondisabled counterparts. Oral health is an important aspect of health for all children, and is all the more important for children with special health needs.

Aims and objectives: The basic aim of the study is to analyze the oral health status among hearing and speech impaired children in Pakistan.

Material and methods: This cross sectional study was conducted at Sheikh Zayed Hospital, Lahore during 2018 with the permission of ethical committee of hospital. The data was collected from 200 hearing and speech impaired children. We select these participants to find the oral health status of these children. All children of 5-15 years of either gender having speech & hearing impairment were included in the study. The clinical examination was carried according to World Health Organization (WHO) techniques. The children were then examined for oral status by making them sit on the upright chair in adequate light using autoclaved instruments; plain mouth mirror and WHO probe.

Results: The data were collected from 200 children. Out of these children, bleeding on probing was found in 72 (13.3%) female children as compared to 57 (10.6%) male children. While 131 (24.3%) female children had calculus, 124 (23.0%) male children had the same condition. 87% of the children required single surface or double surface restorations, the remaining were indicated for pulp therapy. Gingivitis was seen in 35% of the children with bleeding gums and calculus who required oral prophylaxis.

Conclusion: It is concluded that high prevalence of dental caries was observed among hearing and speech impaired children.

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INTRODUCTION:

Children and adolescents with disabilities appear to have poorer oral health than their nondisabled counterparts. Oral health is an important aspect of health for all children, and is all the more important for children with special health needs. Because oral hygiene affects one's esthetics and communication, it has strong biological, psychological and social projections. Variable access to dental care, inadequate oral hygiene and disability related factors may account for the differences [1]. The type of dental care received may be determined more by the disability than the oral condition, compounding the chronicity of dental disease [2]. Although there have been a number of studies concerning the oral health of children, in general, there have been relatively few investigations of the oral conditions of the disabled children [3].

Special child is the one, who for various reasons, cannot fully make use of all his/her physical, mental, and social abilities or do things that other child of his/her age can do [4]. Globally, there is an estimated 150 million children with disabilities, most of who live in an inaccessible health care arena. They suffer high risk in oral health perspective [5]. Their dental needs are said to be highly underserved due to health care neglect (care takers or parents), communication barriers, socioeconomic status, etc. Children with hearing impairment (CHI) are one important group deprived of good oral health due to communication barriers. Deafness refers to the complete loss of ability to hear from one or both ears [6]. However, CHI is a broad term used to describe any degree of hearing loss in children varying from mild (15-30 dB) to profound impairment (>95 dB). Hearing impairment (HI) affects many children worldwide. In the UK, there are 23,000-25,000 children (aged 0-15 years) who are permanently deaf and many more hard of hearing. In India, about 0.4% of 1065.40 million children are hearing impaired and every child in 1000 live births

suffers from HI. HI delays speech and linguistic outcome reduces cognitive skills, and as a whole hinders their academic progress in school affecting the overall development and maturation of child [7].

Aims and objectives

The basic aim of the study is to analyze the oral health status among hearing and speech impaired children in Pakistan.

MATERIAL AND METHODS:

This cross sectional study was conducted at Sheikh Zayed Hospital, Lahore during 2018 with the permission of ethical committee of hospital. The data was collected from 100 hearing and speech impaired children. We select these participants to find the oral health status of these children. All children of 5-15 years of either gender having speech & hearing impairment were included in the study. The clinical examination was carried according to World Health Organization (WHO) techniques. The children were then examined for oral status by making them sit on the upright chair in adequate light using autoclaved instruments; plain mouth mirror and WHO probe. Caps, gloves, masks and gauze were used in accordance with infection control guidelines.

Statistical analysis

Data analysis was carried out using the SPSS Version 17. Frequencies and percentages were calculated for all the qualitative variables. Mean & SD were calculated for all the quantitative variables.

RESULTS:

The data were collected from 200 children. Out of these children, bleeding on probing was found in 72 (13.3%) female children as compared to 57 (10.6%) male children. While 131 (24.3%) female children had calculus, 124 (23.0%) male children had the same condition.

Table 01: Distribution of periodontal status according to the gender among hearing impaired children

	Periodontal status (CPI)			χ^2	P
	Healthy 0, n (%)	Bleeding 1, n (%)	Calculus 2, n (%)		
Gender					
Male	81 (15.0)	57 (10.6)	124 (23.0)	1.695	0.429 (NS)
Female	75 (13.9)	72 (13.3)	131 (24.3)		
Total	156 (28.9)	129 (23.9)	255 (47.2)		

P<0.05. *n*=Number of children; NS=Not significant; CPI=Community periodontal index

87% of the children required single surface or double surface restorations, the remaining were indicated for pulp therapy. Gingivitis was seen in 35% of the children with bleeding gums and calculus who required oral prophylaxis. The study showed that 19%

of the subjects had malocclusion which constituted anterior open bite seen in 3%, crowding in 11% and class II malocclusion seen in 3%. Fractured anterior teeth were seen among 3.9% of the children examined.

Table 02: Gender-wise distribution of dental caries

Gender	Caries free		Caries present		Total
	n	%	n	%	
Male	29	66	18	56	47
Female	15	34	14	44	29
Total	44	100	32	100	76

DISCUSSION:

Dental treatment is the greatest unmet health need of the handicapped child. This statement by Nowak was substantiated by various studies done globally on special children. Similarly, in the present study, the overall dental caries prevalence of the sample was 65% with a drastic portion of the sample (91.7%) needing one or the other treatment [7]. This distressing condition can be ascribed to communication barriers faced by these children in various parts of the world. Recently, another study done by Wei et al. on 229 senior high school deaf students comparing 196 healthy adolescence reported a caries prevalence rate of 55.9%. Many other studies done solely on CHI reported wide variations in caries prevalence rates [8]. Suma reported a prevalence rate of 42% with decayed component of the index being the highest. Al-Qahtani and Wyne reported a prevalence of 91% and 95% in 6-7 and 11-12-year-old CHI, respectively. Shyama et al. reported a prevalence rate of 84.6% with 86% of the caries lesions still untreated [9]. Rao et al. reported a prevalence rate of 65.1%. Meaningful comparison of caries prevalence rates cannot be made from these studies as there are wide variations in age distribution of the sample selected in each study; however, all these studies signify the devastating situation of CHI concerning oral health [10].

In the present study most of the children preferred confectionaries 91.5%, about 83% consumed juices and 73.6% consumed sweetened milk. In the study conducted by Folakemi OA found that most of the pupils (60%) preferred biscuits, sweets and softdrinks. Children eating habits could be potentially influenced by parent's social and environmental behaviours such as the use of food as rewards and the withholding of food as punishment [11].

CONCLUSION:

It is concluded that high prevalence of dental caries was observed among hearing and speech impaired

children. There is a high need for an epidemiological survey followed by the comprehensive dental care programs for children with hearing speech impairment, as well as efforts should be taken to encourage and promote parents of these children to improve their oral health.

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