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PREVALENCE OF HEARING LOSS AND USE OF HEARING AIDS AMONG CHILDREN AND ADOLESCENTS

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Abstract:

Objectives of the study: *The main objective of the study is to analyse the hearing loss and use of hearing aids among children and adolescents in Pakistan.* ***Methodology of study:*** *This descriptive study was conducted at Shalimar Hospital, Lahore during September 2019 to January 2020. 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.* ***Results:*** *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:

Hearing loss is the fourth highest cause of disability globally. Current data suggest that approximately 5% of the world's population 32 million adults and 34 million children and adolescents suffer from disabling hearing loss, defined as hearing loss greater than 40 dB hearing levels (dB HL) in the better hearing ear in adults and greater than 30 dB HL in the better hearing ear in children [1]. According to the World Health Organisation (WHO) adverse impacts of unaddressed (untreated) disabling hearing loss, cause annual global costs of over 660 billion Euros [2].

These overall costs include expenses associated with the health-care and education systems (direct costs), costs including productivity losses due to absenteeism from work as well as income loss by family members caring for a disabled child (indirect costs) and costs for accessibility, adaptation and social inclusion for people with disabilities (intangible/societal costs) [3].

In the 21st century, communication disorders (which include hearing impairment, HI) constitute a serious concern within public health; if not treated, there are negative effects on the economic well-being of a society in the era of communication. The problem deserves to be highlighted, as the sense of hearing is essential for the development of speech, language and learning, and the higher the degree of hearing impairment, the greater the difficulties in perceiving and distinguishing speech, including language deficits [4].

In children under the age of 15, 60% of hearing loss occur due to avoidable causes, and estimates indicate that 1.1 billion people around the world could be at risk for hearing impairment due to unsafe hearing practices, such as the use of individual audio devices [5].

Objectives of the study

The main objective of the study is to analyse the hearing loss and use of hearing aids among children and adolescents in Pakistan.

METHODOLOGY OF STUDY:

This descriptive study was conducted at Shalimar Hospital, Lahore during September 2019 to January 2020. 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.

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:

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. 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 01: 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 [6]. 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 [7]. 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 [8,9].

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.

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