

# Pattern of Dental Health Status Among Sensory Impaired Children of District Lahore: Influence of Parental Socioeconomic Status

Dental Health  
Status Among  
Sensory Impaired  
Children

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## ABSTRACT

**Objective:** To determine the degree of oral health knowledge, attitudes, and practices among parents and children. To determine the association between dental health and parental socio-demographic characteristics, children's tooth brushing, dental health care access, and barrier to health care.

**Study Design:** Cross-sectional study

**Place and Duration of Study:** This study was conducted at the Department of Public Health, Azra Naheed Dental College / Superior University, Lahore from the period of one year November 2017 to November 2018.

**Materials and Methods:** The quantitative methods of observation were used in this cross-sectional research design. The dental assessment was carried out effectively by evaluating school children aged 5 to 15 years, and demographic data was also acquired with the assistance of the school administration at the time of the assessment. A study was undertaken in five special schools in Lahore's urban and periurban districts with five types of sensory impairment.

**Results:** In the frequency distribution test, parent/child knowledge, behavior, and oral health practices were analyzed. The correlation between important factors and dental diseases were analyzed with the Chi-square test. The tests were performed with version 22 of SPSS.

**Conclusion:** To promote the oral health of sensory impaired school-aged children, socioeconomic factors such as socioeconomic status, toothpaste availability, tooth brushing frequency, dental screening at school, and utilization to dental care evaluation and oral health knowledge of students and parents must be prioritized.

**Key Words:** Dental health, sensory impaired, socioeconomic status

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## INTRODUCTION

Dental health is seen as a crucial component of a person's overall health.<sup>1</sup> Dental diseases are the most prevalent disease that affects a considerable proportion of society, particularly among school-aged children. Around 500 million people are estimated to be disabled worldwide, and this number is rising every day<sup>2</sup>.

According to the American Health Association, disability is the root of many problems, including the inability of disabled children to use their mental, social

and physical abilities to interconnect effectively, and they have a significantly higher rate of dental disease, which necessitates special attention from the general public<sup>3</sup>. Blindness, hearing problems, speech problems, and other mental illnesses significantly affect the child's oral health<sup>4</sup>. Because of their sensory, motor, and intellectual limitations; disabled children are less conscious of their oral health hygiene and are more prone to dental disorders<sup>5</sup>. Most children suffer from dental caries that are the most common chronic childhood disorder that interferes with a child's ability to talk and engage in everyday activities due to acute discomfort and disruption of normal daily activities<sup>6</sup>. Disabled children also suffer as a result of their parent's and caretaker's ignorance. This neglect harms the children's mental and overall well-being<sup>7</sup>.

The financial situation of a family can impact children's health and well-being since it will limit to avail dental treatment, such as dental screening<sup>8,9,10</sup>.

Schools play an essential role in the dental health of a child; the school's dental team is responsible for yearly dental screening of schoolchildren, especially those with disabilities; they need to pay particular attention to

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their daily medical checkups and dental care<sup>11-15</sup>. According to the study, students lack knowledge of educational and preventive approaches for oral health hygiene, and dental education is required to enhance awareness and raise standard practices<sup>16</sup>.

Sensory deficient children are classified as "special needs population"<sup>17</sup>. These people have a poor understanding of their oral health and suffer from a higher rate of dental illness and more difficulty in receiving oral health care<sup>18</sup>. Sensory disabled children require the same level of health care as the healthy population. However, it has been observed that they have worse oral health than the general population.<sup>19,6</sup>.

After all, sensory impaired children are unable to explain their issues, which will hurt their daily lives and their negligence will hurt their psychosocial well-being<sup>6,20-22</sup>.

The current study examines the critical factors that contribute to problems with a child's oral health when they have a sensory handicap.

## MATERIALS AND METHODS

The quantitative methods of observation were used in this cross-sectional research design. The dental assessment was carried out effectively by evaluating school children aged 5 to 15 years, and demographic data was also acquired with the assistance of the school administration at the time of the assessment.

A study was undertaken in five special schools in Lahore's urban and periurban districts with five types of sensory impairment children. The Punjab University – Ethical Review Committee gave their approval to the study. At the time of data collection, permission letters with the study's purpose were delivered to the selected schools. Teachers, parents, and caregivers were also asked for their permission to collect data to evaluate children's oral cavities. Letters were written and delivered to their respective schools.

Lists of operational schools for sensory impaired children were sought from the special education department. It was verbally communicated by the department of special education that we could only access one-third of enrolled students. All schools were selected and approached for the study. Only five special education schools gave permission. The complete list of enrolled students was 1183 of these five schools. Total 237 students were studying in every school on average. One-third of enrolled students was calculated, and the figure was 79 students from each school, which was the limitation incurred on the researcher to select only one-third of students from each school. So the final sample size from every two schools was 78 students. 79 student's names were selected from the total names list of each school through the lottery method. These names were shared with schools authorities. Date and time of examination of these students was agreed between

researcher and schools authorities, and data was collected.

After scrutiny of data, due to the absence of some children on the days of examination and non-cooperative behavior, the researcher could get only 50 students from three schools. 53 and 55 from students from the fourth and fifth classes. This number of 53 and 55 were rounded off, and 50 sensory impaired children were selected for the study. The mean age of students, including boys and girls, was found to be between 9 and 13 years old in the study. Principal informants were chosen from each school's class instructors and administrative staff.

To gather data from the target group, the quantitative standardized questionnaire utilized in this study was developed from the WHO oral health evaluation process for children (WHO, 2013). The questionnaire is divided into two parts. (1) socioeconomic status of parents, availability of toothpaste, frequency of tooth brushing, access to dental health care, utilization of dental treatment, last visit to the dentist, screening in school, barriers to access health care utilization were added, and (2) questions about dental problems and diseases including such dental caries, gingival bleeding, tetracycline poisoning,

### Data Collection Procedure

**Statistical Analysis:** The knowledge, attitude, and practices of parents and children on oral health status were analyzed using the frequency distribution test, and the association between important factors and dental illnesses was analyzed using the Chi-square test. The tests were run using SPSS version 22.

**Inclusion Criteria:** The disabled children with mild to severe sensory disabilities (boys and girls) aged 5 to 15 years was the inclusion criterion.

**Exclusion Criteria:** Exclusion criteria included children over the age of 15 who had a significant sensory handicap.

## RESULTS

Table No.1: Descriptive Analysis

	Frequency	%	Valid %	Cumulative %
<b>Valid</b>				
Male	171	68.4	68.4	68.4
Female	79	31.6	31.6	100.0
Total	250	100.0	100.0	

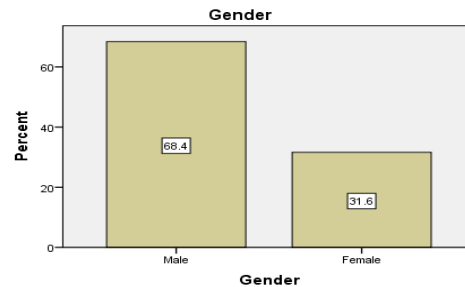
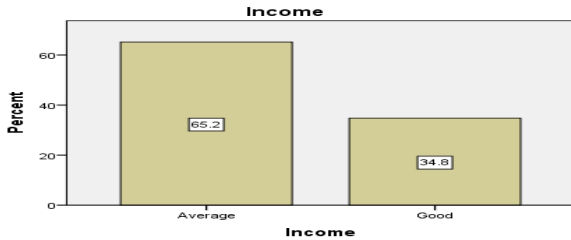


Figure No.1: Descriptive Analysis

Table 1 and Figure 1 reveal that there were 171 (68.4%) male children and 79 (31.6%) female children out of a total of 250 children.

**Table No.2: Income**

		Frequency	%	Valid %	Cumulative%
Valid	Average	163	65.2	65.2	65.2
	Good	87	34.8	34.8	100.0
	Total	250	100.0	100.0	

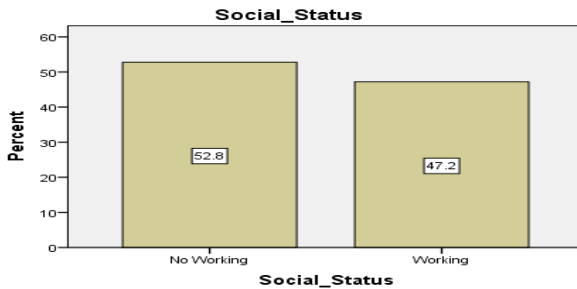


**Figure No.2: Income**

Table and figure no. 2 reveal that the monthly income of 163 (65.2%) children’s parents were average while 87 (34.8%) children's parents had a good income.

**Table No.3: Social Status**

	Frequency	%	Valid %	Cumulative %
Non - Working	132	52.8	52.8	52.8
Working	118	47.2	47.2	100.0
Total	250	100.0	100.0	

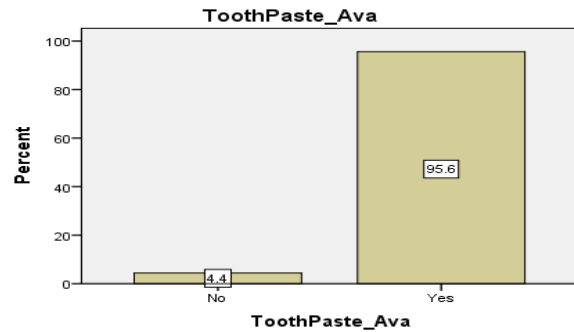


**Figure No.3: Social status**

Table and figure 3 illustration that from the total sample size of 250, the social status of the 132 (52.8%) children’s parents were not working, and the social status of 118 (47.2%) children’s parents were working.

**Table No.4: Toothpaste Availability**

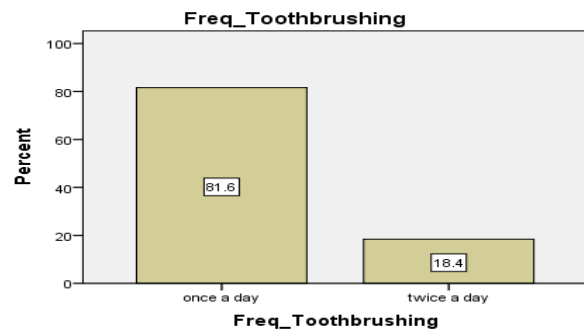
		Frequency	%	Valid %	Cumulative %
Valid	No	11	4.4	4.4	4.4
	Yes	239	95.6	95.6	100.0
	Total	250	100.0	100.0	



**Figure No.4: Toothpaste Availability**

**Table No.5: Frequency of tooth brushing**

		Frequency	%	Valid %	Cumulative %
Valid	Once a day	204	81.6	81.6	81.6
	Twice a day	46	18.4	18.4	100.0
	Total	250	100.0	100.0	



**Table No.5: Frequency of tooth brushing**

Table & figure No. 4 shows that from a total of 250 children, 11 (4.4%) of children have mentioned the unavailability of the toothpaste while other 239 (95.6%) mentioned the availability of the toothpaste.

Table 5 and Figure 5 reveal that out of a total of 250 children, 204 (81.6%) clean their teeth once a day and only 46 (18.4%) brush their teeth twice a day.

**Table No.6: Dental Health Access**

		Frequency	%	Valid %	Cumulative%
Valid	No	126	50.4	50.4	50.4
	Yes	124	49.6	49.6	100.0
	Total	250	100.0	100.0	

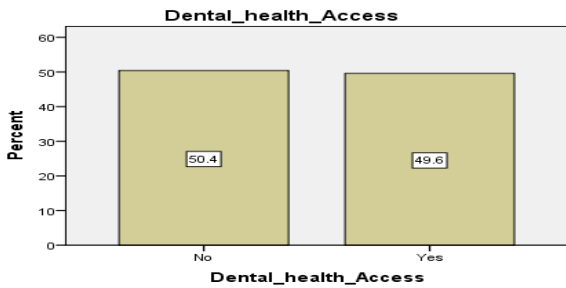


Figure No.6: Dental Health Access

Table no. 6 and figure no. 6 demonstrate that 126 (50.4%) of children have no access to dental health care and 124 (49.6%) have access to dental treatment.

Table No.7: Last visit to dentist

		Freq- uency	%	Valid %	Cumul- ative %
Valid	Never	188	75.2	75.2	75.2
	Within last year	57	22.8	22.8	98.0
	Last 3 years	3	1.2	1.2	99.2
	Last 5 years	2	0.8	0.8	100.0
	Total	250	100.0	100.0	

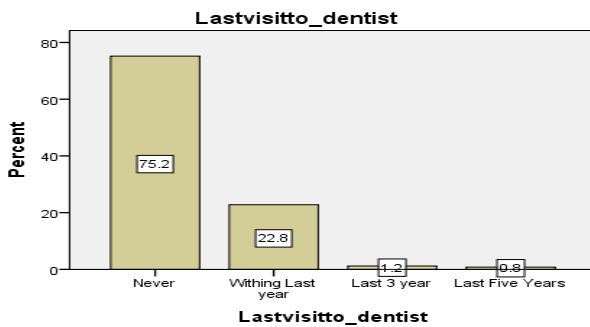


Figure No.7: Last visit to dentist

Table and figure no. 7 show that out of a total of 250 children, 188 (75.2%) have never had a dental checkup, 57 (22.8%) have visited dentist in the previous year, 3 (1.2%) have visited their dentist in the previous three years, and only 2 (0.8%) have visited their dentist.

Table No.8: Dental Treatment Utilization

		Freq- uency	%	Valid %	Cumul- ative %
Valid	Never	166	66.4	66.4	66.4
	Within last year	84	33.6	33.6	100.0
	Total	250	100.0	100.0	

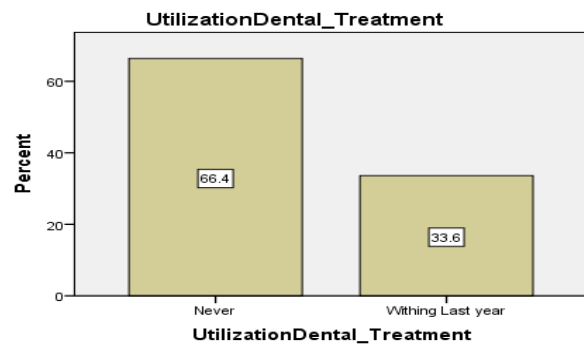


Figure No.8: Dental Treatment Utilization

Table 8 and figure 8 demonstrate that 166 (66.4 percent) of children have never had a dental checkup and treatment, while 84 (33.6 percent) have had treatment within the last year.

Table No.9: A Barrier to Access to Utilization of Health Care

		Frequency	%	Valid %	Cumul- ative %
Valid	Lack of knowledge of parents/ caretaker	197	77.2	77.2	77.2
	Lack of knowledge of students	57	22.8	22.8	100.0
	Total	250	100.0	100.0	

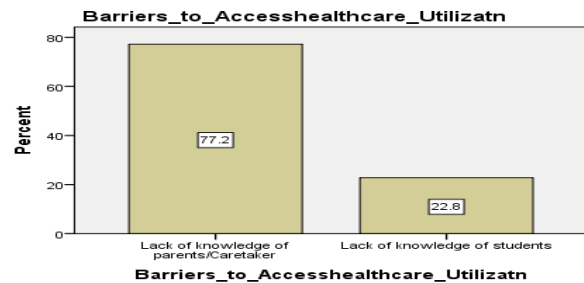


Figure No.9: A Barrier to Access to Utilization of Health Care

Table No.10: Chi-Square Tests

	Value	Df	Asymp. Sig (2- sided)
Pearson chi-square	1.367 <sup>a</sup>	4	.850
Likelihood ratio	1.764	4	.779
Linear-by-linear association	1.051	1	.305
N of valid class	250		

Table and figure no. 9 demonstrate that 197 (77.2%) children do not have access to health care because of their parents' lack of information about dental health and treatment, whereas 57 (22.8%) children do not have access to health care because of their lack of awareness about dental health.

Accessibility to dental health has an insignificant ( $P=0.85$ ) link with permanent teeth inspection, according to Table 10.

## DISCUSSION

In this study, which looks at the knowledge, attitudes, and habits of parents of sensory-impaired children and parents of normal children of high school age; the relationship between demographic characteristics and oral diseases was examined. There were 171 (68.4%) males and 79 (31.6%) females out of a total of 250 children according to the findings. On clinical examination, 20% of the children were found to be normal, 20% to have a hearing impairment, 20% to have a speech impairment, 20% to be blind, and 20% to be mentally retarded. 65.2 percent of children had an average monthly income, while 34.8 percent had an excellent monthly income. The current study found that the percentage of children who have never visited a dentist is greater, which is consistent with earlier studies that demonstrate that the percentage is higher among hearing and vision impaired school-aged children due to parental neglect and a lack of information (23).

61 children have permanently healthy teeth, 18 children have permanent teeth caries, 0.8% are permanent caries, 1.6% of permanent teeth for children are missing because of caries and only one child (0.4%) has permanent teeth. Similarly, 3 teeth (1.2%) were missing because of traumatism, and 1 (0.4%) had a wide range of difficulties. Whereas 101 (40.4%) children were without gingival bleeding and 149 (59.6%) children were having, gingival bleeding. 28 (11.2%) children had no treatment done before; 54 (21.6%) children had prevention and routine treatment, 93 (37.2%) children had their scaling promptly, and 66 (26.4%) children needed immediate treatment because of pain caused by infection. (8, 24-26) (21).

## CONCLUSION

The objectives of this research are to study the knowledge, attitudes, and practices of parents of school-going children regarding their children's oral health. Along with that, the relationship between main population factors such as gender, parents' income and socioeconomic status has been compared with tooth burn, oral mucosal lesions, tooth traumas, gingival bleeding and previous interventions. Therefore, schoolchildren with oral and dental disorders were found that leads to young people's general dental health being poor.

### Author's Contribution:

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Revisiting Critically:

Final Approval of version:

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**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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