

# Knowledge, Attitude, and Practice of Pediatric Dentists Regarding Oral Health Management of Visually Impaired Children

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## ABSTRACT

**Aim:** The aim of this study is to investigate the knowledge, attitude, and practices of pediatric dentists regarding oral health management of visually impaired children.

**Material and methods:** A combination of convenience sampling and snowball sampling was used to send an online Google form survey questionnaire to pediatric dentists all around the world. Four sections made up the questionnaire—the first asked for personal information, while the second, third, and fourth examined the knowledge, attitudes, and practices of pediatric dentists, respectively. The IBM Statistical Package for the Social Sciences (SPSS) for Windows, version 21.0, was used to analyze the data.

**Result:** The total responses (511) were broken up according to the different continents. The Asian continent produced the most pediatric dentists (206, 40.3%). Most of the participants in the study were females (365, 71.4%), and the maximum was postgraduate students (203, 39.7%). Moreover, the participants were practicing in the private sector (445, 87.1%) and had an experience of 2–5 years (118, 23.1%). Good knowledge scores were significantly associated with work profile ( $p = 0.014^*$ ) years of practice, and associated countries had shown significant differences ( $p \leq 0.001$ ).

**Conclusion:** According to this study, the majority of the pediatric dentists included have just rudimentary knowledge of children who are visually impaired. Pediatric dentists are prevented from treating and properly managing visually impaired children as a result of deficient practices in the field of visually impaired children.

**Keywords:** Pediatric dentists, Oral health, Visually impaired children.

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## INTRODUCTION

Early infancy vision impairment affects physical, neurological, cognitive, and emotional development since vision is the most important sense for understanding our surroundings. The visually impaired population forms a substantial part of this underprivileged population. Most importantly, it makes an affected individual regularly depend on others for even day-to-day routine tasks, hurting an individual's self-esteem.<sup>1</sup>

A youngster is considered visually impaired if their visual insight in the stronger eye does not surpass 20/200 with corrective lenses or if it does but is concomitant with a visual field that is no wider than 20°. The mouth cavity serves as a "window or mirror" into the body's general health and frequently displays the early warning signs and symptoms of systemic diseases.<sup>3</sup> According to estimates, there are 1.4 million blind children worldwide, and 75% of them reside in impoverished regions of Asia and Africa.<sup>4</sup> The frequency of childhood blindness may reach 1.5/1,000 children in low-income nations.<sup>5</sup> According to the valuation, India has the largest number of visually impaired children in the world (15 million), it was discovered.<sup>6</sup>

According to what is commonly referred to as a "halo effect," oral health and dental care of disabled patients are frequently noted as being of secondary concern to the debilitating disease.<sup>7</sup> There is a significant incidence of dental caries, periodontal issues, and stress to anterior teeth in these kids due to their inability to see. The oral health status of visually impaired children can be greatly

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impacted by parental ignorance, socioeconomic conditions, or cultural factors, which can lead to a high prevalence of dental illnesses.<sup>8</sup>

These young patients cannot be treated using the conventional specific procedures used to demonstrate the dental process.<sup>9</sup> Children who are blind rely far more on sound, speech, and touch to get their bearings in a situation.<sup>10</sup> These kids receive a variety of communication aids, including large print materials, raised label markers,<sup>11</sup> braille, bold, and audiotapes.<sup>12</sup> Various

auxiliary techniques are employed with children in conjunction with dental care and oral health education, such as didactic models of teeth (macro models), didactic materials printed in braille, audiobooks, and even three-dimensional (3D) plastic paint markers.<sup>13</sup> Blind youngsters could maintain an adequate level of dental hygiene with a multimodal approach and imaginative use of other senses. A unique, specially designed method called the audio tactile performance technique (ATP) is used to teach visually impaired children how to maintain their oral hygiene.<sup>14</sup>

Overall, the assessment of pediatric dentists' knowledge, attitudes, and practices addressing the care of oral health in children who are visually impaired are not definitive in the literature. Therefore, the current study's objective is to evaluate pediatric dentists' knowledge, attitudes, and practices related to the management of visually impaired children's oral health.

## MATERIALS AND METHODS

An observational cross-sectional study was done through an online Google form survey. A well-structured questionnaire containing questions on demographic characteristics, knowledge, attitude, and practice of pediatric dentists was formed and distributed among pediatric dentists practicing across the globe. Together with the faculty from the Department of Pediatric and Preventive Dentistry at the same organization, the lead investigator herself validated the questionnaire. The Institutional Ethical Committee Review Board granted ethical approval.

All the participants willingly participated in the study. The study included postgraduate students, clinicians, academicians, and clinicians and academicians who work in the private and government sector. General dentists and undergraduate students were excluded from the study.

The final sample accounted for 511 responses, eliminating the incomplete questionnaire. An increased sample size further added to the credibility of the results.

### Sample Size

The sample size determined was 385, which was calculated at a 95% confidence interval and 5% margin of error, and the population proportion was set at 50%. Considering the nonresponsiveness of about 10% of respondents, the final sample was set at  $385 + 38 = 423$ . Responses above 423 were taken into account for the present study so as to enhance the generalizability of study results. So, the total sample size was 511.

### Statistical Analysis

In order to protect the privacy of the data, the statistician received the coded data. The IBM SPSS for Windows, version 21.0, was used for the analysis.

## RESULTS

### Sociodemographic Characteristics of the Participating Pediatric Dentists

Since the current study used a global method, the total number of replies obtained (511) was divided according to the different continents, with the Asian continent receiving the most responses (40.3%) and the "other" continents receiving the least (11.0%). Most of the profile group of pediatric dentists were postgraduate students (39.7%), followed by academicians and clinicians (33.3%), and clinicians (22.3%). The majority of them had an experience of 2–5 years and were practicing in the private sector (87.1%) (Table 1).

### Knowledge Variables across Continents of Pediatric Dentists Regarding the Study Objectives

About 65.9% of dentists were aware of different degrees of visual impairment; however, only 69.1% of pediatric dentists knew about the consequence of visual impairment in children. Overall, 86.3% of pediatric dentists knew about the prenatal and postnatal etiology of visual impairment in children. Around 65.9% of pediatric dentists were aware of the braille software. Almost half of the pediatric dentists, that is, 59.5%, were aware of the oral education methods for visually impaired children, and 54.2% of pediatric dentists knew about the ATP. Half of the participating pediatric dentists (59.9%) were aware of the special types of brushes used for visually impaired children. A significant difference was observed in knowledge questions of pediatric dentists regarding oral health management of visually impaired children ( $p \leq 0.001$ ) and ( $p = 0.005$ ) (Table 2).

### Attitude of Pediatric Dentists Regarding Oral Health Management of Visually Impaired Children

Of the total participants, only half of the pediatric dentists (52.8%) were confident about treating visually impaired children. Approximately 63.2% of pediatric dentists found the barrier to treating visually impaired children is due to inadequately motivated parents/caretakers. Nearly 84.3% of pediatric dentists contemplate that socioeconomic or cultural conditions stimulate the oral health of visually impaired children. The difference was noticed in the attitude questions of pediatric dentists across continents of oral health management of visually impaired children (Table 3).

### Practices of Pediatric Dentists Regarding Oral Health Management of Visually Impaired Children

At the time of responding to the questionnaire, about 54.4% of pediatric dentists did not treat visually impaired children

**Table 1:** Sociodemographic characteristics of the participating pediatric dentists

	<i>Sociodemographic characteristics</i>	<i>N (%)</i>
Country	Asia	206 (40.3)
	America	98 (19.2)
	Europe	84 (16.4)
	Africa	67 (13.1)
	Others	56 (11.0)
Gender	Males	146 (28.6)
	Females	365 (71.4)
Work profile	Postgraduate	203 (39.7)
	Clinician	114 (22.3)
	Academician	24 (4.7)
	Academicians and clinicians	170 (33.3)
Work experience	0–2	99 (19.4)
	2–5	118 (23.1)
	5–10	96 (18.8)
	>10	102 (20.0)
	Not practicing currently	96 (18.8)
Work sector	Government	66 (12.9)
	Private	445 (87.1)

**Table 2:** Knowledge variables across continents of pediatric dentists regarding oral health management of visually impaired children

Options	India	America	Europe	Africa	Others	Total	Chi-square	p-value
Q1. Are you aware of the different degrees of visual impairment?								
Yes	138 (27.0)	58 (11.4)	53 (10.4)	53 (10.4)	35 (6.8)	337 (65.9)	22.197	0.005*
No	34 (6.7)	30 (5.9)	23 (4.5)	13 (2.5)	14 (2.7)	114 (22.3)		
Maybe	34 (6.7)	12 (2.3)	10 (2.0)	4 (0.8)	0 (0.0)	60 (11.7)		
Q2. The main consequence of visual impairment is								
Functional loss	142 (27.8)	79 (15.5)	63 (12.3)	36 (7.0)	33 (6.5)	353 (69.1)	28.875	<0.001**
Eye disorder	56 (11.0)	21 (4.1)	19(3.1)	34 (6.7)	12 (2.3)	142 (27.8)		
None of the above	8 (1.6)	0 (0)	4 (0.8)	0 (0)	4 (0.8)	16 (3.1)		
Q3. What is the etiology of visual impairment in children?								
Prenatal	6 (1.2)	7 (1.4)	6 (1.2)	12 (2.3)	13 (2.5)	44 (8.6)	41.224	<0.001**
Postnatal	16 (3.1)	5 (1.0)	4 (0.8)	1 (0.2)	0 (0.0)	26 (5.1)		
Both	184 (36.0)	88 (17.2)	76 (14.9)	57 (11.2)	36 (7.0)	44 (86.3)		
Q4. Are you aware about braille software used for visually impaired children?								
Yes	128 (25.0)	71 (13.9)	48 (9.4)	56 (11.0)	34 (6.7)	337 (65.9)	32.553	<0.001**
No	63 (12.3)	24 (4.7)	22 (4.3)	14 (2.7)	15 (2.9)	138 (27.0)		
Maybe	15 (2.9)	5 (1.0)	16 (3.1)	0 (0.0)	0 (0.0)	36 (7.0)		
Q5. Are you aware of oral health education methods to educate visually impaired children?								
Yes	131 (25.6)	57 (11.2)	45 (8.8)	52 (10.2)	19 (3.7)	304 (59.5)	33.313	<0.001**
No	47 (9.2)	33 (6.5)	24 (4.7)	14 (2.7)	27 (5.3)	145 (28.4)		
Maybe	28 (5.5)	10 (2.0)	17 (3.3)	4 (0.8)	3 (0.6)	62 (12.1)		
Q6. Are you aware of ATP for health education of visually impaired children?								
Yes	131 (25.6)	49 (9.6)	42 (8.2)	43 (8.4)	12 (2.3)	277 (54.2)	50.337	<0.001**
No	58 (11.4)	41 (8.0)	30 (5.9)	27 (5.3)	36 (7.0)	192 (37.6)		
Maybe	17 (3.3)	10 (2.0)	14 (2.7)	0 (0.0)	1 (0.2)	42 (8.2)		
Q7. Are you aware of special types of brushes recommended for visually impaired children?								
Yes	137 (26.8)	61 (11.9)	35 (6.8)	49 (9.6)	24 (4.7)	306 (59.9)	57.516	<0.001**
No	69 (13.5)	35 (6.8)	39 (7.6)	21 (4.1)	25 (4.9)	189 (37.0)		
Maybe	0 (0.0)	4 (0.8)	12 (2.3)	0 (0.0)	0 (0.0)	16 (3.1)		

\*, Significant; \*\*, highly significant; NS, not significant; percentages rounded to nearest decimal

**Table 3:** Attitude variables across continents of pediatric dentists regarding oral health management of visually impaired children

Options	India	America	Europe	Africa	Others	Total	Chi-square	p-value
Q1. Are you confident about treating visually impaired children?								
Yes	114 (22.3)	38 (7.4)	41 (8.0)	55 (10.8)	22 (4.3)	270 (52.8)	61.570	<0.001**
No	36 (7.0)	17 (3.3)	10 (2.0)	0 (0.0)	20 (3.9)	83 (16.2)		
Maybe	56 (11.0)	45 (8.8)	35 (6.8)	15 (2.9)	7 (1.4)	158 (30.9)		
Q2. What do you think is the barrier for practitioner's willingness to treat visually impaired children?								
Time constraint	35 (6.8)	5 (1.2)	8 (1.6)	23 (4.5)	12 (2.3)	84 (16.4)	34.659	<0.001**
Inadequately motivated parents/caretakers	132 (25.8)	70 (13.7)	51 (10.0)	51 (10.0)	31 (6.1)	323 (63.2)		
Other	39 (7.6)	24 (4.7)	27 (5.3)	27 (5.3)	6 (1.2)	104 (20.4)		
Q3. Do you think that socioeconomic or cultural condition influences the oral health in visually impaired children?								
Yes	168 (32.9)	81 (15.9)	80 (15.7)	57 (11.2)	45 (8.8)	431 (84.3)	20.862	0.008*
No	17 (3.3)	2 (0.4)	0 (0.0)	5 (1.0)	0 (0.0)	24 (4.7)		
Maybe	21 (4.1)	17 (3.3)	6 (1.2)	8 (1.6)	4 (0.8)	56 (11.0)		

\*, Significant; \*\*, highly significant; NS, not significant; percentages rounded to nearest decimal

in a month ( $p \leq 0.001$ ). A total of 53.4% of pediatric dentists communicate the visually impaired children through audiotapes ( $p \leq 0.001$ ). As many as 84.7% of pediatric dentists practice tell-touch-try-smell-do-technique. Although approaching

visually impaired children, 57.7% of pediatric dentists prefer non-pharmacological behavior management techniques ( $p \leq 0.001$ ). However, 51.5% of pediatric dentists encountered diverse types of oral manifestations (gingival inflammation,



dental caries, dental trauma, and premature swallow) in visually impaired children, with a significant difference of  $p = 0.004$ . While impeding the visually impaired children, only 38.6% of pediatric dentists practices audiobooks as an auxiliary technique with a significant difference of ( $p \leq 0.001$ ). But only 47.0% of pediatric dentists only recommend the Fone’s brushing method ( $p = 0.20$ ) (Table 4).

**Knowledge, Attitude, and Practice Scores of the Participating Dentists**

On the grounds of the median scores that were obtained, the cut-off points for the knowledge (maximum 2.71), attitude

(maximum 2.71), and practice (maximum 4.14) scores, respectively (Table 5).

**Association between Demographic Variables and Knowledge and Practice Scores**

The multiple linear regression model was done to analyze the knowledge, and practice scores in relation to demographic variables revealed that good knowledge scores were significantly associated with work profile ( $p = 0.014$ ) and the years of work experience of practice ( $p \leq 0.001$ ), whereas practice scores had significant difference approach among practicing in different countries ( $p \leq 0.001$ ).

**Table 4:** Practices variables across continents of pediatric dentists regarding oral health management of visually impaired children

Options	India	America	Europe	Africa	Others	Total	Chi-square	p-value
Q1. How many visually impaired children you treat in a month?								
More than three	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (0.8)	4 (0.8)	80.530	<0.001**
Three	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (0.8)	4 (0.8)		
Less than three	83 (16.2)	47 (9.2)	40 (7.8)	37 (7.2)	18 (3.5)	225 (44)		
None	123 (24.1)	53 (10.4)	46 (9.0)	33 (6/5)	23 (4.5)	238 (54.4)		
Q2. Which behavior technique do you prefer for visually impaired children?								
Non-pharmacological behavior management	100 (19.6)	63 (12.3)	45 (18.8)	59 (11.5)	28 (5.5)	295 (57.7)	60.399	<0.001**
Nitrous oxide sedation technique	7 (1.4)	7 (1.4)	5 (1.0)	5 (1.0)	10 (2.0)	34 (6.7)		
General anesthesia	6 (1.2)	4 (0.8)	4 (0.8)	0 (0.0)	0 (0.0)	14 (2.7)		
All of the above	93 (18.2)	26 (5.1)	32 (6.3)	6 (1.2)	11 (2.2)	168 (32.9)		
Q3. Which type of oral manifestation has encountered by you in visually impaired children?								
Gingival inflammation	35 (6.8)	17 (3.3)	18 (3.3)	16 (3.1)	17 (3.3)	103 (20.2)	22.482	0.004*
Dental trauma and dental caries	56 (11.0)	42 (8.2)	16 (3.1)	18 (3.5)	13 (2.5)	145 (28.4)		
Prolonged immature swallow	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)		
All of the above	115 (22.5)	41 (8.0)	52 (10.2)	36 (7.0)	19 (3.7)	263 (51.5)		
Q4. Which mode of communication do you prefer for visually impaired children in the clinic?								
Braille	23 (4.5)	18 (3.5)	9 (1.8)	13 (2.5)	5 (1.0)	68 (13.3)	30.305	0.016*
Audio tapes	103 (20.2)	45 (8.8)	53 (10.4)	43 (8.4)	29 (5.7)	273 (53.4)		
Dental pamphlets	8 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	8 (1.6)		
All of the above	46 (9.0)	29 (5.7)	20 (3.9)	10 (2.0)	11 (2.2)	116 (22.7)		
None of the above	26 (5.1)	8 (1.6)	4 (0.8)	4 (0.8)	4 (0.8)	46 (9.0)		
Q5. Which non-pharmacological technique you apply in visually impaired children?								
Tell-play-do technique	4 (0.8)	4 (0.8)	4 (0.8)	0 (0.0)	0 (0.0)	12 (2.3)	57.678	<0.001**
Tell-touch-try-smell-do-technique	158 (30.9)	74 (14.5)	82 (16.0)	70 (13.7)	49 (9.6)	433 (84.7)		
Tell-show-do-technique	25 (4.9)	13 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	38 (7.4)		
None of the above	19 (3.7)	9 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	28 (5.5)		
Q6. Which auxiliary technique do you prefer during dental treatment in visually impaired children?								
Didactic models of teeth	43 (8.4)	20 (3.9)	18 (3.5)	14 (2.7)	2 (0.4)	97 (18.0)	68.616	<0.001**
Didactic material in braille	16 (3.1)	1 (0.2)	12 (2.3)	14 (2.7)	1 (0.2)	44 (8.6)		
Audio books	77 (15.1)	44 (8.6)	32 (6.3)	28 (5.5)	16 (3.1)	197 (38.6)		
3D plastic paint markers	51 (10.0)	27 (5.3)	24 (4.7)	9 (1.8)	30 (5.9)	141 (27.6)		
None of the above	19 (3.7)	8 (1.6)	0 (0.0)	5 (1.0)	0 (0.0)	32 (6.3)		
Q7. Which brushing technique do you recommend in visually impaired children?								
Fone’s method	93 (18.2)	61 (11.9)	38 (7.4)	29 (5.7)	19 (3.7)	240 (47.0)	24.044	0.20*
Horizontal scrub method	38 (7.4)	13 (2.5)	28 (5.5)	17 (3.3)	12 (2.3)	108 (21.1)		
Modified bass method	40 (7.8)	9 (1.8)	11 (2.2)	14 (2.7)	11 (2.2)	85 (16.6)		
All of the above	35 (6.8)	17 (3.3)	9 (1.8)	10 (2.0)	7 (1.4)	78 (15.3)		

\*, Significant; \*\*, highly significant; NS, not significant; percentages rounded to nearest decimal



**Table 5:** Relation of demographic characteristics with participants knowledge and practice scores using multiple linear regression analysis

	Predictor	Coefficient	Standard error	t	p-value
Knowledge	(Constant)	1.834	0.123	14.886	0.000
	Country	-0.008	0.011	-0.779	0.436 (NS)
	Gender	-0.064	0.033	-1.899	0.058 (NS)
	Work profile	0.020	0.012	1.631	0.014* (S)
	Work experience	-0.006	0.011	-0.602	0.547 (NS)
	Work sector	-0.049	0.044	-1.114	0.266 (NS)
Practice	(Constant)	3.010	0.168	17.924	0.000
	Country	-0.074	0.014	-5.116	<0.001** (HS)
	Gender	-0.018	0.046	-0.385	0.701 (NS)
	Work profile	0.011	0.017	0.643	0.521 (NS)
	Work experience	-0.111	0.014	-7.657	<0.001** (HS)
	Work sector	0.048	0.060	0.793	0.428 (NS)

\*, Significant; \*\*, highly significant; NS, not significant

## DISCUSSION

The sensory modes are often taken for granted as long as they function normally. However, when this functioning is interfered with by illness or medication, the insight into our environment may be exaggerated.<sup>15</sup> So, this study gathered information on the knowledge, attitude, and practice of pediatric dentists regarding oral health management of visually impaired children. The implications of disability on children who are blind or visually impaired affect not just the affected individuals but also their immediate environments, such as their families and social networks, as well as how healthcare is provided.<sup>16</sup> Maintaining oral health is crucial for community health and necessitates ongoing assessment.

According to the study's findings, >60% of pediatric dentists are well-versed in managing the dental health of children who are visually impaired. There was a statistically significant difference in knowledge scores between pediatric dentists regarding the oral health management of visually impaired children, including the various degrees of visual impairment, the effects of visual impairment, the etiology of impairment, braille software, oral health education methods for visually impaired children, ATP technique, and a special kind of brushes used for visually impaired children (*p*-value, 0.001).

From our study, it appears that half of the pediatric dentists, that is, 59.4%, had a favorable attitude score for providing dental care for visually impaired children, but significant differences were observed. The results show that pediatric dentists across the globe wanted to eliminate the disparity between dental care delivered to children with visual impairment, but from the study, it has also been estimated that 63.2% of pediatric dentists reflect the barrier for treating visually impaired children is due to inadequately motivated parents which is due to the socioeconomic conditions and cultural conditions which in turn influences the oral health of the visually impaired children. These findings were similar to the conclusion made by Russel and Kinirons.<sup>15</sup>

The majority of the participants in the study had overall good knowledge scores, but there was a mean score difference observed between knowledge ( $1.64 \pm 0.32$ ) and practice ( $2.59 \pm 0.47$ ) which was perceived among pediatric dentists. During communication with visually impaired children, different types of modes of communication are used, like braille, audio tapes, and dental pamphlets. Our study shows that half of the pediatric dentists

(53.4%) across the globe practice only audio tapes for communicating with visually impaired children. But these findings of the study were not in congruence with the study done by Ganapathi et al.,<sup>17</sup> where the results were not in accordance with the observations of our study.

The oral health of visually impaired children is often recognized as a secondary status to the debilitating disease. Clinical studies, in fact, show that<sup>2</sup> prolonged immature swallowing pattern is observed in visually impaired children due to hesitation in consuming solid food items.<sup>2</sup> In 2014, a study done by Liu et al.<sup>18</sup> implied that visually impaired children have a state of compromised oral hygiene, which results in gingival inflammation and the development of dental caries.<sup>18</sup> The frequent use of milk and cookies as rewards for good behavior among children who are blind or visually impaired may be one of the causes of their high caries prevalence. The prevalence of caries may also rise as a result of poor inspection and limited ability for plaque removal. As a result, we must determine the major variables affecting the dental health of children who are visually impaired. Bhat et al.<sup>19</sup> found that visually impaired children (32.5%) had a significantly higher percentage of fractured anterior teeth than sighted children (9.6%). In our study, it has been observed that about 50% of the pediatric dentists (51.5%) during their clinical practices had encountered various types of oral manifestations in visually impaired children, which is mentioned above.

In a study published in 2013, Rodríguez-Batlloiri et al. recommended that the patient feel the instruments we plan to use before we describe them. Intense odors can be unpleasant, but depending on the patient's preferences, they may even be pleasant. Knowing these before they are used may be helpful for the child.<sup>20</sup> During the treatment of visually impaired children, half of the pediatric dentists (57.7%) uses non-pharmacological behavior management technique, and the majority of them uses tell-touch-try-smell-do-technique.

The dental procedures for these children should be simple and short, with brief explanations with positive feedback. On subsequent visits, the mother can be replaced by a member of the clinic staff, promoting the child's independence and self-assurance.<sup>2</sup> These kids can benefit from a variety of auxiliary methods for dental care and teaching, including didactic models of teeth (macro models), didactic writing in braille, audiobooks, and even 3D plastic paint markers.<sup>13</sup> In our study, the most referred auxiliary technique used by pediatric dentists (38.6%) is audiobooks.

The patient should first demonstrate the proper way to brush, which can then be improved upon and changed using verbal and physical instructions.<sup>21</sup> Joybell et al. in 2015<sup>22</sup> discovered that mutually Fone's method and modified Bass technique of brushing teeth were particularly efficient in enhancing the dental hygiene of visually impaired individuals. However, due to its simplicity of use, the horizontal scrub method appears to provide outcomes that are superior to those of other techniques for children who are visually impaired.<sup>2</sup> But in our study, it has been detected that (47.0%) of pediatric dentists endorse only Fone's brushing method for visually impaired children.

Considering the responses obtained across the world, the study exhibited stronger generalizability to the reference population. As the assessment tool is a questionnaire, an element of subjective bias cannot be overlooked.

## CONCLUSION

Making a kid patient with a vision impairment feel at ease in the dentist's office and giving them the impression that their disability won't prevent them from receiving treatment is the main goal of treating them.

So, the present study suggests the need for the future pediatric dentist to provide oral health education using appropriate technology and proper behavior management technique, which will lead to quality treatment in visually impaired children.

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