

Attitudes of Pediatric Dentists toward Parental and Sibling Presence during Dental Procedures: A Cross-Sectional Survey

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Abstract

Background: While parental presence during pediatric dental procedures has been extensively debated, the influence of sibling presence remains largely unexplored. Siblings may provide comfort and assurance to the child through familiarity and modelling, but they can also act as a source of distraction or disrupt clinical setting. This study will help to understand the pediatric dentist's perspectives on this underexplored aspect which can help develop balanced approaches for managing family involvement in the operator. **Aim:** To assess the self-reported attitudes, experiences and clinical observations of pediatric dentists regarding parental and sibling presence in the dental operator during pediatric dental procedures, using an online questionnaire-based survey. **Methodology:** The study was conducted as a cross sectional, questionnaire-based survey among 200 licensed pediatric dentists and pediatric dentistry postgraduate residents in Kerala. Participants were invited to complete a structured, self-administered online questionnaire designed to assess their attitudes towards parental and sibling presence during pediatric dental procedures. Responses were collected anonymously and analyzed using descriptive statistics to summarize trends, while inferential statistics will be applied to evaluate associations between demographic/ professional characteristics and attitudes. **Results:** Among 200 pediatric dental practitioners, parental presence was commonly permitted and largely perceived to enhance child cooperation and communication, particularly during invasive and behavioral management procedures. Sibling presence was more selectively allowed, considered most beneficial for preschool-aged children and during non-invasive care. While many dentists reported occasional negative impacts of family presence, favorable perceptions significantly influenced clinical practice ($p < 0.001$). Practice setting, but not years of experience, was associated with allowing sibling presence.

Keywords: Pediatric Dentistry, Parental Presence, Sibling Presence, Dental Operator, Child Cooperation, Pediatric Dental Procedures.

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INTRODUCTION

The successful delivery of pediatric dental care extends beyond the management of oral disease; it requires an understanding of the child's psychological, emotional, and social environment. The treatment of children differs fundamentally from that of adults, as it requires a dynamic triadic relationship involving the dentist, the child, and the parent. The choice of behavior management techniques in pediatric dentistry is

multifactorial, reflecting the interaction between the child's individual characteristics, parental attitudes, the dentist's clinical judgment, and the changing social and medico-legal environment [1].

Children are emotionally dependent on their caregivers. The dental environment can be unfamiliar and anxiety-provoking for a child, making them seek emotional support from those close to them. Dental fear

and anxiety are among the most common obstacles to successful pediatric dental care, posing a considerable challenge for clinicians worldwide. A myriad of different factors play a key role in determining the behavior of the child in the dental operatory [2]. Parents often serve as the child's primary source of emotional security.

Parental presence/absence, also known as the parent-in-parent-out technique in the dental office, is a controversial aspect of pediatric dentistry [3]. The influence of parental presence in the dental operatory remains variable, with children's behavioral responses ranging from enhanced cooperation and reassurance to increased dependence and treatment challenges [4]. The effectiveness of parental presence depends largely on the parent's own emotional stability, understanding of dental procedures, and ability to support the dentist's behavior guidance strategies [5]. Parent presence in the dental treatment room helps parents to offer physical and psychological support to young children, participate in infant examination or treatment, and observe the reality of their child's treatment. In the case of dental practitioners, it helps them to gain patient attention, enhance effective communication among the dentist child and parent, establish appropriate dentist-child roles, avert negative behavior, and gains a positive dental experience [6]. Conversely, parental presence during dental treatment may adversely affect the clinical environment by fostering greater child dependence, creating distractions, and compromising the effectiveness of behavior management strategies.

Contemporary pediatric dentistry increasingly advocates a family-centered approach that recognizes parents as active partners in the child's oral healthcare. In its evidence-based recommendations on behavioral management, the European Academy of Pediatric Dentistry (EAPD) highlights effective communication among the dentist, child, and parent as a key element in providing empathetic, child-centered dental care [7]. However, despite this shift toward family-centered care, there is no universal consensus regarding parental presence in the dental operatory during treatment, and siblings, who frequently accompany children to dental appointments, have received far less attention.

Siblings frequently serve as important social models during early childhood. According to Bandura's Social Learning Theory, children acquire new behaviors by observing and imitating individuals they perceive as similar and familiar. Previous research has demonstrated that modeling techniques, including direct observation of cooperative peers, can reduce anxiety and improve children's behavior during dental treatment. Given their close emotional bond and developmental similarity, siblings may provide reassurance and positively influence children's coping behaviors in the dental operatory. However, despite these potential benefits, evidence regarding pediatric dentists' perceptions and

acceptance of sibling presence during dental treatment remains scarce.

Therefore, understanding pediatric dentists' attitudes toward the presence of both parents and siblings in the dental operatory is important for optimizing behavior management strategies and promoting family-centered care. The present study aimed to evaluate pediatric dentists' attitudes toward parental and sibling presence during dental procedures and to identify the factors influencing their clinical decision-making.

METHODS

This cross-sectional questionnaire-based survey was conducted among licensed pediatric dentists and postgraduate residents in Pediatric and Preventive Dentistry in Kerala. A total of 200 participants were recruited after being briefed about the study objectives and questionnaire format. Online informed consent was obtained before participation, and the questionnaire was anonymous to ensure confidentiality and data integrity.

The sample size of 200 was calculated assuming a 50% expected proportion from a target population of 400, with a 95% confidence level. Participants were selected randomly and included practicing pediatric dentists and first-, second-, and third-year postgraduate residents in Pediatric and Preventive Dentistry from various dental colleges in Kerala. General dentists and specialists from other disciplines who did not routinely treat children were excluded.

Data were collected using a structured, self-administered questionnaire developed for the present study. The questionnaire comprised five sections: informed consent, demographic details, attitudes toward parental presence, attitudes toward sibling presence, and general views. It contained 20 items, including five questions on demographics, five on parental presence, eight on sibling presence, and two on general views. Since no validated questionnaire addressing the specific objectives of the present study was available in the literature, a self-administered questionnaire was developed by the investigators following an extensive review of the literature and based on the study objectives. The draft questionnaire was reviewed by four faculty members from the Department of Pedodontics and Preventive Dentistry to assess its relevance, clarity and comprehensiveness (content and face validity). Based on their suggestions, appropriate modifications were incorporated. The revised questionnaire was subsequently pilot-tested with 10 pediatric dentists, who were not included in the final study sample, to evaluate its clarity, comprehensibility and feasibility. Minor revisions were made based on their feedback before the questionnaire was distributed to the study participants.

The demographic section recorded participants' age group, sex, qualification, years of clinical experience, and practice setting. The parental presence

section assessed clinical practices, perceptions, decision-making, perceived effects on child behavior and anxiety, communication, treatment, indications for parental presence, and factors influencing its use. The sibling presence section evaluated clinicians' attitudes regarding the frequency, perceived benefits and challenges, appropriate child and sibling age groups, suitability during different dental procedures, the influence of sibling age on child behavior, and factors affecting clinical decisions. The final section explored previous clinical experiences with parental and sibling presence and participants' opinions regarding the need for further research on sibling presence in the dental operator.

The questionnaire was administered online using Google Forms and distributed through WhatsApp and email. Responses were restricted to one submission per participant, all questions were mandatory, and no incomplete questionnaires were included in the analysis.

Data were analyzed using SPSS version 26.0 (SPSS Inc., Chicago, IL, USA). Descriptive statistics were used to summarize participant characteristics and response distributions. Associations between categorical

variables were analyzed using the Chi-square test. Statistical significance was set at $p < 0.05$.

RESULTS

The present study was conducted using an online survey including 200 pediatric dentists to analyze the attitudes and practices regarding the presence of parents and siblings in the dental operator during procedures.

Table 1 presents the demographic characteristics of the participants. Out of 200 participants the majority were female (74%), while males accounted for 25%, and 1% preferred not to disclose their gender. Most participants were under 30 years of age (57%), followed by those aged 30–39 years (34%), with very few aged 40–49 years (7.5%) or above 50 years (1.5%). Regarding qualifications, 70 % were postgraduate students or residents in Pediatric Dentistry, and 30% held an MDS in Pediatric Dentistry. In terms of professional experience, 75.5% had less than 5 years of practice, 17.5% had 5–10 years, and only 7% had more than 10 years. Most participants worked in academic institutions (61%), followed by private clinics (22.5%), hospital-based practices (9%), and other settings (7.5%).

Table 1: Demographic characteristics of the participants (n=200)

		Frequency	Percent
Gender	Female	148	74.0
	Male	50	25.0
	Prefer not to say	2	1.0
Age	<30 years	114	57.0
	≥50 years	3	1.5
	30–39 years	68	34.0
	40–49 years	15	7.5
Qualification	MDS in Pediatric Dentistry	60	30.0
	Postgraduate student/resident in Pediatric Dentistry	140	70.0
Years of practice	<5 years	151	75.5
	>10 years	14	7.0
	5–10 years	35	17.5
Type of practice setting	Academic institution	122	61.0
	Hospital-based practice	18	9.0
	Others	15	7.5
	Private clinic	45	22.5

Table 2 summarizes dentists' opinions regarding parental presence during pediatric dental procedures. Nearly half of the respondents (43.5%) always allow parents in the operator, while 36.5% often do, and very few (0.5%) never permit it. Most dentists (72%) agreed that parental presence helps improve a child's cooperation, whereas 49% felt it does not increase the child's anxiety. A majority (69%) believed that parental presence enhances parent–dentist

communication, although 29.5% thought it interferes with treatment. When asked if parental presence should be encouraged as standard practice, over half (50.5%) agreed, and 21% strongly agreed, indicating overall positive attitudes. The most influential factor affecting this decision was the child's behavior (48%), followed by the parent's behavior and type of procedure (each 23%), highlighting that dentists tailor their approach based on situational dynamics rather than fixed policy.

Table 2: Dentists' opinions regarding parental presence during pediatric dental procedures (n= 200)

		Frequency	Percent
Do you usually allow parents in the operatory during treatment?	Always	87	43.5
	Never	1	.5
	Often	73	36.5
	Rarely	4	2.0
	Sometimes	35	17.5
Parental presence during procedures: -Helps in child's cooperation.	Neutral	45	22.5
	No	11	5.5
	Yes	144	72.0
Parental presence during procedures: - Increases anxiety in child.	Neutral	63	31.5
	No	98	49.0
	Yes	39	19.5
Parental presence during procedures: - Improves parent–dentist communication.	Neutral	44	22.0
	No	18	9.0
	Yes	138	69.0
Parental presence during procedures: - Interferes with treatment.	Neutral	77	38.5
	No	64	32.0
	Yes	59	29.5
Parental presence should be encouraged as a standard practice?	Agree	101	50.5
	Disagree	15	7.5
	Neutral	41	20.5
	Strongly agree	42	21.0
	Strongly disagree	1	.5
Which factor most influences your decision regarding parental presence?	Child's behavior	96	48.0
	Other	3	1.5
	Parent's behavior	46	23.0
	Practice policy	9	4.5
	Type of procedure	46	23.0

Table 3 presents dentists' opinions regarding the presence of siblings during dental procedures. Most respondents (41%) sometimes allow siblings in the operatory, while 34.5% often do, and only 7% never permit it. Half of the participants (50%) believed sibling presence benefits the child's cooperation, whereas 27% felt it can distract the dentist. A majority (61.5%) agreed that sibling presence helps siblings become more accepting of dental care in the future, though 17% found

it stressful for siblings. Most dentists (64.5%) identified preschool-aged siblings (0–5 years) as the group most likely to negatively affect procedures. The main factor influencing decisions about sibling presence was the child's behavior (41.5%), followed by the type of procedure (30%) and sibling's behavior (22.5%), indicating that dentists assess sibling involvement based on situational and behavioral considerations.

Table 3: Dentists' opinions regarding the presence of siblings during dental procedures (n= 200)

		Frequency	Percent
Do you allow siblings to accompany the patient into the operatory?	Always	17	8.5
	Never	14	7.0
	Often	69	34.5
	Rarely	18	9.0
	Sometimes	82	41.0
Sibling presence- Beneficial for child's cooperation.	Neutral	67	33.5
	No	33	16.5
	Yes	100	50.0
Sibling presence- A distraction for the dentist	Neutral	63	31.5
	No	83	41.5
	Yes	54	27.0
Sibling presence- Helpful for siblings' future acceptance of dental care	Neutral	49	24.5
	No	28	14.0
	Yes	123	61.5
Sibling presence- Stressful for siblings	Neutral	87	43.5

		Frequency	Percent
	No	79	39.5
	Yes	34	17.0
Which sibling age groups do you feel may negatively affect the procedure?	Adolescents (13–18 years)	7	3.5
	Early school-aged siblings (6–9 years)	40	20.0
	None	8	4.0
	Pre-adolescents (10–12 years)	16	8.0
	Preschool-aged siblings (0–5 years)	129	64.5
Which factor most influences your decision regarding sibling's presence?	Child's behavior	83	41.5
	Other	6	3.0
	Practice policy	6	3.0
	Sibling's behavior	45	22.5
	Type of procedure	60	30.0

A statistically significant association was observed between practice setting and sibling presence during dental treatment ($\chi^2 = 23.53, p = 0.02$). Dentists in private practice more frequently reported allowing

siblings "often," whereas those in hospital-based and academic settings most commonly selected "sometimes." Respondents from other practice settings most frequently reported "always" allowing siblings. (Figure 1)

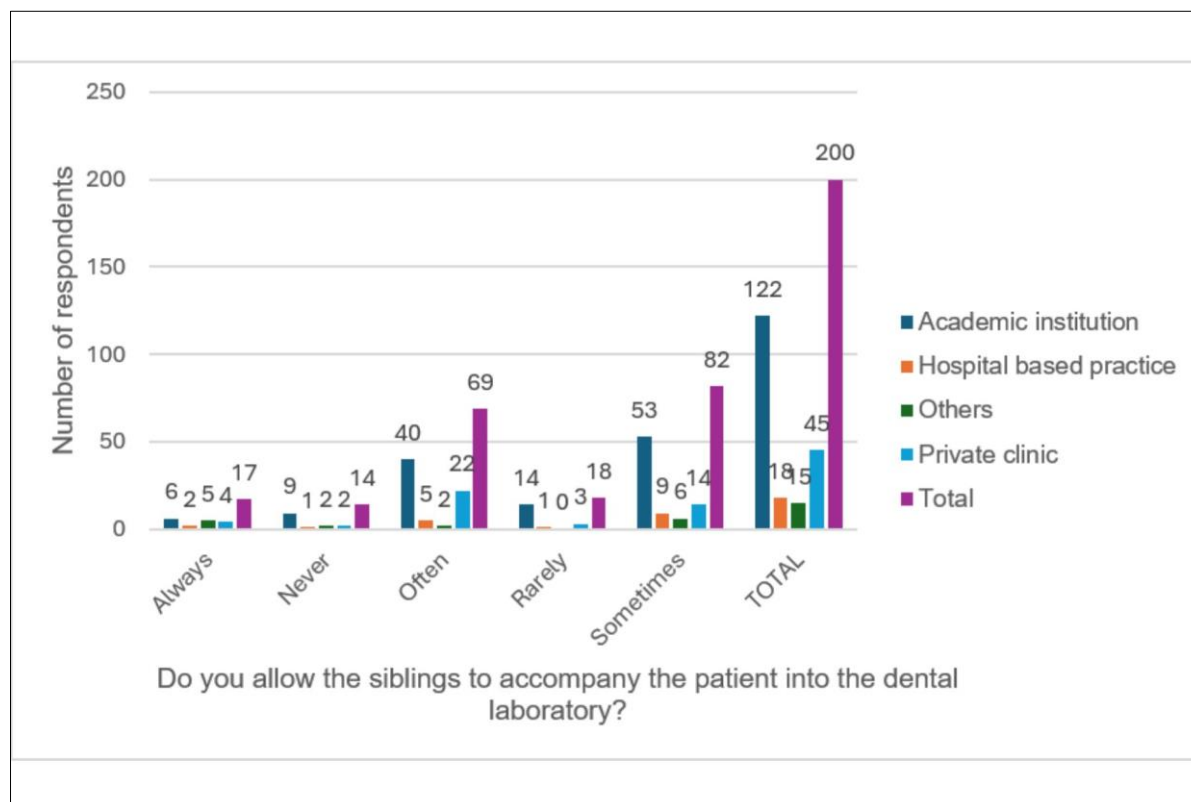


Figure 1: The association between the type of practice setting and dentists' willingness to allow siblings to accompany the patient into the operator. (n= 200)

Figure 1 legend: $\chi^2 = 23.53, df = 12, p = 0.02$, Cramer's V = 0.20

The Chi-square test value of 23.53 with a p-value of 0.02 indicates a statistically significant association between practice setting and attitudes toward sibling presence, suggesting that practice environment influences the decision to allow siblings during dental procedures.

Figure 2 illustrates the association between dentists' perceptions of whether parental presence

interferes with treatment and whether it facilitates child cooperation. A highly significant association was observed between these variables ($\chi^2 = 28.75, p < 0.001$). Dentists who believed that parental presence improved child cooperation were more likely to disagree that it interfered with treatment, whereas those who believed it did not improve cooperation were more likely to perceive parental presence as interfering with treatment.

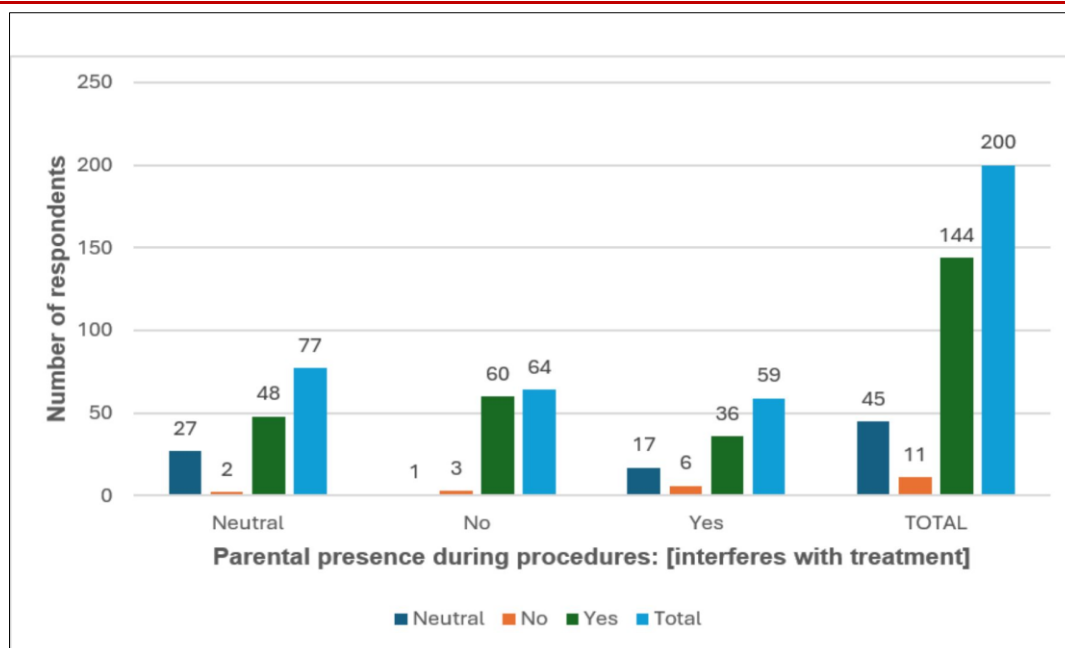


Figure 2: The association between dentists' views on whether parental presence interferes with treatment and whether it helps in a child's cooperation. (n= 200)

Figure 2 legend: $\chi^2 = 28.75$, $df = 4$, $p = 0.0001$, Cramer's $V = 0.27$

The Chi-square test value of 28.75 with a p-value of 0.0001 indicates a highly significant association, showing that perceptions of parental presence improving child cooperation are strongly linked to beliefs about its potential to interfere with treatment.

Figure 3 illustrates the association between dentists' perception of the benefits of sibling presence

and their willingness to allow siblings into the dental operator. A highly significant association was observed between these variables ($\chi^2 = 74.84$, $p < 0.001$). Dentists who perceived sibling presence as beneficial were more likely to report always or often allowing siblings to accompany the patient, whereas those who did not perceive it as beneficial predominantly reported never or rarely allowing siblings.

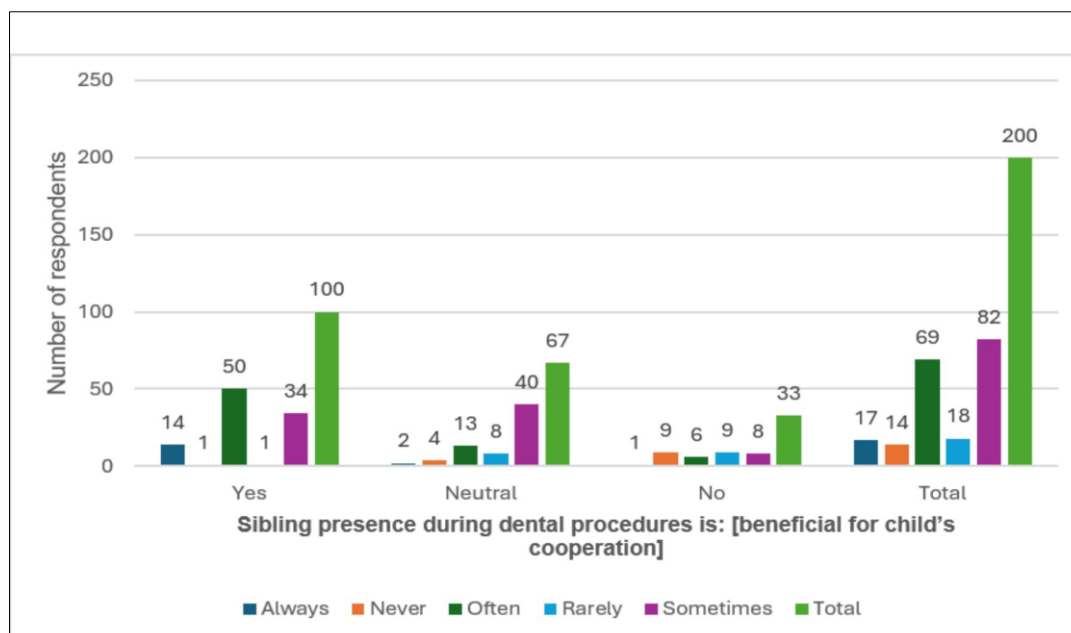


Figure 3: The association between dentists' perception of sibling presence as beneficial for child cooperation and their actual practice of allowing siblings in the operator. (n= 200)

Figure 3 legend: $\chi^2 = 74.84$, $df = 8$, $p = 0.0001$, Cramer's $V = 0.43$

The Chi-square test value of 74.84 with a p-value of 0.0001 indicates a highly significant association, showing that dentists' positive perceptions of sibling presence strongly influence their decision to permit siblings during dental procedures.

The frequency of allowing parents into the operatory was significantly associated with dentists' perception of whether parental presence negatively affected the procedure ($\chi^2 = 9.64$, $p = 0.047$). Negative effects were reported more frequently by dentists who always allowed parents than by those who allowed them only sometimes. (Figure 4)

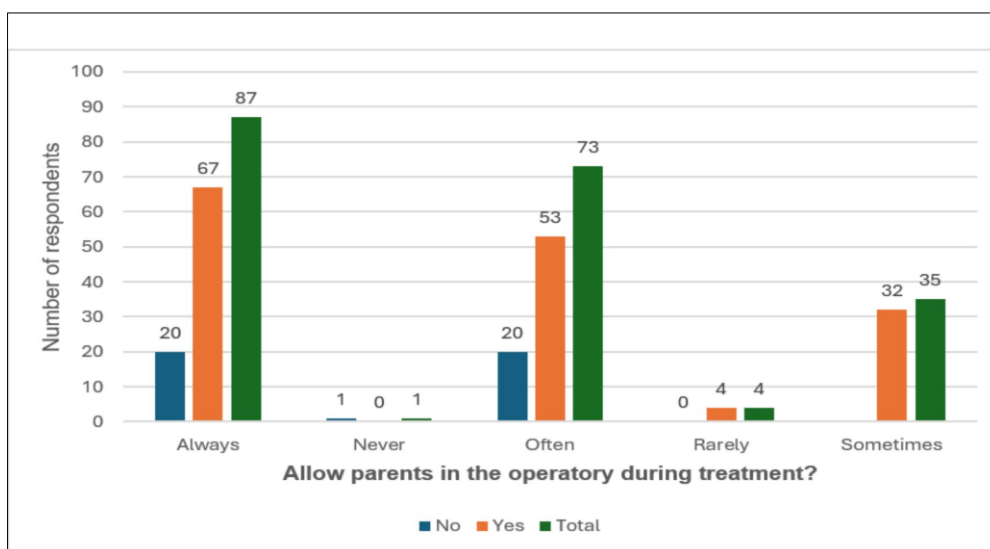


Figure 4: The association between allowing parents in the operatory and whether their presence negatively affected the procedure. (n=200)

Figure 4 legend: $\chi^2 = 9.64$, $df = 4$, $p = 0.047$, Cramer's $V = 0.22$

The Chi-square test value of 9.64 with a p-value of 0.047 indicates a statistically significant association, suggesting that the frequency of parental presence is linked to the likelihood of it negatively impacting the procedure.

No statistically significant association was observed between the frequency of allowing siblings into

the operatory and dentists' perception of whether sibling presence negatively affected the procedure ($\chi^2 = 7.71$, $p = 0.10$). Although negative effects were reported more frequently by dentists who sometimes allowed siblings than by those who often allowed siblings, the differences were not statistically significant. (Figure 5)

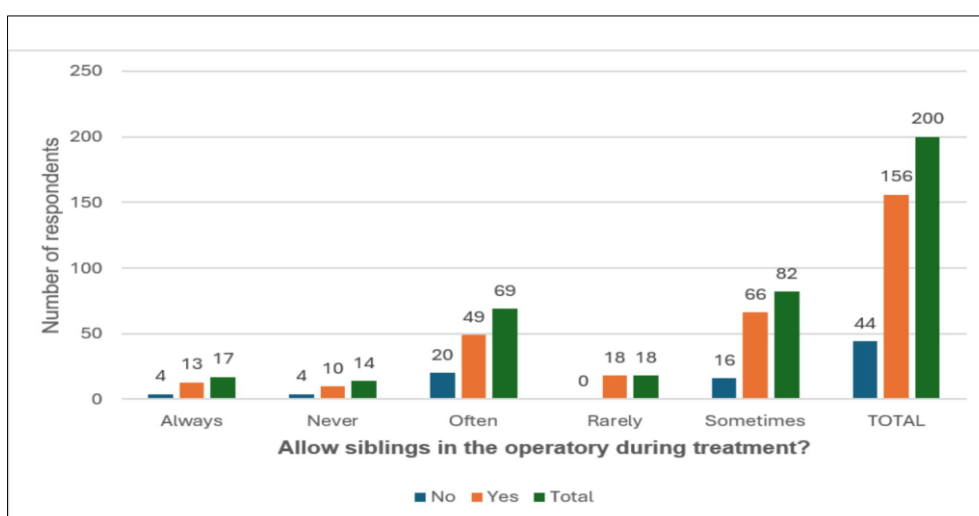


Figure 5: The association between allowing siblings in the operatory and whether their presence negatively affected the procedure. (n= 200)

Figure 5 legend: $\chi^2 = 7.71$, $df = 4$, $p = 0.10$, Cramer's $V = 0.20$

The Chi-square test value of 7.71 with a p-value of 0.10 indicates no statistically significant association, suggesting that sibling presence is not strongly linked to negative procedural outcomes.

DISCUSSION

The evolution of pediatric dentistry has been driven by the recognition that children are not merely miniature adults but individuals with distinct emotional, and behavioral characteristics that influence their dental care. Their development and behavior are shaped by a complex interplay of individual factors, including physiological, cognitive, and temperamental characteristics, as well as the influence of family and the broader environment [8]. The role of parental presence during pediatric dental treatment has long been debated, with differing opinions regarding its influence on child behavior and treatment outcomes [6]. This study was conducted to assess the differing attitudes of pediatric dentists on the presence of siblings as well as parents during dental procedures. Overall, there was a positive attitude toward parental presence, whereas sibling presence was accepted more selectively. Child behavior emerged as the primary factor influencing decisions regarding family presence in the operatory.

Practitioners less than 30 years of age were more in favor of parent/sibling presence. This could be because younger dentists are more likely to have been trained under recent pediatric dentistry curricula that emphasize family-centered care and patient-centered communication. Contrastingly, previous studies have demonstrated that dentists' age and professional experience may influence clinical decision-making, with younger practitioners tending to adopt more aggressive treatment approaches than their older counterparts [9].

The present study demonstrated an overall favorable attitude among pediatric dentists toward parental presence in the dental operatory, with the majority routinely allowing parents during treatment. Most respondents perceived parental presence as beneficial for improving child cooperation and enhancing parent–dentist communication without increasing the child's anxiety.

A systematic review conducted on the same revealed that there was no difference in children's behavior in the presence or absence of parents and it did not influence children's anxiety [10]. Another study by Afshar H *et al.*, [11], revealed that parent's presence/absence has no impact on the anxiety and behavioral level of the children 5 years of age during the first and second visits. This was contradictory to the present study where parental presence was perceived as most beneficial during invasive and emergency procedures, likely because these situations can be particularly stressful and anxiety-inducing for children. Odeh, Ruba *et al.*, [6], also indicated that the most opted parental presence was during dental procedures such as

tooth extraction and administration of local anesthesia. Al-Namankany in their study concluded that the use of the PPAT in children aged 6–9-year-old appears to be an effective method to improve children's behavior when having dental restorations under local anesthesia [12]. Similarly, a more positive outcome of PPA, possibly reflecting shifting parental norms towards emotional support and protective engagement were discussed in a study by Vello-Ribes *et al.*, [13]. However, Marcum BK *et al.*, [14], had contradictory conclusions in their study where the most frequent procedures for which parents were never allowed to be present included extractions and restorative procedures.

Despite increasing recognition of the influence of family members on children's healthcare experiences, research examining sibling presence during pediatric dental procedures remains limited. In the present study, respondents generally supported sibling accompaniment in selected situations, particularly when it was perceived to facilitate child cooperation and promote positive future dental attitudes among siblings.

Modeling refers to learning by observation and children may reproduce behavior exhibited by the model in the same situation. Studies on modeling have demonstrated its therapeutic effect in management of anxiety and educational effect in improving coping skills of children in medical stressful situations.¹⁵ A calm and cooperative sibling may act as a positive behavioral model, encouraging similar responses during dental treatment.

Infants and toddlers are far more likely to imitate children, who are closer to them in both age and appearance, than adults. For observational learning to be effective, the child should perceive the live model as someone they admire or consider worthy of imitation [16]. A sibling, particularly an older sibling, is therefore more likely to serve as an effective behavioral model than a parent or clinician.

Aminabadi NA *et al.*, found that only children had significantly higher clinical anxiety, situational anxiety, and more negative behavior than children with siblings [17]. Some studies report that the middle-born children had significantly lower anxiety scores than only children, first-borns, and last-borns [18, 19]. This might be because the later-born children acquire social skills more rapidly enabling them to meet their personal needs through their relationships with their siblings [20]. This finding supports the present study where sibling involvement was generally seen as supportive, particularly during early childhood. Wu L & Gao X²¹ also concluded that presence of siblings is a significant determinant for children's dental fear and dental anxiety. It indicates that birth order influences children's responses to dental treatment, supporting the idea that sibling dynamics may affect dental fear and cooperation.

Practitioners in private clinics were more likely to permit sibling presence than those in hospital-based or academic settings, possibly reflecting the greater flexibility of private practice environments in accommodating family-centered care.

Family-centered care has been identified by the American Academy of Pediatrics (AAP) as an important characteristic of an effective medical home as the family is the primary source of strength and support for the child [22].

The present study demonstrated a highly significant association between dentists' perception of sibling presence as beneficial for child cooperation and their willingness to allow siblings in the operatory. Dentists who believed that sibling presence positively influenced child cooperation were more likely to permit sibling accompaniment during treatment. The present study also found that dentists who frequently allowed parents in the operatory were more likely to report negative effects during treatment, possibly because they had greater exposure to situations in which parental involvement influenced the procedure. These findings reinforce current recommendations that parental presence should be individualized rather than universally encouraged or discouraged, taking into account the child's behavior, parental attitude, and the clinical circumstances.

The present study has several strengths. It explored pediatric dentists' attitudes toward both parental and sibling presence in the dental operatory, with particular emphasis on sibling accompaniment, an area that remains under-investigated. The inclusion of participants from different practice settings and varying levels of clinical experience improves the relevance of the findings.

The present study has certain limitations. Although it included pediatric dentists from diverse practice settings, the sample was limited to 200 respondents from Kerala, which may restrict the generalizability of the findings to broader populations. In addition, the use of an online self-reported questionnaire may have introduced response and social desirability bias as participants' responses may not always reflect their actual clinical practices. Furthermore, the cross-sectional nature of the study precludes the establishment of causal relationships between dentists' perceptions and their clinical practices.

CONCLUSION

In conclusion, pediatric dentists generally demonstrated positive attitudes toward the presence of both parents and siblings in the dental operatory, recognizing their potential to improve child cooperation and support behavior management. Sibling presence was perceived to be particularly beneficial for preschool-aged children, highlighting its potential role as a supportive

behavioral aid in younger patients. Although negative experiences associated with family presence were reported, these did not diminish the overall acceptance of parental and sibling accompaniment. The findings suggest that restricting family presence as a routine practice may not be universally beneficial. Instead, decisions regarding family presence should be individualized, taking into account the child's age, behavior, treatment needs, and clinical circumstances, to achieve optimal behavioral and clinical outcomes in pediatric dental practice.

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