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Children's experiences during their first dental visit: A qualitative study

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Background: While the child's first dental visit can shape his/her attitude towards further treatments, little consideration has been given to exploring this experience from the child's perspective. Therefore, the aim of the study was to delineate the experiences of the first dental visit of children based on self-written stories in their own words. ***Methods***: Qualitative study conducted as part of the oral health promoting school program in Isfahan city, Iran. Data collection was based on the responses to a question included in the programme's printed educational content. Schoolchildren were asked to explain about their experiences of their first dental visit in a story. Two researchers read the stories separately and identified concepts and themes. In a discussion panel gained consensus about the main themes. Then the researchers integrated and grouped together similar themes to new categories. Categories originating in the data provided insights into and explanations of factors that might influence the schoolchildren's experience in the dental office. Sampling continued until saturation, when no new codes appeared in the data. The childrens' stories were imported in the MAXQD software and analyzed to retrieve the main categories and themes. ***Results***: Factors that influenced experiences appeared to be idiosyncratic, but could be classified into three categories: the person accompanying the child, child and dentist-related factors. Two sub-categories of the person accompanying the child were the role of person in their treatment and the types of persons accompanying them. Dentist-related factors included three more sub-themes of applied behavioral management techniques, their role in oral health education, and organization of the office environment. The three sub-themes of children's related factors were experiencing fear, remembering the details of their experience, and type of care received. ***Conclusion***: Although the method was limited to the qualitative written stories of children and there was no opportunity to explore more and consider the detailed opinions by face-to-face interviews, some noticeable elements were mentioned by children. The person accompanying the child, child and dentist-related factors were three main categories obtained from the data.

Keywords*: Qualitative Research, Dental anxiety, Dental Care for Children, Office Visit*

Introduction

The first dental visit plays a crucial role in the child's life and a timely visit should be an essential part of the child's oral health care (Beil *et al.*, 2014; Meera *et al.*, 2008). To achieve the most optimum outcomes from the provided dental care, factors such as appropriate timing of the dental visits, knowledge of parents regarding the oral health of their children, and past dental experiences needed to be considered (Klingberg, 2008). To ensure exposure to prevention early in life, professional organizations such as the American Academy of Pediatric Dentistry (AAPD, 2012) recommend that the child's first visit to the dentist should take place within 6 months of the eruption of the first primary tooth and not later than at the age of 12. However, few children worldwide (0.3% to 13.5%) undergo their first dental visit at the recommended age (Hartwig *et al.*, 2022); the first dental visit usually occurs at the age of 6-9 years and mostly due to dental decay and pain (Baliga, 2019).

Meanwhile, the child's first dental visit has an important role in shaping attitudes towards further treatments (Padung *et al.*, 2022). The provision of dental care might be interrupted or terminated when uncooperative children exhibit negative behaviors during their dental visits, which might lead to poor oral health. Determinants for dental visiting behaviors among children can be classified as individual (such as cognitive and developmental features, dental experiences or concerns, especially dental fear), parental (such as parental socioeconomic status, family structure, oral health behavior and parenting style) and environmental factors (Buldur, 2020; Fisher-Owens *et al.*, 2007). Dental visits and dental anxiety are often linked. Anxiety might lead to important consequences for children, including postponed dental visits or receiving less care than necessary due to interrupted cooperation (Carrillo-Díaz *et al.*, 2021; Ten Berge *et al.*, 2002). It is estimated that about 70 percent of dental anxiety might be due to patients' traumatic experiences during dental treatment (Öst & Hugdahl, 1985). Overcoming this anxiety is, therefore, important to create positive and safe dental practices and decrease future anxiety (Carrillo-Diaz *et al.*, 2012).

Although there is a wealth of research investigating the age of the first dental visit and the level of anxiety in children, little attention has been given to this experience from the child's perspective. Qualitative approaches may identify the specific concerns of patients and suggest opportunities for oral health promotion. Therefore, this study aimed to delineate the views and experiences of the first dental visit in children's own words.

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Methods

This qualitative study was conducted as part of the oral health promoting school program in Isfahan city, Iran. The details of the program and its effect on health-related knowledge, attitude and practices of the schoolchildren, parents and the teachers have been published elsewhere (Heydarzadeh *et al.*, 2021; Tahani & Asgari, 2022; Tahani *et al*., 2022). The study was based on an agreement between the Vice Chancellery for Research at Isfahan University of Medical Sciences and the Deputy of Health and Research of the Department of Education, Isfahan Province, Iran, as an Action Research Plan, with the Code of Ethics IR.MUI.RESEARCH.1397.1.012; it was conducted between 2018 and 2020. Informed written consent was obtained from the parents of all recruited children. The main study used multi-stage cluster sampling involving five public primary schools (identified as S, M, A, N or K in the results) in areas of medium to low socioeconomic status randomly selected from five educational regions. All second-grade (7–8-year-old) students in the selected schools were recruited.

The health promoting program taught the children about oral health in several ways based on the health belief model. Face-to-face training was provided with theory and practice in one session using coloured flip charts, large demonstration toothbrush and dental arches, disclosing tablets, dental floss, disposable mirrors, soft toothbrushes and fluoridated toothpaste. Two printed worksheets with more information about oral health related issues were provided. One worksheet included activities such as puzzles, cluttered words, tables, painting and crafting that schoolchildren were asked to fulfil weekly in their art class under the supervision of their teachers. In a second worksheet, oral health-related subjects were integrated into different chapters of the elementary textbooks. The children were asked to complete this worksheet in their school classes in like their other work books.

This qualitative study is based on the responses to a question included in the second worksheet (Tahani *et al*., 2022). The Farsi reading of the worksheet contained a section entitled "how to write a story". Schoolchildren were asked to write a story to answer of the open-ended question: "Please explain about your first dental visit experience". The students read the open-ended question and wrote their answers during class. No guidance or help were offered. At the end of the educational year, the stories were collected from the recruited schools for analysis.

From the 354 books sent to the students, 110 were returned to the researchers.

The stories were imported in the MAXQD software and analyzed to retrieve the main themes and sub-themes. Two researchers (FN, BT) read the stories separately and paraphrased them line-by-line. Both researchers cooperated in the oral health promoting school program and have experience in conducting qualitative studies. Then in the discussion panel, the paraphrases were discussed and a consensus was gained about the main themes. The themes were then grouped into categories. All categories originated in the data and provided insights into and explanations of factors that might influence the schoolchildren's experience in dental office. Deviant case analysis ensured that any emergent explanations or theories could be redefined to embrace all cases. The emergent categories were neither discrete nor mutually exclusive, but were developed by the researchers to group and understand the data. Therefore, the results are presented as themes that emerged from the data, rather than as coherent categories described by the participants. However, quotes are used to illustrate the key categories. Initials were used to anonymize the quotes. New essays were included until saturation, when no new codes appeared in the data. In this way fifty-four students' opinions were included. Between them, the 54 students (34 girls and 27 boys) represented all 5 primary schools.

Results

Participants reported a range of experiences in dental offices and mentioned several factors that influenced those experiences. These factors appeared to be idiosyncratic, that is, they were in part the behaviour or way of thinking that is characteristic of each child. However, the experiences could be classified into three categories: (i) the person accompanying the child, (ii) the child and (iii) dentist-related factors (Table 1). Most stories were 90 to 100 words long.

Person accompanying the child

Children identified the person accompanying them as an influence on their experience of their first dental visit. There were two sub-categories within this category. First, the role of person accompanying the child in their treatment. This person often tried to support and guide them or promised them presents after they had their treatment. The type of present parents promised to the child was mentioned in the details.

Table 1. Factors influencing children's experiences of their first dental visit.

Category	*Sub Domains*	*Examples*
Accompanying person	Role of the person	Giving advice/ Gifting
	Type of the person	Parents/Teachers/Siblings
Dentist related factors	Behavioral management	Fear-Control/Giving awards
	Role in oral health education	
	Organization of the office	
Child-related factors	Fear	
	Remembering the details	
	The treatment received	Extraction/ non extraction

Participants mentioned different types of person accompanying them into the dental office, such as parents, schoolteacher and siblings. Participants remembered the people with whom they attended the dental offices, as well as details including behaviors or what they were told during their visit.

"I went one day with my mom and dad and my mother asked me not to cry!" (Boy, School A)

Dentist-related factors

Dentist-related factors that influenced the children's experiences included the dentists' behavioral management, their role in oral health education and the organization of the office environment. The behavior of dentists in controlling their fear was mentioned as a good experience by most of the children. Some children felt relaxed after they spoke to the dentists and remembered even the shortest sentences the dentists told them. They also enjoyed receiving a present or gift from the dentist.

"the kind dentist told me an interesting story during the restoration of my teeth" (Girl, School S)

"The name of my kind dentist was Mahsa; she was born in winter, like me. We loved each other" (Girl, School M)

"the dentist rewarded me with a small toothbrush and toothpaste. I said thank you and since then, I am brushing every night (Girl, school M)"

The role of dentists in oral health education was mentioned repeatedly. The children took the education very seriously and said their oral health behavior was influenced after that.

"the dentist said to me not to be worry! You should have toothbrush, paste and dental floss and brush your teeth every night after your dinner (Boy, School K)".

*"my dentist told me about the primary and permanent teeth. He taught me how to brush. He showed me my first permanent molar erupted back of my primary tooth (*Girl, School M)".

The stories revealed views on the dentists' organization of the office environment. Making the environment more child-friendly by using toys, colourful paints and stickers in seemed to be important. There were also negative views on environment if the office was very noisy or unkind.

"I was firstly very afraid but I found your office very beautiful and full of lovely toys...(Boy, School A)"

"I saw a lot of children crying …(Girl, School M)"

Child factors

This section details a very variable theme in the children's experience of their first visit. Factors related to individual children included fear during their first experience, remembering the details of the first experience, the type of treatment they received and the reason why they had the dental visit.

Fear during the first experience

Participants expressed a range of experiences of fear when they arrived in the dental office. There were also accounts that omitted fear; rather they considered it only as a normal experience; they arrived, saw the dentist and then left the dental office.

"I was afraid of the dental practice; I was afraid of anesthesia and the needle... (Girl, School M)*"*

"I was firstly very afraid, but the kind dentist extracted my teeth without any pain. Great job! (Girl, School S)*"*

"I wondered why I was afraid! (Boy, School N)*"*

Remembering the details of their experience:

The children expressed their experience in detail. For example, what the dentist told them, and what their answer was and the type of procedures they received.

"we were standing behind the door waiting for the dentist. He came and injected me firstly. Then I waited for anesthesia. After that, he extracted my teeth with pincers very slowly! (Girl, School S)"

The type of care provided:

Children explained why they went to dentist and the type of treatment they received in unexpected detail. Some children mentioned the examination or fluoride therapy as the reason for attending. Unsurprisingly, neutral or pleasant experiences were reported with these less invasive treatments and some children explain about the treatment they had received.

"I am going to tell my first experience of pulpotomy… (Boy, School N)*,"*

"I went to give my teeth extracted … (Girl, School S)*"*

"I went one day for dental examination… (Girl, School M)*"*

"I went one day when I had a lot of dental pain… (Girl, School S)"

Discussion

This study aimed to delineate the experiences of the first dental visit of children based on their self-written essays in child's own words. We categorized the factors influencing those experiences under three main domains. Treating a child usually relies on a one-to-two relationship among dentist, pediatric patient, and parents or guardians, known as the pediatric dentistry treatment triangle (McDonald *et al*., 2011). Our data support the idea of this triangle as three factors: the person accompanying the child, the child and dentist-related factors.

Factors that may contribute to non-adherence during the dental appointment include anxiety, general or situational anxiety, a previous unpleasant and/or painful dental/medical experience, pain, inadequate preparation for the encounter, and parenting practices (Holt & Barzel, 2012). The results of the previous studies have indicated that the early preventive care leads to less dental disease, lower treatment needs, and fewer opportunities for negative experiences (Feigal, 2001; Meyer *et al.*, 2018).

Dental fear during the first visit was the clearest and most frequently cited experience of children. Nicolas et al. (2010) investigated a group of 1303 French children (mean age: 8.1±1.42 years) using a visual analogue scale (DF-VAS), and found 75.7% had low levels of dental fear, 16.7% moderate and 7.6% high in 7.6%.

Conditioning may be the most important pathway of acquiring exogenous dental fear (Weiner & Sheehan, 1990). Conversely, positive or neutral dental experiences may serve as a defence against acquiring of high fears

or phobias. Therefore, the type of dental care children receive in their first dental visit has an important role on shaping their future fear and cooperative behaviors. Ten Berge et al. (2002) found that children with a longer history of non-invasive visits were less likely to develop high dental fear and suggested that the children's capacities to cope with potentially invasive visits (such as extractions) would increase after a history of non-curative or non-invasive treatment sessions. Our open approach did not enquire specifically about the children's level of dental anxiety, or about the type of care their received. However, in most cases they referred to the procedures and type of treatment; children mostly attended the dental offices with dental pain and were expected to receive extraction and wrote about the "feeling of fear" in their stories. Other children cited examination or fluoride therapy as the reason for attending. Unsurprisingly, neutral or pleasant experiences were reported with these less invasive treatments.

Communication between the doctor/staff and the child and parent are regarded as important in achieving successful outcomes in the dental office. The communicative behavior of dentists is a major factor in the patient's satisfaction (AAPD, 2020). The dentist's attitude, body language, and communication skills help create a positive experience for the child and encourage trust from the child and parent (Holt & Barzel, 2012). Our data indicate that the dentists' behavior in alleviating dental anxiety was noted as a good experience by children who felt relaxed after they talked to them. For example, "*my dentist told me about the primary and permanent teeth" or "my dentist told me a nice story while treating my teeth"*.

One of the most recommended communication techniques in controlling the fear and anxiety in children is the Tell-show-do technique (Carson & Freeman, 1998).This method has been shown to reduce anticipatory anxiety in new child patients (Armfield & Heaton, 2013). Despite the effectiveness of this technique, none of the children recalled this experience from their visit, even though they referred to details of their conversation with the dentists. However, the stories were mostly written in short and do not exclude the utilization of this technique by dentists.

Another dentist-related factor was their organization of the office environment. For some patients, the distinct sights, sounds, smells and sensations of the dental environment are associated anxiety and anticipation of pain (Shapiro *et al.*, 2007). It has been suggested that changing aspects of the clinic environment, including appearance and odor, are an effective approach for managing anxious patients (Hmud & Walsh, 2009). Alterations of the physical environment (e.g. decorated or slightly cooler offices, rather than bare walls or warmer temperature) have also been shown to control anxiety among children (Bare & Dundes, 2004). The sensory adapted dental environment (Nicolas *et al*., 2010) such as the Snoezelen environment (consisting of a combination of a partially lit room with special lighting effects, relaxing music, vibration, and aromas), has been proposed to improve the quality of life of patients in other settings (Hotz *et al*., 2006). In our study, the role of physical environment was clearly indicated by children in making their visit a more pleasurable experience. For example, "*found the office very beautiful and full of lovely toys"*.

The last domain emerging in our study was the role of accompanying persons. Parents and other caregivers are essential resources for children in managing emotional arousal, coping and managing behavior. They serve this role by providing positive affirmation, conveying love and respect, and engendering a sense of security (McDonald *et al*., 2011). The American Academy of Pediatric Dentistry suggests that parents play a positive role when introducing the dental environment to children in a preparation phase (Shindova *et al.*, 2019). In the present study, there was no direct statement regarding this role, but children's stories mentioned the person that accompanied them in dental office, which supports the importance this role in the treatments of pediatric patients.

Qualitative research with children aged 7-8 years is not common in pediatric dentistry. Children have the cognitive ability to articulate their own ideas by the age of five and have a range of communication and cognitive abilities. Children aged four to 11 years are said to be the most challenging to involve in a conversation because of the stage of their linguistic development (Baghlaf, 2023). Accordingly, researchers should modify their approaches based on children's age. In this study the students read the open-ended question and wrote their answers during class. As the study was part of a comprehensive program, we were not able to organize focus group discussion or voice records. However, these methods are suggested for future research in this field. As was the case with the absence of references to the tell-show-do technique, writing a story and the inability to prompt participants may lead to loosing experiences that the child may think are unimportant or that they forget. Written accounts could be guided by adding keywords or headings to help the child to describe all the details related to their experience. This potential loss of data could be seen as a limitation of asking children to write accounts for research purposes.

In conclusion, this qualitative exploration of children's written stories identified three factors that influenced their experiences of their first dental visit; the person accompanying the child, the child and dentist-related factors. These elements should be considered for effective communication with children to achieve successful treatment appointments and ultimately, to improve their oral health status.

References

American Academy of Paediatric Dentistry (2012): Guideline on infant oral health care. *Pediatric Dentistry* **34**, e148-e152.

American Academy of Paediatric Dentistry (2020): Behavior guidance for the pediatric dental patient. *The Reference Manual of Pediatric Dentistry. Chicago, Ill.: American Academy of Pediatric Dentistry*, 292-310.

Armfield, J.M. and Heaton, L. (2013): Management of fear and anxiety in the dental clinic: a review. *Australian Dental Journal* **58**, 390-407.

Baghlaf, K. (2023): Necessity and relevance of qualitative research in pediatric dentistry. A literature review. *The Saudi Dental Journal* **35**, 31-38.

Baliga, M.S. (2019): Child's first dental visit in India: A reappraisal. *Journal of Indian Society of Pedodontics and Preventive Dentistry* **37**, 113.

Bare, L.C. and Dundes, L. (2004): Strategies for combating dental anxiety. *Journal of dental education, 68*, 1172-1177.

Beil, H., Rozier, R.G., Preisser, J.S., Stearns, S.C. and Lee, J.Y. (2014): Effects of early dental office visits on dental caries experience. *American Journal of Public Health,* **104**, 1979-1985.

Buldur, B. (2020): Pathways between parental and individual determinants of dental caries and dental visit behaviours among children: Validation of a new conceptual model. *Community Dentistry and Oral Epidemiology* **48**, 280-287.

Carrillo-Díaz, M., Migueláñez-Medrán, B.C., Nieto-Moraleda, C., Romero-Maroto, M. and González-Olmo, M.J. (2021): How Can We Reduce Dental Fear in Children? The Importance of the First Dental Visit. *Children* **8**, 1167.

Carrillo-Diaz, M., Crego, A., Armfield, J.M. and Romero-Maroto, M. (2012): Treatment experience, frequency of dental visits, and children's dental fear: a cognitive approach. *European Journal of Oral Sciences* **120**, 75-81.

Carson, P. and Freeman, R. (1998): Tell-show-do: reducing anticipatory anxiety in emergency paediatric dental patients. *International Journal of Health Promotion and Education* **36**, 87-90.

Feigal, R.J. (2001): Guiding and managing the child dental patient: a fresh look at old pedagogy. *Journal of Dental Education* **65**, 1369-1377.

Fisher-Owens, S.A., Gansky, S.A., Platt, L.J., Weintraub, J.A., Soobader, M.-J., Bramlett, M.D. and Newacheck, P.W. (2007): Influences on children's oral health: a conceptual model. *Pediatrics* **120**, e510-e520.

Hartwig, A.D., Cademartori, M.G., Demarco, F.F., Bertoldi, A.D., Corrêa, M.B. and Azevedo, M.S. (2022): Are maternal factors predictors of a child's first dental visit? A birth cohort study in Brazil. *Brazilian Oral Research* **36**.

Heydarzadeh, B., Tahani, B. and Asgari, I. (2021): Evaluation of oral health education program on knowledge, attitude and practice among Isfahan primary school's teachers in 2019. *Journal of Dental Medicine* **34**, 1-9.

Hmud, R. and Walsh, L.J. (2009): Dental anxiety: causes, complications and management approaches. *Journal of Minimal Intervention Dentistry* **2**, 67-78.

Holt, K. and Barzel, R. (2012): National Maternal and Child Oral Health Resource Center. *Georgetown University, Washington*, 1-8.

Hotz, G.A., Castelblanco, A., Lara, I.M., Weiss, A.D., Duncan, R. and Kuluz, J.W. (2006): Snoezelen: A controlled multisensory stimulation therapy for children recovering from severe brain injury. *Brain Injury* **20**, 879-888.

Klingberg, G. (2008): Dental anxiety and behaviour management problems in paediatric dentistry—a review of background factors and diagnostics. *European Archives of Paediatric Dentistry* **9**, 11-15.

McDonald, R., Avery, D. and Dean, J. (2011): Dentistry for the child and adolescent. 9th ed. *St Louis: Mosby Co*, 28-43.

Meera, R., Muthu, M., Phanibabu, M. and Rathnaprabhu, V. (2008): First dental visit of a child. *Journal of Indian Society of Pedodontics and Preventive Dentistry* **26**, 68.

Meyer, B.D., Lee, J.Y., Thikkurissy, S., Casamassimo, P.S. and Vann Jr, W.F. (2018): An algorithm-based approach for behavior and disease management in children. *Pediatric Dentistry* **40**, 89-92.

Nicolas, E., Bessadet, M., Collado, V., Carrasco, P., Rogerleroi, V. and Hennequin, M. (2010): Factors affecting dental fear in French children aged 5–12 years. *International Journal of Paediatric Dentistry* **20**, 366-373.

Öst, L.-G. and Hugdahl, K. (1985): Acquisition of blood and dental phobia and anxiety response patterns in clinical patients. *Behaviour Research and Therapy* **23**, 27-34.

Padung, N., Singh, S. and Awasthi, N. (2022): First Dental Visit: Age Reasons Oral Health Status and Dental Treatment Needs among Children Aged 1 Month to 14 Years. *International Journal of Clinical Pediatric Dentistry* **15**, 394-397.

Shapiro, M., Melmed, R.N., Sgan-Cohen, H.D., Eli, I. and Parush, S. (2007): Behavioural and physiological effect of dental environment sensory adaptation on children's dental anxiety. *European Journal of Oral Sciences* **115**, 479-483.

Shindova, M.P., Blecheva, A.B. and Raycheva, J.G. (2019): Dental fear of 6-12-year-old children–role of parents, gender and age. *Folia Medica* **61**, 444.

Tahani, B. and Asgari, I. (2022): A model for implementing oral health-promoting school: Integration with dental students' educational curriculum: A protocol study. *Journal of Education and Health Promotion* **11**, 277.

Tahani, B., Asgari, I., Golkar, S., Ghorani, A., Hasan Zadeh Tehrani, N. and Arezoo Moghadam, F. (2022): Effectiveness of an integrated model of oral health-promoting schools in improving children's knowledge and the KAP of their parents, Iran. *BMC Oral Health* **22**, 1-13.

Ten Berge, M., Veerkamp, J. and Hoogstraten, J. (2002): The etiology of childhood dental fear: the role of dental and conditioning experiences. *Journal of Anxiety Disorders* **16**, 321-329.

Weiner, A. (1990): Etiology of dental anxiety: psychological trauma or CNS chemical imbalance? *General Dentistry* **22**, 39-43.