Conservative Dentistry Journal Vol. 13 No. 2 July-December 2023; 51-55

Literature Review

Parental dental anxiety levels in pediatric dentistry

Şebnem KOL DOĞAN[1], Sema ÇELENK[2]
[1]Şanlıurfa Oral and Dental Health Hospital, Şanlıurfa, Turkey
[2]Department of Pediatric Dentistry, Faculty of Dentistry, Dicle University, Diyarbakır, Turkey

ABSTRACT

Background: *Dental anxiety is defined as the apprehension and fear of terrible events occurring during dental treatment, coupled with a sense of losing control. There are numerous individual and environmental factors causing dental anxiety in children, with the most significant environmental factor being the family environment in which the child is raised.* ***Purpose:*** *To break a possible cycle of dental anxiety within families, it may be necessary to assess and particularly address the level of dental anxiety in parents, especially mothers. In eliminating dental anxiety, providing parents with information to reduce their dental worries and teaching them coping strategies will be a significant step in minimizing the impact of these anxieties on their children.* ***Reviews:*** *The fears related to dental treatments of parents and/or siblings can induce dental anxiety in children. Studies have found that children with odontophobic parents are more likely to develop odontophobia. Additionally, research results indicate that dental anxiety can be transmitted among family members through modeling.* ***Conclusion:*** *Our literature review indicates that dental anxiety is significantly widespread among both children and adults in society. The observation that children with parents who suffer from dental anxiety tend to have a higher level of dental anxiety themselves suggests that resolving this issue should begin with the parents.*

Keywords: *Anxiety; Child; Dentistry; Parents*

Correspondence: Dr. Dt. Şebnem KOL DOĞAN, Şanlıurfa Oral and Dental Health Hospital, Şanlıurfa, Turkey. E-mail: dt.sebnemkol@gmail.com

INTRODUCTION

Anxiety is a state of unease and fear that occurs without a specific cause, often accompanied by somatic symptoms, and is beyond normal apprehension.[1] A person with anxiety feels as if something bad might happen at any moment, leading to an unwarranted sense of worry. Anxiety is a psychological response to an ambiguous internal danger or threat, but it also manifests with physical symptoms similar to fear. Its intensity can range from mild unease and tension to panic levels.[2] A normal level of anxiety has stimulating, protective, and motivating effects on the human body, aiding in coping with difficult situations. To deem anxiety pathological, the anxiety response must be disproportionate to the stimulus, not decrease over time or even increase, manifest physical symptoms in the patient, and impair functionality.[3]

The terms dental anxiety, dental fear, and dental phobia are often used interchangeably, but they describe different conditions. Dental fear is a response to a known threat, invoking a 'fight or flight' reaction when faced with a threatening stimulus. Dental anxiety, on the other hand, is a reaction to an unknown threat; thus, it is more persistent, objective, and less affected by changes in the environment. Dental phobia is fundamentally the same as dental fear but much more intense. Even the thought or memory of the threatening situation can trigger a 'fight or flight' response in individuals with dental phobia. These individuals avoid dental treatments until they suffer severe dental problems due to the psychological burden of their phobia.[4] While anxiety is an emotional response to potential future events, fear is an emotional state felt in response to the current situation. In the context of dentistry, dental anxiety is an emotional response related to some past experiences concerning potential future situations. In contrast, dental fear is the emotion experienced during dental treatment. This emotion can be caused by past negative dental experiences or originate entirely from the patient's personality traits, independent of the external world. Both anxiety and fear can have detrimental effects on the patient's life.[5] It can be challenging to distinguish fear from anxiety in a clinical setting, as they often coexist.[6] Therefore, the term dental fear and anxiety DFA is used to describe the negative emotions felt towards dental stimuli. The most severe form of DFA is dental phobia, characterized by intense DFA lasting at least six months and avoidance of dental treatments.[7]

Dental anxiety and fear not only create a stressful situation for both the patient and the dentist but can also lead to other serious problems. Studies assessing the relationship between dental anxiety, quality of life, and oral health have

DOI: https://doi.org/10.20473/cdj.v13i2.2023.51-55

found that individuals with high levels of dental anxiety tend to delay their treatment needs, leading to a decrease in their quality of life and an increased risk of developing dental caries.[8-10]

Dental anxiety is considered a global public health issue due to its impact on individuals' oral health and quality of life. The prevalence of moderate to high dental anxiety varies from 5-61% in children and 1-52% in adults.[11] Studies in different populations have shown that the prevalence of dental anxiety during childhood ranges from 3-43%, with this wide range thought to be due to methodological differences and cultural diversity.[12,13]

There can be many underlying reasons for dental anxiety. Factors such as direct conditioning through negative dental experiences, indirect learning through others, and personal and environmental factors can lead to the development of dental anxiety in children.[14] Research has indicated that the causes underlying the development of dental anxiety are complex and multifactorial. Seligman et al., in reviewing these studies, presented a holistic behavioral model for the development and persistence of dental anxiety. According to this study, repeated painful dental treatments may be the most significant factor in the continuation of dental anxiety and phobia.[5] A study in Norway showed that adolescents who experienced multiple painful dental treatments during childhood were ten times more likely to have high dental anxiety after the age of 18 compared to those who had fewer or no such experiences.[15]

Five different theories have been proposed to better explain the origins of dental anxiety and fears. These are cognitive conditioning, negative information, indirect conditioning, verbal transmission or threat, and parental mediation.[16]

Conditioning is a process where an individual learns through personal experience that an event or stimulus leads to a harmful outcome. The first detailed research on this topic by Pavlov observed that animals developed a conditioned response to an unconditional stimulus.[17] Pavlov's theory of cognitive conditioning is the most commonly used approach to explain the origins of dental fears. A past painful dental treatment experience can negatively affect future dental treatment processes. Researchers have reported that 38% of child patients who experienced a traumatic treatment developed dental anxiety.[18]

The theory of negative information is an indirect way of acquiring fear without the need for a direct stimulus. Rachman suggested that negative experiences heard from the surroundings during a child's upbringing can create biases against such situations in the child.[19] A child can learn to fear dental treatment from a friend who has experienced painful dental treatment or from a movie with negative associations with dental treatment.

This theory suggests that a person can acquire fear by observing others' reactions during dental treatments.[16] Child patients, in particular, carefully follow the responses and facial expressions of older individuals during treatment. Witnessing negative treatment experiences can cause the development of dental anxiety in a child.

In this theory, there is no direct observation of the fear-inducing situation. Fear is acquired regardless of the actual presence of the stimulus, by reading or hearing dangerous/threatening information about the situation. In a study conducted with children aged 6-13, they were given information that certain stimuli were dangerous and threatening. After these briefings, an increase in fear levels was observed in most of the participants 88.9%.[16]

This method refers to the indirect transmission of fear experienced by a parent to the child. A study involving 40 children and their parents aged 9-12 found a positive correlation between the mother's dental anxiety and the child's dental anxiety.[20] These findings are consistent with the results of another study, which showed that many fears originate from negative information and indirect factors encountered during childhood.[21]

REVIEWS

There is research supporting the notion that children from families with negative judgments about dental treatments exhibit higher levels of dental anxiety. A study in the United States reported that approximately 40% of parents transmitted their negative dental treatment experiences to their children.[22] This study indicates that parents play a key role in the development of dental anxiety and fear in children. In studies examining children of odontophobic parents, it was found that the family's negative attitude was the most significant factor leading to the development of odontophobia in children.[23,24] Another study demonstrated that dental anxiety can spread among family members emotionally or through modeling, and genetic factors play a role in dental anxiety.[25]

Parents' negative expressions and facial expressions reflecting the dentist and treatment process can cause dental fear in children. Parents' use of terms with negative connotations like "extraction" or "drilling" while discussing dental treatments can induce dental anxiety in children who have not yet experienced any treatment. Additionally, using the threat of a dental visit as a punishment for bad behavior can create an intimidating image of the dentist in a child's mind. A study in Bandung found that children of parents who exhibited negative attitudes and behaviors towards dental treatments had higher levels of dental anxiety.[26]

A study in Finland indicated that the relationship between parents' dental anxiety and their children's dental anxiety can vary across age groups. The dental anxiety levels of children under 12 were significantly related to their mothers' dental anxiety levels. This suggests that a child's level of dental anxiety is associated with their developmental stage. The same study also reported that the father's level of education and dental anxiety influenced the child's level of dental anxiety and oral health.[27]

When reviewing the literature, there are differing opinions on the influence of parental dental anxiety on a child's dental anxiety. Alwin et al. suggested that children might not learn their dental fears from their parents.[28] In

contrast, other studies have demonstrated that the family environment is a significant environmental factor in causing dental anxiety in children, and there's a direct correlation between the dental anxiety levels of parents and their children.[29] Alwin et al. also found a weak relationship between the dental anxiety levels of children and their parents, implying that children may not learn dental anxiety from their parents.[28] However, many studies suggest a direct correlation between parental dental anxiety and that of their children.[29,30] The discrepancies between these views could be due to the complexity of the anxiety concept and differences in the measurement methods used.

A meta-analysis reviewing 43 studies found that in 34 of them, there was a relationship between the dental anxiety levels of parents and children, especially pronounced in children under the age of 8.[31] Holst et al., in their research on children aged 3-16, found that children of parents with dental anxiety were 14 times more likely to have behavioral management problems.[32] Similarly, a study in Sweden reported that 55% of children who were non-cooperative and exhibited problematic behaviors in the clinic had one or both parents with dental anxiety.[33] Another study published by Peretz et al. reported a statistically significant and direct relationship between the child's dental anxiety level and the parental dental anxiety level.[34] These results suggest that parental dental anxiety could affect a child's level of dental anxiety through modeling or verbal transmission.[35,36] Another study indicated that 60% of children with parents who have high dental anxiety levels also exhibited fear of the dentist and dental anxiety.[37-39] Similarly, Rantavuori et al. in their study on children aged 6-12 found that, except for 12-year-olds, the dental anxiety levels of children in other age groups were related to those of their parents.[27] In parallel to these findings, Colares et al. concluded in their study that parental dental anxiety affects the child's behavior during treatment.[40]

DISCUSSION

During childhood, children are able to perceive the emotional states of their parents or caregivers. The tone of voice and facial expressions of an anxious or worried mother can easily influence the child.[41] Parents who bring their children to the dental clinic often tend to interpret events in an exaggerated and incorrect manner. To manage this process correctly, the dentist should explain the procedures in a language understandable to the parent and try to alleviate their anxieties. Otherwise, especially mothers might catastrophize the situation, making it seem worse than it is.[42] One of the earliest studies on this subject by Johnson and Baldwin showed the relationship between the mother's anxiety state and the child's behavior during treatment.[43] A study in Brazil reported that 81.3% of children with dental anxiety had mothers who also suffered from dental anxiety.[44] Research by Cardoso et al. found that mothers of children who required physical restraint during treatment were more anxious than those whose children did not require such measures.[45] A study in Finland showed a positive correlation between the child's level of dental anxiety and maternal dental anxiety.[46] Similarly, a study in Croatia on children aged 5-12 reported that the mother's level of dental anxiety was influential on the child's dental anxiety.[47] Folayan et al. in their study stated that children of mothers with high dental anxiety levels displayed uncooperative behaviors during treatment. They argued that the child's perspective on dental procedures could only be shaped through the mother's attitude towards treatment. This relationship between the dental anxiety levels of the mother and child can also be explained by the traditional family model where the mother plays a more prominent role in child-rearing and often accompanies the child during dental treatments.[48]

When examining the father's role in a child's dental anxiety, different results emerge. Bögels and Phares argued that fathers play a different role than mothers in the development of childhood anxiety. According to this view, children give more importance to fathers' reactions than mothers' when deciding if a situation is threatening.[49] Lara et al., building on this idea, suggested in their study that the father's level of dental anxiety acts as a mediator in the transmission of dental anxiety from mother to child. In other words, a child sees the father's reactions as the main source of information when deciding if a dental procedure is dangerous.[50] Rantavuori et al. reported in their study that the father's level of dental anxiety is one of the best indicators of potential dental anxiety in children under 12.[51]

Contrary to these findings, there are studies in the literature reporting no relationship between parental dental anxiety levels and those of their children.[48,52,53] Alwin et al. argued that this relationship is weak and that children may not learn dental anxieties from their parents.[54] Wu and Gao in their study emphasized that family structure nuclear or single-parent and the presence of siblings are important indicators of a child's level of dental anxiety, but parental dental anxiety does not significantly impact it.[55] Similarly, Arnrup et al. concluded in their research that there is no significant relationship between the dental anxiety levels of parents and children.[52] Ten Berge et al., paralleling previous results, found no relationship between the dental anxiety levels of parents and their children.[56]

Despite the recognized potential influence of parents on their children's levels of dental anxiety, there is no consensus in the literature regarding whether the mother or the father plays a more significant role. Many studies have focused on analyzing the child's level of dental anxiety by comparing it with only one parent, while others have examined the anxiety levels of both parents.[43,50,57] Although the majority of studies show a positive correlation between the mother's level of dental anxiety and that of the child, there are also studies indicating no significant difference in the impact of the anxiety levels of mothers and fathers on the child's level of dental anxiety.[48,58,59]

Research conducted by Arnrup et al. and Balmer et al. has examined the effects of both parents' levels of dental anxiety on the child's anxiety levels, whereas studies by Klorman et al. and Majstorovic et al. have focused on

the impact of the mother's level of dental anxiety on the child.[47,52,53,60] Lara et al., on the other hand, have investigated the influence of the father's level of dental anxiety on the child's anxiety level.[50]

Our literature review indicates that dental anxiety is significantly widespread among both children and adults in society. The observation that children with parents who suffer from dental anxiety tend to have a higher level of dental anxiety themselves suggests that resolving this issue should begin with the parents. This matter is important not only for ensuring the proper completion of children's treatments; it also gains increased significance as these children grow into adults with dental anxiety, potentially passing this fear onto their own children. To break a possible cycle of dental anxiety within families, it may be necessary to assess and particularly address the level of dental anxiety in parents, especially mothers. In eliminating dental anxiety, providing parents with information to reduce their dental worries and teaching them coping strategies will be a significant step in minimizing the impact of these anxieties on their children.

REFERENCES

1. Öhman A. Fear and anxiety: Evolutionary, cognitive, and clinical perspectives. In: Handbook of Emotions. 2000: 573-593.
2. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision. Washington, DC: American Psychiatric Association; 2000.
3. Bal U, Çakmak S, Uğuz Ş. Anksiyete Bozukluklarında Cinsiyete Göre Semptom Farklılıkları. Arşiv Kaynak Tarama Dergisi. 2013;22(2):441-459.
4. Kida Minja I, Kokulengya Kahabuka F. Dental Anxiety and Its Consequences to Oral Health Care Attendance and Delivery. IntechOpen; 2019. Available from: https://doi.org/10.5772/intechopen.82175
5. Durhan MA. Diş Hekimi Korkusu / Kaygısı ve Etiyolojik Faktörler. Turkiye Klinikleri J Pediatr Dent-Special Topics. 2018;4(2):105-109.
6. Klingberg G, Broberg AG. Dental fear/anxiety and dental behaviour management problems in children and adolescents. Int J Paediatr Dent. 2007;17(6):391–406.
7. Campbell C. Dental Fear and Anxiety in Pediatric Patients: Practical Strategies to Help Children Cope. Springer; 2017.
8. Lin CS, Wu SY, Yi CA. Association between Anxiety and Pain in Dental Treatment: A Systematic Review and Meta-analysis. J Dent Res. 2017;96(2):153–162.
9. Kakkar M, Wahi A, Thakkar R, Vohra I, Shukla AK. Prevalence of dental anxiety in 10-14 years old children and its implications. J Dent Anesth Pain Med. 2016;16(3):199.
10. Suhani RD, Suhani MF, Badea ME. Dental anxiety and fear among a young population with hearing impairment. Clujul Medical. 2016;89(1):143–149.
11. Kida Minja I, Kokulengya Kahabuka F. Dental Anxiety and Its Consequences to Oral Health Care Attendance and Delivery. IntechOpen; 2019. Available from: https://doi.org/10.5772/intechopen.82175
12. Berge MT, Veerkamp JSJ, Hoogstraten J, Prins PJM. The dental subscale of the children's fear survey schedule: Predictive value and clinical usefulness. J Psychopathol Behav Assess. 2002;24(2):115-122.
13. Sert T, Akbay Oba A, Arıkan V, Şahin N. 7-15 YAŞ ARASI ÇOCUKLARDA DENTAL ANKSİYETE SIKLIĞI VE EBEVEYNLERİN ANKSİYETESİ İLE İLİŞKİSİ. İnönü Üniversitesi Sağlık Hizmetleri Meslek Yüksek Okulu Dergisi. 2020;8:36-45.
14. Hagqvist O, Tolvanen M, Rantavuori K, Karlsson L, Karlsson H, Lahti S. Dental fear and previous childhood traumatic experiences, life events, and parental bonding. Eur J Oral Sci. 2015;123(2):96-101.
15. Skaret E, Raadal M, Berg E, Kvale G. Dental anxiety among 18-yr-olds in Norway: Prevalence and related factors. Eur J Oral Sci. 1998;106(4):835-843.
16. Carter AE. Pathways of fear and anxiety in dentistry: A review. World J Clin Cases. 2014;2(11):642.
17. Kryukov VI. Towards a unified model of Pavlovian conditioning: Short review of trace conditioning models. Cogn Neurodyn. 2012 Oct;6(5):415-431. https://doi.org/10.1007/s11571-012-9195-z
18. De Jongh A, Van der Burg J, Van Overmeir M, Aartman I, Van Zuuren FJ. Trauma-related sequelae in individuals with a high level of dental anxiety. Behav Res Ther. 2002;40(9): 1017-1029.
19. Rachman S. The conditioning theory of fear acquisition: A critical examination. Behav Res Ther. 1977;15(5):375-387.
20. Ollendick TH, King NJ. Origins of childhood fears: An evaluation of Rachman's theory of fear acquisition. Behav Res Ther. 1991;29(2):117-123.
21. Field AP, Ball JE, Kawycz NJ, Moore H. Parent-child relationships and the verbal information pathway to fear in children: Two preliminary experiments. Behav Cogn Psychother. 2007;35(4):473-486.
22. Boynes SG, Abdulwahab M, Kershner E, Mickens F, Riley A. Analysis of parental factors and parent-child communication with pediatric patients referred for nitrous oxide administration in a rural community health center setting. Oral Biol Dent. 2014;2(1):10.
23. Gustafsson A, Arnrup K, Broberg AG, Bodin L, Berggren U. Psychosocial concomitants to dental fear and behaviour management problems. Int J Paediatr Dent. 2007;17(6): 449–459.
24. Goettems ML, Ardenghi TM, Demarco FF, Romano AR, Torriani DD. Children's use of dental services: Influence of maternal dental anxiety, attendance pattern, and perception of children's quality of life. Community Dent Oral Epidemiol. 2012;40(5):451–458.
25. Klingberg G. Temperament and child dental fear. Pediatr Dent. 1998;20(4):237–243.
26. Setiawan AS, Agustiani H, Kendhawati L. Qualitative study on parental behavior as the source of dental fear development as reported by preschool students in Bandung. Eur J Dent. 2018;12(4):480–484.
27. Rantavuori K, Lahti S, Hausen H, Seppä L, Kärkkäinen S. Dental fear and oral health and family characteristics of Finnish children. Acta Odontol Scand. 2004 Aug;62(4): 207-13.
28. Alwin NP, Murray JJ, Britton PG. An assessment of dental anxiety in children. Br Dent J. 1991;171(7):201–207.
29. Suprabha BS, Rao A, Choudhary S, Shenoy R. Child dental fear and behavior: The role of environmental factors in a hospital cohort. J Indian Soc Pedodontics Preventive Dent. 2011;29(2):95–101.
30. Buldur B, Armfield JM. Development of the Turkish version of the Index of Dental Anxiety and Fear (IDAF-4C+): Dental anxiety and concomitant factors in pediatric dental patients. J Clin Pediatr Dent. 2018;42(4):279–286.

DOI: https://doi.org/10.20473/cdj.v13i2.2023.51-55

31. Themessl-Huber M, Freeman R, Humphris G, MacGillivray S, Terzi N. Empirical evidence of the relationship between parental and child dental fear: A structured review and meta-analysis. Int J Paediatr Dent. 2010 Mar.
32. HOLST A, SCHRÖDER U, EK L, HALLONSTEN A-L, CROSSNER C-G. Prediction of behavior management problems in children. Eur J Oral Sci. 1988;96(5):457–465.
33. Mejàre I, Ljungkvist B, Quensel E. Pre-school children with uncooperative behavior in the dental situation: Some characteristics and background factors. Acta Odontol Scand. 1989;47(6):337–345.
34. Peretz B, Nazarian Y, Bimstein E. Dental anxiety in a students' paediatric dental clinic: Children, parents and students. Int J Paediatr Dent. 2004;14(3):192–198.
35. Do C. Applying the social learning theory to children with dental anxiety. J Contemp Dent Pract. 2004. https://doi.org/10.5005/jcdp-5-1-126
36. Coric A, Banozic A, Klaric M, Vukojevic K, Puljak L. Dental fear and anxiety in older children: An association with parental dental anxiety and effective pain coping strategies. J Pain Res. 2014;7:515–521.
37. Tonguç Altın K, Güner Onur Ş, Demetgül Yurtseven B, Altunok Ç, Sandallı N. The influences of parental anxiety on dental anxiety in children. Yeditepe Dental Journal. 2019;15(2):146–151.
38. Ginsburg GS, Schlossberg MC. Family-based treatment of childhood anxiety disorders. Int Rev Psychiatry. 2002;14(2):143–154.
39. Turner SM, Beidel DC, Costello A. Psychopathology in the Offspring of Anxiety Disorders Patients. J Consult Clin Psychol. 1987;55(2):229–235.
40. Colares V, Richman L. Factors associated with uncooperative behavior by Brazilian preschool children in the dental office. J Dent Child. 2002;69(1):87–91.
41. Alisinanoğlu F, Ulutaş İ. Çocukların Kaygı Düzeyleri île Annelerinin Kaygı Düzeyleri Arasındaki İlişkinin İncelenmesi. Eğitim ve Bilim. 2003;28(128):65-71.
42. Chapman HR, Kirby-Turner N. Visual/verbal analogue scales: Examples of brief assessment methods to aid management of child and adult patients in clinical practice. Br Dent J. 2002;193(8):447–450.
43. Johnson R, Baldwin DC. Relationship of Maternal Anxiety to the Behavior of Young Children Undergoing Dental Extraction. J Dent Res. 1968;47(5):801–805.
44. Busato P, Garbín RR, Santos CN, Paranhos LR, Rigo L. Influence of maternal anxiety on child anxiety during dental care: Cross-sectional study. Sao Paulo Med J. 2017;135(2):116–122.
45. Cardoso CL, Loureiro SR, Nelson-Filho P. Pediatric dental treatment: Manifestations of stress in patients, mothers and dental school students. Pesqui Odontol Bras. 2004;18(2):150–155.
46. Tuutti H, Lahti S. Oral health status of children in relation to the dental anxiety of their parents. J Pedod. 1987;11(2):146-150.
47. Majstorović M, Škrinjarić I, Glavina D, Szirovicza L. Factors Predicting a Child's Dental Fear. Collegium Antropol. 2001;25(2):493–500.
48. Folayan MO, Idehen EE, Ufomata D. The effect of sociodemographic factors on dental anxiety in children seen in a suburban Nigerian hospital. Int J Paediatr Dent. 2003;13(1):20–26.
49. Bögels S, Phares V. Fathers' role in the etiology, prevention and treatment of child anxiety: A review and new model. Clin Psychol Rev. 2008 Apr.
50. Lara A, Crego A, Romero-Maroto M. Emotional contagion of dental fear to children: The fathers' mediating role in parental transfer of fear. Int J Paediatr Dent. 2012;22(5):324–330.
51. Rantavuori K. Aspects and determinants of children's dental fear. Acta Univ Ouluensis D Medica 2008;991:1–102.
52. Arnrup K, Berggren U, Broberg AG, Bodin L. A short-term follow-up of treatment outcome in groups of uncooperative child dental patients. Eur J Paediatr Dent. 2004;5(4):216–224.
53. Balmer R, O'Sullivan EA, Pollard MA, Curzon MEJ. Anxiety related to dental general anaesthesia: Changes in anxiety in children and their parents. Eur J Paediatr Dent. 2004;5(1):9–14.
54. Alwin NP, Murray JJ, Britton PG. An assessment of dental anxiety in children. Br Dent J. 1991;171(7):201–207.
55. Wu L, Gao X. Children's dental fear and anxiety: Exploring family related factors. BMC Oral Health. 2018;18(1).
56. Ten Berge M, Veerkamp JSJ, Hoogstraten J, Prins PJM. Childhood dental fear in relation to parental child-rearing attitudes. Psychol Rep. 2003;92(1):43–50.
57. Corkey B, Freeman R. Predictors of dental anxiety in six-year-old children: Findings from a pilot study. ASDC J Dent Child. 1994;61(4):267–271.
58. Klingberg G, Broberg AG. Dental fear/anxiety and dental behaviour management problems in children and adolescents. Int J Paediatr Dent. 2007;17(6):391–406.
59. Olak J, Saag M, Honkala S, Nõmmela R, Runnel R, Honkala E, Karjalainen S. Children's dental fear in relation to dental health and parental dental fear. Stomatologija. 2013;15(1):26-31.
60. Klorman R, Michael R, Hilpert PL, Sveen OB. A Further Assessment of Predictors of the Child's Behavior in Dental Treatment. J Dent Res. 1979;58(12):2338–43.