

Evaluating the Various Reasons and Causes for Odontophobia Among Saudi Parents Accompanying Pediatric Patients at King Khalid University, Saudi Arabia

Meer Zakirulla, MDS* Ali Mushabab S Alqahtani** Ali Abdulrahman Ali Alshehri** Feras Mohammed Almofreh** Omar Ali Y Altimni** Nawaf Hassan Ali Albwahi** Mohammed Saleem A Alamri** Samiyah Ahmed Asiri*** Yahya Mohammed Otayf**** Saeed Ahmed Asiri***** Raghad Mohammed S Alzaid, BDS***** Ahmed Ibrahim Ruwayni, BDS***** Omar sultan alharthi***** Mohammad Abdullah Alwadaani*****

ABSTRACT

Study Design: Cross-sectional

Objective: This study evaluated the various reasons and causes for odontophobia among Saudi parents accompanying pediatric patients at King Khalid University, Saudi Arabia.

Methods: A cross-sectional study was carried out on a total number of 300 parents (Male=150; Female=150) who participated in the study with age ranges from 30- to 55-year-old to know the various reasons and causes for odontophobia among Saudi parents accompanying pediatric patients attending dental clinic in college of dentistry, King Khalid University, Abha. The Questionnaire was given to Saudi parents accompanying pediatric patients attending dental clinics and data was collected from them. The data were entered and analyzed using the Statistical Package for the Social Sciences (SPSS 20). A P-value of less than 0.05 was considered to be statistically significant.

Results: The majority of participants, 189(63%) were, said that they have experience of dental fear and anxiety in their lifetime period. 255(85%) agreed that they have come across one of their relatives or friends having the fear of dental treatment. Parents experienced various reasons for the cause of their dental fear, one of the major factors for dental fear they told was having the dentist remove their tooth (26%). Parents 155 (52%) stated that they visited dental clinic for treatment very often and 66(22%) visited rarely.

Conclusions: Recognizing the level of fear that prevents patients from seeking dental care and understanding the occurrence of dental anxiety hold crucial importance in dental practice. While only a small percentage of subjects reported dental fear or would consider refusing dental consultations, assessing dental fear provides valuable insights for dental practitioners. However, there is a call for further research and efforts to enhance the comprehension of dental anxiety and behaviors during dental visits.

Keywords: Odontophobia, Fear and anxiety, Dental visit, Saudi parents, Children, Saudi Arabia

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- * Assistant Professor
Department of Pediatric Dentistry & Orthodontic Sciences
College of Dentistry, King Khalid University, Abha, Saudi Arabia.
E-mail: drzak786@gmail.com
- ** Intern, College of Dentistry,
King Khalid University, Abha, Saudi Arabia.
- *** Nursing Services Department
Aseer Central Hospital, Ministry of Health, Abha, Saudi Arabia.
- **** Clinical Nutrition Department Services
Aseer Central Hospital, Ministry of Health, Abha, Saudi Arabia.
- ***** Pharmacy Department
Prince Sultan Military Medical City, Riyadh, Saudi Arabia.
- ***** General Dentist
Abha, Saudi Arabia.
- ***** General Dentist
Ministry of Health, Abha, Saudi Arabia.
- ***** Specialist Nurse
Ministry of Health, Bisha, Saudi Arabia.
- ***** Pediatric Dentist
Jazan Specialized Dental Center, Ministry of Health Saudi Arabia.

INTRODUCTION

In the literature, anxiety and fear have been defined in various ways. Spielberger (1983) distinguished between the more temporary condition of 'state anxiety' and the more general and longstanding quality of 'trait anxiety'¹. Even routine tasks like making essential decisions, studying for exams, going to work, entering the job market, etc., are routine tasks like making important decisions, studying for exams, going to work, entering the job market, etc. anxiety is felt. As a result, an emotional state that comes before the actual encounter sometimes threatens to trigger an unidentified stimulus. A pathological, excessive, and irrational fear of dentists is known as dental phobia, which can develop at any age, including childhood, adolescence, adulthood, or even later². Although dentophobia can be sensitized, it cannot be managed alone. Even though oral health is impacted, people with dentophobia avoid visiting the dentist's office, even with severe gum disease³.

Early childhood, nations, and ethnic groups have all documented its presence. It indicates a sense of unease and loss of control that something terrible is about to occur with dental treatment. Any novice dentist, even an experienced one, parents, and the healthcare system find it difficult to deal with a child who suffers from dental anxiety. The fearful, disruptive child is one of the most problematic patients for dentists. As a result, they are eventually forced to treat these patients in ways that do little to lessen their anxiety and, in some cases, worsen their dental anxiety⁴. A behavioral issue that dentists may encounter in their practice is child dental fear. According to research, 27% of kids who struggle with behavior management are terrified of dental procedures. Children without fear were said to have more caries than children who were afraid^{5,6}. It is not shocking that people with higher dental anxiety frequently experience serious oral health problems because dental treatment is disregarded. A higher proportion of lost teeth has been linked to dental care avoidance and anticipatory distress⁷. Additionally, it is connected to various other variables, including personality traits, traumatic dental experiences, painful childhood teeth, and even indirect learning from peers or family members who are dentally anxious. This study aims to evaluate the various causes and reasons for odontophobia among Saudi parents who accompany young children to a dental clinic at King Khalid University's College of Dentistry in Abha.

METHODS

A cross-sectional study was conducted after receiving clarifications regarding the objectives of the research and signing a statement of informed consent. The participants of the study comprised of total number of 300 parents (Male=150; Female=150) with age range from 30- to 55- years-old to understand the causes and reasons behind odontophobia in Saudi parents who were visiting dental clinic along with young pediatric patients. Simple random sampling method was employed in the study to collect the sample. Ethical approval [IRB/ KKUCOD/ETH/2022-23/052] for performing the survey was obtained from the Scientific Research Committee of King Khalid University, College of Dentistry.

Questionnaire Structure: The study involved a total of 300 parents attending the dental clinics at the college of Dentistry, King Khalid University, Abha. The parents were given a self-administered structured questionnaire that was divided into two sections: demographic data (age, gender, and level of education) and ten questions with multiple-choice responses and questions that had the option of being answered "yes" or "no". Piloting was used to evaluate the questionnaire's validity and reliability.

Piloting: Before the main data collection, the questionnaire was pre-tested with a comfort sample of 20 parents. These participants

were interviewed to gather feedback on the questionnaire's clarity, length, and overall acceptability. Based on their feedback, necessary adjustments and corrections were made to the questionnaire.

Validity and Reliability: The questionnaire underwent validity and reliability testing to ensure that it measured what it intended to measure consistently. This is a common practice in survey research to ensure the quality and accuracy of the data collected. Validity was assessed to ensure that the questionnaire was appropriate for the study's objectives and the characteristics of the participants.

Data Evaluation: Both descriptive and analytical statistical strategies were employed to investigate the info collected from the individuals. The evaluation was executed using SPSS 18 software program. Overall, it seems like a structured and systematic approach was taken to design, test, and administer the questionnaire to gather data from Saudi parents who were visiting dental clinic along with young pediatric patients. The use of pilot testing and validity checks reflects an effort to ensure the quality and reliability of the data collected.

RESULTS

A total of 300 (150 males and 150 females) parents responded to the questionnaire. 82% of study subjects were of 30-40 years, 11% were of 41-50 years, 7% were of 41-50 years, and 0% were >50 years [Table 1]. The levels of education of parents were bachelor (76%) and master (24%) were recorded in this study. The responses of Saudi parents to various reasons for odontophobia attending dental clinics were shown in Table 2. The majority of participants, 189(63%) were said that they have experienced of dental fear and anxiety in their lifetime period. 255(85%) agreed that they have come across one of their relatives or friends having a fear of dental treatment. Parents experienced various reasons for the cause of their dental fear, one of the major factors they told was having the dentist remove their tooth (26%). Parents 155 (52%) stated that they visited dental clinic for treatment very often, and 66(22%) visited rarely. Majority of parents 267 (89%) agreed when they asked about avoiding dental treatment due to dental phobia. As many as 195 (65%) of parents agreed and responded positively to their feelings during their dental clinic visit for their routine dental checkup [Figure 1]. Of the 300 parents investigated, when asked How they would you react if they should have a tooth extraction, 22% said they would accept the procedure calmly, 26% said that they feel uneasy, 32% stated that they were afraid but would accept the procedure, and 20% said they are afraid but they would not accept the procedure. The majority of the parents 219 (73%), responded that they would prefer the dental treatment safe for their kids without any fear. Very few participants 69 (23%), agreed and expressed their negative experience for their previous dental visit for dental treatment.

Table 1: Demographic data includes age, gender and level of education

AGE	Total (n)-300	%
30-40 years	246	82%
41-50 years	33	11%
>50 years	21	7%
GENDER		
Male	150	50%
Female	150	50%
Level of Education		
Bachelor	228	76%
Master	72	24%

Table 2: Response of Saudi parents to various reasons for odontophobia attending dental clinic

QUESTIONNAIRE	Total (n)-300	%
Q1. Do you have the experience of dental fear and anxiety anytime in your life?		
Yes	189	63%
No	111	37%
Q2. Is any one of your relative or friends having the fear of dental treatment?		
Yes	255	85%
No	45	15%
Q3. What are the main reasons for causing dental fear?		
The dentist drilling	27	9%
Feeling of choking".	66	22%
The noise of the dentist drilling	45	15%
Seeing dental injection and its needle	54	18%
Having the dentist remove your tooth	78	26%
Having somebody put instruments in your mouth	30	10%
Q4. How often do you visit dental clinic for treatment?		
Very often	155	52%
Sometimes	64	21%
Rarely	66	22%
Never	15	5%
Q5. Have you avoided the dental treatment due to dental phobia?		
Yes	267	89%
No	33	11%
Q6. 'If you were in the dentist's office for a routine checkup, how would you feel?'		
Positive	195	65%
Negative	69	23%
Unsure	36	12%
Q7. How would you react if they should have a tooth extraction?		
Accept the procedure calmly	66	22%
Feel uneasy	78	26%
Afraid but they would accept the procedure	96	32%
Afraid but they would not accept the procedure	60	20%
Q8. Would you prefer the dental treatment safe for your kids without any fear?		
Yes	219	73%
No	81	27%
Q9. Do they consider it regular for health to consult a dentist for prevention?		
Yes	285	95%
No	15	5%
Q10. If you have visited dentist before, what is your dental treatment experience?		
Not visited	36	12%
Positive experience	195	65%
Negative experience	69	23%

n = Number; % = Percentage

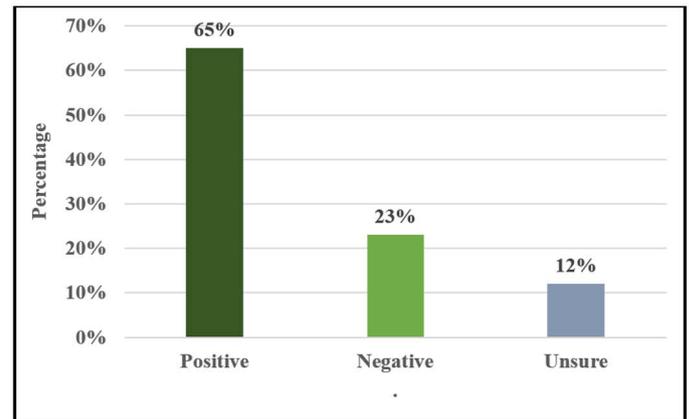


Figure 1: Response of Saudi parents to the question 'If you were in the dentist's office for a routine checkup, how would you feel?'

DISCUSSION

Odontophobia has many causes, including environmental related; therefore, it is considered complex and multifactorial⁸. Odontophobia is deemed complex and multifactorial. It can be caused by various factors, including past oral experiences, pain, family members' influence, peer encounters, personality, conversation techniques of dental providers, provider behaviour, environmental factors (such as clinic atmosphere and the sight of blood), and the sound of dental drills⁹. Our results indicate the removal of the tooth was the most inducing element in odontophobia than that oral anesthetic injection; these outcomes mismatched with Taani et al.¹⁰, who reported that anxiousness toward injection scored the best mean score, which was similar to the results in Danish adults. When parents are anxious about oral treatments, they could either pass on these details to their wards or start to see the emotions of anxiety, which should be reflected with related magnitude in advancing dental stress¹¹. But this sense could get modified following the first dental visit, with the parent's connection with dental fear. Previous appointments with dentists considerably impact anxiety amounts by establishing a dental professional- individual trust which matures and gets more potent with age. Furthermore, it's been shown that kids who see dental stress within their parents or guardians will develop a comparable attitude and eventually face stressful encounters during dental visits within their youth¹². Parents are recognized to subtly transmit emotions of anxiety and stress to their kids¹³. According to some authors, moms with high anxiety amounts have frequently been demonstrated to exert a poor influence on the children's behaviour in the dentist's office, and it's been suggested that one may understand, predict and impact a child's dental care behaviour through a mother's attitude towards oral care^{14,15}.

In cross-sectional research, the Modified Dental Anxiety Scale (MDAS) was used to evaluate odontophobia among pregnant women visiting hospitals in Dhahran, Khobar, and Dammam in Saudi Arabia. The prevalence of dental phobia was appreciated in a significant proportion. Having bad dental care encounters and being in 1st trimester of pregnancy had been considerably associated with an increased probability of odontophobia¹⁷. Gaafar¹⁸ researched dental care anxiety prevalence in adult sufferers attending the dental treatment centres at the University of Dammam, Saudi Arabia and discovered that the prevalence of teeth anxiety among the analysis sample was 27%. Some individuals with dental anxiety adopt a "routine of avoidance," avoiding dental appointments until they face a dental emergency. This can worsen their fear and lead to more invasive and traumatic treatments that may further strengthen their concern with dentistry^{18,19}.

Odontophobia and anxiety are serious issues that negatively affect teeth health in folks of all age ranges. Early detection of the causes of fear and anxiety is essential to solve this issue. Studies on large-level and community-based programs conducted in educational establishments or hospitals often depend on questionnaire data to judge the frequency of dental care anxiety. Academic organization-based samples supply simple, quick data gathering, as pupils could be surveyed in groups. In earlier studies²⁰⁻²³, individuals mentioned that negative encounters were the primary reasons for tooth fear.

Furthermore, Berggren et al.²⁴ demonstrated that dental anxiety often may be related to previous traumatic encounters. Our study uncovered those parents experienced different reasons for their dental fear; among the significant aspects of dental fear, they told that getting a dental practitioner to remove their tooth (26%). Parents 155 (52%) mentioned visiting oral clinics for treatment frequently, and 66 (22%) visited rarely. When treatment is avoided, more invasive remedies, such as root canals and tooth removal, are ultimately needed, which tend to be more traumatic and anxiety-provoking than less invasive remedies²⁵. When contemplating the reason behind dental anxiety, parents exposed that they experienced different reasons for their dental fear. Among the major element for dental fear they told that getting a dental practitioner remove their tooth (26%). Parents 155(52%) mentioned visiting dental care clinics for treatment frequently, and 66 (22%) visited rarely. Culture will also impact the context where anxiety is experienced as well while on the interpretation of its meaning and responses to it, it offers a twist to a straightforward universal phenomenon, trait anxiousness related to the average person, giving rise to circumstances anxiety that's expressed with relative similarity in people who have similar cultures²⁶. Parents with the most feared items were discovered to be significant. This finding was backed by previous research that parents rated tooth extraction process extraction followed by dental practitioner drilling as the utmost feared products; parental education was included as a parental characteristic because education impacts a person's understanding, beliefs, and behaviour. Anxiety and fear were considerably higher in parents who all had dental extraction in their last dental checkout (26%). Invasive methods such as, for example, an extraction could cause trauma to the adolescent, thus creating a recurring concern with the dentist. Techniques that elicit high dread should be prevented by the initial dental visit and begin with a preventive process. This can be attained by education on oral hygiene instruction and inspiration. Students who had never been to a dental professional reported low degree of fear.

The results of the study suggest that there indeed is a dependence on further research to find better options for understanding and enhancing the fears and behaviour of children and adolescents if they visit dentists. Constant education programs for dentists should motivate them to help individuals overcome their fear, explaining the procedure sufficiently and providing them with correct pain management. Furthermore, dentists should remember to increase their knowledge of prevention in dental hygiene rather than restricting their dental treatment. Again, Dentists should actively participate in community programs aimed at promoting oral health and reducing dental fear. Constant education programs for dentists can also help them effectively address patients with mild form of dental anxiety. The limitations of the study include a small sample size and using a self-administered questionnaire, which could be biased as there are chances that the patients may over or underestimate their responses.

CONCLUSION

The passage emphasizes the pervasive nature of dental anxiety across different demographics, highlighting that it affects

individuals regardless of age, gender, social status, or location. This fear of dental treatment is acknowledged to be a significant challenge for both patients and dental professionals. Despite efforts by dental professionals to assess and address this issue, it remains persistent.

Recognizing the level of fear that prevents patients from seeking dental care and understanding the occurrence of dental anxiety hold crucial importance in dental practice. While only a small percentage of subjects reported dental fear or would consider refusing dental consultations, assessing dental fear provides valuable insights for dental practitioners. It allows them to tailor behavioral treatments and management strategies to suit the individual needs of patients. However, there is a call for further research and efforts to enhance the comprehension of dental fear and behaviors during dental visits. This suggests that more work is needed to better address and alleviate dental anxiety, particularly in younger patients.

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Potential Conflict of Interest: None

Competing Interest: None

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REFERENCES

1. Spielberger CD. Manual for the State-Trait Anxiety Inventory (STAI). Palo Alto, CA: Consulting Psychologists Press; 1983.
2. Ravishankar RK. Anxiety and pain management in dental office. *Int J Sci Dev Res* 2020;5(2):2020-26.
3. Dorina ST, Liliana LU, Voicu DC, et al. The Issue of Dentophobia among Young Adults during the Pandemic. *BRAIN. Broad Res Artificial Intel Neurosci* 2021;11(3Sup1):197-206.
4. Do C. Applying social learning theory to children with dental anxiety. *J Contemp Dent Pract* 2004;5(1):126-35.
5. Folayan M, Ufomata D, Adekoya-Sofowora C, et al. The effect of psychological management on dental anxiety in children. *J Clin Pediatr Dent* 2003;27(4):365-70.
6. Milsom KM, Tickle M, Humphris GM, et al. The relationship between anxiety and dental treatment experience in 5-year-old children. *British Dent J* 2003;194(1):503-6.
7. Abrahamsson KH, Berggren U, Hakeberg M, et al. Phobic avoidance and regular dental care in fearful dental patients: a comparative study. *Acta Odontol Scand* 2001;59(5):273-9.
8. Beaton L, Freeman R, Humphris G. Why are people afraid of the dentist? Observations and explanations. *Med Princ Pract* 2014;23(4):295-301.
9. Hmud R, Walsh LJ. Dental anxiety: causes, complications, and management approach. *J Minim Interv Dent* 2009;2(1):67-78.
10. Taani DM. Dental fear among a young adult Saudian population. *Int Dent J* 2001;51(2):62-6.
11. Klingberg G. Reliability and validity of the Swedish version of the dental subscale of the children's fear survey schedule, cfss-ds. *Acta Odontol Scand* 1994;52(1):255-6.

12. D'Alessandro G, Alkhamis N, Mattarozzi K, et al. Fear of dental pain in Italian children: Child personality traits and parental dental fear. *J Public Health Dent* 2016;76(3):179-83.
13. Folayan MO, Adekoya-Sofowora CA, Otuyemi Od, et al. Parental anxiety as a possible predisposing factor to child dental anxiety in patients seen in a suburban dental hospital in Nigeria. *Int J Paediatr Dent* 2002;12(4):266-9.
14. Johnson R, Baldwin DC Jr. Maternal anxiety and child behavior. *J Dent Child* 1969;36(2):87-92.
15. Bailey PM. A comparison of maternal anxiety levels with anxiety levels manifested in the child dental patient. *J Dent Child* 1973;40(4):277-84.
16. Nazir M, Alhareky M. Dental phobia among pregnant women: Considerations for healthcare professionals. *Int J Dent* 2020;2020:4156165.
17. Gaffar BO, Alagl AS, Al-Ansari AA. The prevalence, causes, and relativity of dental anxiety in adult patients to irregular dental visits. *Saudi Med J* 2014;35(6):598-603.
18. Chellappah NK, Vignehsa H, Milgrom P, et al. Prevalence of dental anxiety and fear in children in Singapore. *Community Dent Oral Epidemiol* 1990;18(5):269-71.
19. Wogelius P, Poulsen S. Associations between dental anxiety, dental treatment due to toothache, and missed dental appointments among six to eight-year-old Danish children: A cross-sectional study. *Acta Odontol Scand* 2005;63(3):179-82.
20. Skaret E, Raadal M, Berg E, et al. Dental anxiety among 18-year-olds in Norway. Prevalence and related factors. *Eur J Oral Sci* 1998;106(4):835-43.
21. Bergdahl M, Bergdahl J. Temperament and character personality dimensions in patients with dental anxiety. *Eur J Oral Sci* 2003;111(2):93-8.
22. Locker D. Psychosocial consequences of dental fear and anxiety. *Community Dent Oral Epidemiol* 2003;31(2):144-51.
23. Hawamdeh S, Wad MA. Dental anxiety: Prevalence and associated factors. *European J Gen Dent* 2013;2(1):270-3.
24. Berggren U, Carlsson SG, Hakeberg M, et al. Assessment of patients with phobic dental anxiety. *Acta Odontol Scand* 1997;55(4):217-22.
25. Thomson WM, Stewart JF, Carter KD, et al. Dental anxiety among Australians. *Int Dent J* 1996;46:320-4.
26. Al-Khalifa KS. Prevalence of dental anxiety in two major cities in the kingdom of Saudi Arabia. *Saudi J Med Sci* 2015;3(2):135-40.