



Short Communication

Prevalence of dental fear among students of Hyderabad Sindh.

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Abstract

Background: Despite the advancements in making dentistry more comfortable, dental phobia remains a significant concern. Research suggests that children's dental anxiety may persist into adolescence, leading to avoidance of dental care and disruptive behavior during treatment. Early identification of children with dental fear is crucial for dental professionals to promptly employ appropriate pediatric management strategies. The study aims to assess the prevalence of dental fear among students in Hyderabad, Pakistan.

Methodology: A cross-sectional study was conducted among 11- to 16-year-old male and female students in schools in Hyderabad, Pakistan. The Children's Fear Survey Schedule-Dental Subscale (CFSS-DS) in English was utilized. The study included students in grades 6 to 8 residing in Hyderabad, with no general pathology and not on any medication. Data analysis was performed using SPSS version 25.

Results: The study encompassed 295 participants, 45.1% females and 54.9% males. The percentage of participants experiencing dental fear (combining moderate and high fear) was 168 (57%), while 127 (41%) reported no dental fear. Analysis based on low to high levels of fear indicated slightly increased moderate and high fear levels in female participants (47.5% and 52%, respectively) compared to male students (36.5% and 47%, respectively).

Conclusion: The study suggests the need for significant attention to preventing dental fear. School-based health policies and parents should focus on psychosocial factors associated with the fear of dental treatment, as many of these factors are preventable. Dental anxiety poses challenges not only for patients but also for dentists, occasionally complicating the successful execution of treatments.

Keywords

Dental Phobia, Dentist, Fear, Phobias, Dental Care, Dental Hygiene.



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Introduction

Despite technological advancements making dentistry less uncomfortable, dental phobia remains a concern, especially among school-going children, where high fear and anxiety regarding dental treatments are prevalent¹. Dental fear is characterized by physiological, behavioral, and emotional responses to threatening stimuli in dental practice, such as injections or drilling sounds. Concurrently, dental anxiety represents a patient's stress response specific to dental situations.

According to research, the effects of children's dental anxiety may continue into adolescence, resulting in avoidance of dental care or disruptive behavior during treatment. As a result, a dental professional must be able to identify children who are afraid of the dentist and use appropriate pediatric management strategies as soon as possible².

Research indicates that children's dental anxiety may extend into adolescence, leading to treatment avoidance or disruptive behavior. Timely identification of children with dental fear is crucial for dental professionals to implement appropriate pediatric management strategies. The acquisition of dental anxiety is often attributed to the three-pathway theory proposed by Rachman in 1977, involving classical conditioning, vicarious learning, and imitation³.

Various factors, including personality, past traumatic experiences, gender, parental fear, and general anxiety, contribute to dental fear. Specific dental procedures, such as restorative work and local anesthetic injections, are cited as potent causes of dental fear. The Children's Fear Survey Schedule Dental Subscale (CFSS-DS)⁴, developed in 1982, assesses various aspects of dental treatments, with scores indicative of clinical dental fear.

Studies reveal gender and age differences in dental fear^{5,6}, with higher anxiety levels observed in females⁷ and younger individuals^{8,9}. Dental fear and anxiety affect approximately 5 to 20% of

school-going children, emphasizing the need for understanding and addressing these concerns¹¹. This study aims to assess the frequency and levels of dental anxiety among students in Hyderabad schools, exploring potential gender-wise differences in dental anxiety.

Methodology

Study Design

This cross-sectional study focused on 11- to 16-year-old students in the 6th to 8th grades in Hyderabad, Pakistan.

Participant selection

Participants for this study were selected from students in grades 6 to 8, ensuring a specific age group for the research. Inclusion criteria encompassed the absence of general pathology and a cooperative attitude towards study participation. Conversely, exclusion criteria involved students outside the specified grade range, those with existing medical conditions, individuals currently using medication, and those not residing in Hyderabad. This selection process aimed to create a homogeneous study population, facilitating a focused and relevant investigation.

Instrument

The Children's Fear Survey Schedule-Dental Subscale (CFSS-DS) in English was employed to gauge the prevalence of dental fear. This instrument comprises 15 items exploring various dimensions of dental treatments, including interactions with the dentist, drilling, injections, and mouth opening.

Scoring and Categorization

Total scores falling within the 5 to 75 range were categorized into three groups: scores below 31 indicated low fear, scores between 31 and 39 denoted moderate fear, and scores exceeding 39 signified high fear. Higher scores indicated heightened odontophobia.

Data Analysis

Statistical analyses were conducted using SPSS version 25.0. Responses, recorded on a Likert-type scale (1 to 5), allowed participants to articulate their

levels of fear, ranging from "Not afraid at all" to "Very much afraid."

Ethical Considerations

Prior permission was obtained from school authorities. The study's objectives and procedures were clearly communicated to the schools' heads and participants, ensuring transparency and ethical adherence.

Results

The study included 295 participants, 45.1% females and 54.9% males. The analysis revealed that 168 participants (57%) experienced dental fear, combining moderate and high fear levels, while 127 participants (41%) reported no dental fear. Examining fear levels from low to high, female participants exhibited slightly higher rates of moderate (47.5%) and high fear (52%) compared to male students (36.5% and 47%, respectively).

Regarding general fear, 49.8% of participants did not fear visiting the doctor, while 9% expressed fear, with slightly higher fear levels in females (10%) than males (9%). When asked about the fear of

visiting a dentist, 35.2% reported being afraid, with a higher proportion among female participants.

Concerning the fear of injections, 36.6% of participants were not afraid, while 26% expressed fear, predominantly among females. Fear of having someone examine their mouth showed that 41.4% were not scared, but 16% reported fear, primarily among male participants. Similarly, fear of opening their mouths for examination was higher among males (16.1%) compared to females.

Participants reported minimal fear (57.3%) when someone looked at them, but 35.3% feared a stranger touching them. Fear of dentist drilling was prevalent, with 49% expressing fear, particularly among females. Additionally, 30% feared having instruments placed in their mouths, with higher fear levels among females (35%).

Concerning specific fears, 37% reported fear of choking, mostly among females (38%). Notably, fear of visiting hospitals and individuals in white uniforms was low, with 55.3% and 79.3% responding negatively.

Table 1: Prevalence of dental fear among grades 6 to 8 students.

Variables	Female	Male	Overall
Fear of visiting a doctor?	10%	9%	9%
Fear of visiting dentists?	25%	17%	20%
Fear of injections?	33%	21%	26%
Are you afraid of having somebody examine your mouth?	14%	18%	16%
Are you afraid of opening your mouth for an examination?	13%	16%	15%
Fear of having a stranger touch you?	51%	23%	35%
Afraid when somebody looks at you?	22%	7%	14%
Afraid of dentist drilling?	49%	50%	49%
Afraid of the sight of dentist drilling?	36%	41%	39%
Afraid of the noise of dentist drilling?	26%	22%	24%
Are you afraid of having someone put instruments in your mouth?	35%	25%	30%
Afraid of choking (severe difficulty in breathing)?	38%	37%	37%
Afraid of visiting the hospital?	14%	13%	14%
Afraid of people in white uniforms/ Medical uniforms?	3%	9%	6%
Afraid of having the nurse clean your teeth?	14%	14%	14%

Discussion

Efforts to control dental anxiety are crucial, with education, regular dental visits, positive dentist relationships, patient suitability, and effective communication playing pivotal roles. Avoiding dental treatment due to anxiety not only jeopardizes the patient's well-being but may also lead to severe medical conditions such as sepsis, sinusitis, and osteomyelitis of the face¹¹.

Our study revealed that approximately one-third (32.2%) of children and adolescents had no dental fear, while the remaining two-thirds (67.8%) reported varying levels of dental fear. The majority exhibited high scores of dental fear (56.9%), with girls reporting greater fear than boys.

Among those with fear (56.9%), 48.8% exhibited moderate fear, and 51.2% showed high fear. Female participants displayed slightly higher levels of moderate (47.5%) and high fear (52%) compared to male students (36.5% and 47%, respectively). These results align with regional and global studies reporting moderate to severe dental fear^{5,8,9,12-14}.

Cultural differences may contribute to these findings, with females potentially more comfortable expressing emotions while males adhere to conventional gender roles, concealing emotions¹⁵. The extent of dental fear did not correlate with participants' ages, consistent with previous studies indicating greater fear and anxiety in girls and younger children¹⁶.

When exploring fears of visiting dentists and doctors, more participants expressed fear of dentists (35%) than doctors (20%). This aligns with previous research and emphasizes the distinctive anxiety associated with dental visits^{17,18}. The study highlighted the highest fear of dentist drilling (49%), followed by the sight of dentist drilling (39%) and choking (37%). Similar findings were observed in studies conducted in Nepal and other locations¹⁹⁻²³.

Study Limitation

The study has several limitations that warrant consideration. Self-administered questionnaires introduce the possibility of response bias, as participants may underreport or overreport certain behaviors related to dental fear. Furthermore, the study's focus on students in grades 6-8 from Qasimabad, Hyderabad city, may limit the generalizability of findings to broader populations or other cities. The absence of parental involvement in verifying their child's responses to dental treatment adds another layer of potential limitation, impacting the robustness of the collected data. While these constraints provide valuable insights, future research should explore methodologies to mitigate these limitations and enhance the overall reliability and applicability of the study's findings.

Conclusion

The escalating fear trend within the dental domain underscores the urgency of proactive intervention. The study's findings emphasize the need for significant efforts in preventing dental fear, with a call for school-based health policies and parental involvement. Preventative measures can be implemented by directing attention towards psychosocial factors linked to the fear of dental treatment, considering their modifiability. Recognizing dental anxiety as a challenge not only for patients but also for dentists underscores the potential complexity it introduces to treatment procedures, urging a comprehensive approach to address this prevalent concern effectively. Future endeavors should delve deeper into tailored strategies that promote a positive and fear-free dental experience for all involved parties.

Conflicts of Interest

The authors declare no conflicts of interest.

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