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ORIGINAL ARTICLE

Dental Procedures, Oral Practices, and Associated Anxiety: A Study on Late-teenagers

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Abstract
Objectives: The study aims to determine the degree of anxiety pertaining to dental procedures and various oral hygiene practices among college teenagers.
Methods: Corah's Modified Dental Anxiety Scale was administered on a randomly chosen sample of 100 Indian college students (50 males and 50 females) of Delhi University, belonging to the age group of 17–20 years.
Results: Descriptive statistical computations revealed 12.14 years as the mean age of first dental visit, with moderately high levels of anxiety (60.75%) for various dental procedures among the Indian teenagers and 5% lying in the "phobic or extremely anxious" category. With merely 4.16% people going for regular consultations, general check-ups evoked 78.3% anxiety and having an injection or a tooth removed was perceived as the most threatening. The sample subgroup not using mouthwash and mouthspray, smokers, and alcohol drinkers with improper oral hygiene practices experienced much higher anxiety towards routine dental procedures.
Conclusion: The majority of the Indian youngsters had an evasive attitude of delaying dental treatment. The core problems lay in deficient health care knowledge, lack of patient-sensitive pedagogy to train dental professionals, inaccessibility of services, and a dismissive attitude towards medical help. The feelings of fear and anxiety prevalent among the Indian youth offer significant insights into causes and preventive measures for future research and practice. Methods of education and motivation could be developed to dissipate the anxiety amongst Indian teenagers that prevent routine dental visits and maintenance of adequate oral hygiene.

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1. Introduction

Dental anxiety and fear are widespread amongst the patient population and pose a significant problem in their management. Anxiety is defined as an aversive emotional state anticipating a feared stimulus in the future [1], with or without the presence of an immediate physical threat. Although the terms fear, phobia, and anxiety are used interchangeably, they differ categorically. Dental phobia may be defined as the fear of treatment, characterized by the avoidance of dental treatments with high levels of associated dental anxiety [1,4]. According to American Psychological Association's Diagnostic and Statistical Manual IV [5], phobia is classified as an anxiety disorder covering symptoms such as a constant fear of a stimulus, avoidance of the feared object, and significant disruption in routine activities, limiting the functions of an individual due to exaggerated and unreasonable anxiety. Several researchers group dental phobias into situational and blood injection injury types of phobia [2,6,7]. Dental anxiety, by contrast, relates to the psychological and physiological variations of a nonpathological fear response to a dentist's appointment or treatment. The cancellation, avoidance, or postponement of dental visits is a common observation among anxious and vulnerable individuals [1–3,8].

Ekman et al [9] described fear as one of the six universal human emotions, often characterized by components [10] namely, psychological, physical, cognitive, and behavioral [11]. Past traumatic experiences [12] of dental visits creates a negative perception resulting in anxiety. Dental patients, in particular, are often moderately anxious at the beginning of a procedure and get more anxious, fearful, and depressed with time, complexity, and stage of treatment. Hence it becomes imperative for the clinician to not only control their anxiety, but also to reconstruct trust and positive relationships to facilitate a healthy curative procedure, as well as patient adherence [13].

Several researchers have concluded that dental anxiety varies in different social groups and tribes [14]. Age, sex, social status, and education level also significantly affect anxiety, with younger individuals and women showing higher levels of anxiousness [15–17]. The family environment, dentist experiences shared by others, and literacy level also affect anxiety to varying degrees. The role of culture is inextricable in oral practices. In the Indian population, for example, literacy level is low, social status is poor, general cleanliness is compromised, dental awareness is lagging, and consumption of tobacco is high [18–20]. Visiting a dentist is one of the rarest norm and it is routinely postponed until a serious symptom appears. These social realities pose newer challenges for a practicing dentist in retaining the consulting patient, in lieu of high doctor-patient ratios and social attitudes among the population at large. In such a scenario, attending to anxiety among patients adds to the burden and effectiveness of the dental fraternity.

An extensive literature review revealed that several psychometric indexes have been developed to measure dental anxiety among patients [1]. Researchers vary in their methodological usage of a series of questionnaires, single question surveys, and descriptive interviews. Some commonly used scales have been tabulated in Table 1 [1], however, no single tool is complete enough to determine the holistic preview of an anxious patient. The dental anxiety scale, commonly referred to as the DAS index, developed by an American psychologist Norman Corah in 1968 [21,22], has been the most widely used. Its usage has been compared with other dental anxiety scales and is illustrated in Figure 1 based on the 2008 statistics [1]. The DAS index originally had a single question and was developed to measure the psychological stress in a dental situation [21], however, it was refined to four questions relating to the temporal and distal proximity related to a dental experience [22]. The Modified Dental Anxiety Scale/Index (MDAS) was developed by adding an additional question, related to local anesthetic injection, to the existing DAS inventory. The response options were further categorized into five subcategories, namely: not anxious, slightly anxious, fairly anxious, very anxious, and extremely anxious, to give the scale a quantitative approach. The literature indicates that DAS and MDAS constitute as research instruments in a majority of 31% research studies (as evident from Figure 1) and being fundamentally advanced, they are the most preferred tools by scientists all over the globe to measure fear and anxiety in a dental setting [1].

2. Materials and methods

2.1. Objective

The first objective was to determine the degree of anxiety among college students pertaining to dental procedures.

The second objective was to study the prevalence of dental anxiety based on several practices of oral hygiene.

2.2. Sample

The sample population consisted of 100 Indian college students (50 males and 50 females). All of the participants were undergraduates of Delhi University who belonged to the age group of 17–20 years and who came from the middle-class income group. A random sampling procedure was adopted, using a table of random numbers, to ensure that all individuals were evenly distributed, with 25 students each from courses of science, commerce, arts, and computers. Thus, a blind selection procedure added to the statistical soundness of the results.