

Dental Anxiety and Oral Health

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ABSTRACT

This review tries to compile and give insight about the dental anxiety and its implications on oral health. Medline database, scholarly articles and informal literature in the year (2000-2014) were considered. Studies have concluded that significant effect of dental anxiety on oral health status and oral health quality of life. More attention from dentists could help apprehensive patients to utilize the dental services based on their needs.

KEYWORDS: Dental Anxiety, Oral health, OHRQoL

INTRODUCTION

Human psychology and behavioral sciences have become an increasingly important component of dental education, practice and research providing critical insight into the determinants of oral health behavior. Despite the technological advances in modern dentistry, anxiety about dental treatment and fear of pain associated with dentistry remains common. Dental anxiety is an important section regarding provision and access to the dental care.

Anxiety is defined as an aversive emotional state anticipating a feared stimulus in the future with or without the presence of an immediate physical threat.¹ Anxiety arises from within the patient's psyche as a reaction to undefined, unrealistic anticipated stressor.

The general term 'dental anxiety' might have diverse meaning in the dental literature, including feeling of apprehension to dental phobia. Dental anxiety relates to the psychological and physiological variations of a non pathological fear response to a dentist's appointment or treatment.¹

The problem of dental anxiety is of paramount importance for several reasons: (a) avoidance causes worse dental health; (b) anxiety and phobia has negative effect on the dentist/patient relationship, may prevent proper dental treatment, and can be a reason for failure or complications of dental procedures; and (c) higher level of anxiety results in stress, such as syncope, hypertension, tachycardia, and cardiovascular accidents.²

Dental anxiety, a problem for many adults, prevents seeking a dentist except emergencies. Through a "vicious dynamic cycle", fear of dental treatment, lower use of dental services and oral health diseases reinforce each other.

LITERATURE REVIEW

A study was done by Akeel FR. (2000)³ regarding educational and behavioral factors. 164 patients (aged 14-

75) randomly selected from the screening clinic of the College of Dentistry. Females showed more fear of instruments and equipment than males.

A study was done by Mehrstedt M et al. (2004)⁴ among 137 patients. Dental fears were reported to be related with oral problems. Women and young people were more anxious.

A Study was done by Mcgrath C et al. (2004)⁵ to find out association between dental anxiety and oral health – related quality of life in Britain. It was a cross sectional study involving a random probability sample of 3000 residents. They were measured on the Corah Dental Anxiety Scale (DAS) and the oral health quality of life which was assessed using UK oral health related quality of life instrument (OHRQoL-UK). Quality of life was twice bad among anxious people.

A study was done by Sam KS et al. (2008)⁶ on the relationship of dental anxiety with oral health status and oral health related quality of life (OHRQoL) among 1000 people aged 25-64 in Hongkong. Patients were asked to complete the Chinese short forms of Dental Anxiety Inventory (SDAxI) and Oral Health Impact Profile (OHIP-14S). DMFT and periodontal status [full mouth clinical attachment level (CAL)] were also assessed. The results showed that people with higher SDAxI were associated with higher DT, MT and DMFT scores and lower FT scores. These people were associated with high CAL scores and poor OHRQoL than people with less SDAxI score.

A study was done by Oosterink FM et al. (2009)⁷ to assess the prevalence of dental fear and dental phobia relative to 10 other common fears among 1,959 Dutch adults, 18-93 yr of age. DSM-IV-TR criteria was used, whereas fears was assessed using VAS scale. The prevalence of dental fear was 24.3%. Among phobias, dental phobia was the most common (3.7%). Fear of dental treatment was associated with female gender.

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A Study was done by Kumar S et al. (2009)⁸ on influence of dental anxiety on oral health related quality of life in Udaipur district, Rajasthan, India. It was a cross sectional study among 15-54 aged 1235 people. Stratified cluster sampling procedure with Corah's Dental Anxiety scale and OHQoL-UK questionnaire was used. The results showed that majority of the females and older individuals showed higher dental anxiety than their male and younger counterparts and females were more likely to have poor OHQoL than males. 2.34 times poor quality life among higher anxious people was reported.

A study was done by Donka G et al. (2010)⁹ to assess dental anxiety in Bulgaria. DAS scale was used. 746 adults aged 18-82 years living in urban areas were interviewed. Moderate anxiety was 35.5%, DAS score: 9-12 points), no anxiety 34.6%, 4-8 points), high anxiety group (18.2%, 13-14 points), severe anxiety (11.7%, 15-20 points). Correlation between anxiety, age ($P < 0.05$), education ($P < 0.05$) and type of labor (manual or mental labor) ($P < 0.01$). No significant difference was found between anxiety and sex ($P > 0.05$).

A study was done Astrom AN et al. (2011)¹⁰ to determine the frequency and development of time trend and socio-behavioral distribution of dental anxiety and regular attendance among 25 years-old in Norway in 1997 and 2007. Random sample of 1190 and 8000 were drawn from three countries of Norway in the year 1997 and 2007 respectively. In 1997, 11.5% males and 23% females reported high dental anxiety (DAS ≥ 13), whereas in 2007 were 11.3% and 19.8%. After controlling confounding factors, the 25-year-olds reported 1.4 times dental anxiety in 1997 compared to 2007.

A study was done by Malvania EA et al. (2011)¹¹ to assess dental anxiety among adult patients attending a dental institution in Vadodara, Gujarat. 150 patients who were attending the outpatient department were selected for the study. 46% of the participants reported dentally anxiety. Females, participants residing in villages had more anxiety compared to their counterparts. However, those subjects who had past negative dental experience were found to be significantly more anxious.

A study was done by Humphris G et al. (2011)¹² to assess the high dental anxiety across Dutch adults. University students from the UK ($N = 1024$) finished the MDAS scale, and the Level of Exposure-Dental Experiences Questionnaire (LOE-DEQ). Odds ratios (OR) calculated to assess dental anxiety. The percentage with high dental anxiety (HDA) (total MDAS score ≥ 19) was 11.2%. Study concluded that trauma from various past experiences may be implicated in an increased risk of high dental anxiety.

A cross-sectional study was done by Gisler V et al. (2012)¹³ to assess dental anxiety and quality of life in Switzerland. The measurements was done by DAS anxiety scale, OHIP-14 and VAS scale. Out of 223 patients were 78.9% were at 50 age or above. 3.55 times

poor quality of life among high anxiety people was reported.

A study was done by Nicolas et al. (2012)¹⁴ to assess dental anxiety among French adults. 2725 adults (mean age = 47 years), finished a French (DAS) and a questionnaire relating to their dental appointments. Dental anxiety was 13.5%. Farmers, low skilled workers reported more anxiety than executives and shopkeepers ($P < 0.001$). Anxiety correlated with avoidance of care ($p < 0.001$) and lack of dental visits ($p < 0.001$).

A study was done by Boman UW et al. (2012)¹⁵ to assess oral health quality of life and sense of coherence affecting dental anxiety. Oral examination of 500 women in Gothenburg, Sweden between 38 and 50 years of age in the year 2004-05. The survey included oral health-related quality of life, sense of coherence, and dental anxiety. High dental anxiety and low sense of coherence explained low oral health quality of life. Dental anxiety and sense of coherence reported an inverse relationship with regard to oral health quality of life.

A study was done by Shet RG et al. (2013)¹⁶ to find out the relationship between oral health r quality, dental anxiety and depression. The study was carried among 101 subjects in the age group 20-40 years Bhopal district, Madhya Pradesh. They were assigned a questionnaire. Questionnaire assessed socio-demographic data, dental visiting habits, OHqOL, general health, hospital anxiety and depression questionnaire. Dental anxiety and depression was measured by Hospital Anxiety and Depression Scale No significant gender variations were seen.

A UK population survey was done by Humphris G et al. (2013)¹⁷ to assess dental anxiety and to provide mean and prevalence estimates of this psychological construct. Among 7,233 households, 13,509 adults participated. Dental anxiety was 11.6%. The scale's psychometrics is supportive for the routine assessment of patient dental anxiety and to compare against a number of major demographic groups categorized by age and sex.

A study was done by Syed S et al. (2013)¹⁸ to assess the dental anxiety and to assess its correlation with dental status and treatment needs. Study included 32 adult patients in the age group 18 and 35 years. Among 704 patients dental anxiety scale score was 12.46, representing high anxiety score. There were 174 (26.8%) smokers; only 234 (36%) had visited a dentist less than a year ago; 385 (59.2%) reported their dental health to be satisfactory.

A study was done by Sghaireen MG et al. (2013)¹⁹ to assess dental anxiety among university students and its association with their specialty and gender. 850 undergraduate university students were recruited into the study. MDAS was used to measure dental anxiety. Out of 700, 390 were females. Local anesthesia injection was the most fear provoking dental treatment ($p < 0.05$). Females were more and medical background people were more anxious than their counterparts.

A study was done by Khraisat H et al. (2013)²⁰ to assess dental anxiety and its association with caries prevalence. Among 500 Jordanian adult dentate patients, (265 males, 235 females) in the age group 19 and 55 years. Data were collected through a questionnaire that was based on the Modified Dental Anxiety Scale. Patients were examined (DMFT) index. dental anxiety score was 11.06 for the younger age group and reduced to 8.64 for older adults. Dental needle was the most fearful stimulus in a clinical setting for both genders followed by drilling of a tooth. High anxiety group reported a mean decay component 3.16 against 2.05 of low anxiety.

A study was done by Tang Y et al. (2013)²¹ to assess dental anxiety among a total of 1266 adults in the year 2010-2012. Modified Dental Anxiety Scale was used to evaluate dental anxiety and other factors. The prevalence was 61.37%, and it was more likely to occur among female patients and participants with lower education level ($P < 0.05$).

A study was done by Yuzugullu B et al. (2014)²² to assess fear and anxiety in dental patients. 500 patients were evaluated using the Modified Dental Anxiety Scale and the Dental Fear Scale, along with a questionnaire. Oral health status was assessed using (DMFT)/ (DMFS) index. Sex, marital status, having children, and time elapsed since last visit to clinician affected dental fear ($P < .05$) but DMFT/DMFS was not correlated.

CONCLUSION

The general notion is that dental anxiety can lead to avoidance, resulting in irregular dental care and utilization and delay in seeking necessary treatment which has an adverse effect on oral health. Dental anxiety was more prevalent in females, the psychological variations in withstanding stress and anxiety could explain this. Oral health and quality of life was negatively affected in terms of caries experience, oral hygiene status and other periodontal measurement scales. Dental anxiety need to be addressed from the very first visit of patients.

REFERENCES

- Bhola R, Malhotra R. Dental Procedures, Oral Practices, and Associated Anxiety: A Study on Late-teenagers. *Osong Public Health Res Perspect*. 2014 Aug;5(4):219-32.
- Locker D, Liddell A: Clinical correlates of dental anxiety among older adults. *Community Dent Oral Epidemiol*. 1992; 20: 372-375
- Akeel RF, Abduljabbar A; Dental anxiety among patients attending King Saud University, College of Dentistry Saudi Dental Journal, V6I. 12, No. 3, 2000.
- Mehrstedt M, Tönnies S, Eisentraut I; *Anesth Prog*. 2004; 51(3): 90-94
- McGrath C and Bedi R. The association of dental anxiety and oral health related quality of life in Britain. *Community Dent Oral Epidemiol* 2004;32:67-72
- Sam KS, Leung K. A community study on the relationship of dental anxiety with oral health status and oral health quality of life. *Community Dent Oral Epidemiol* 2008; 36: 347-356
- Oosterink FM, De Jongh A, Hoogstraten J. *Eur J Oral Sci*. 2009 Apr;117(2):135-43.
- Kumar S, Bhargav P, Patel A, Bati M, Balasubramanyam G, Duraiswamy P, Kulkarni S. Does dental anxiety influence oral health related quality of life? Observation s from a cross sectional study among adults in Udaipur district, India. *Journal of oral science*. vol. 51(2);245-254, 2009.
- Donka G, Dimitar T, Christinka K ; *Dental Anxiety In Adults In Bulgaria Folia Medica* 2010; 52(2): 49-56
- Astrom AN, Skaret E, Haugejorden O. Dental anxiety and dental attendance among 25-year-olds in Norway: time trends from 1997 to 2007: *BMC Oral Health*. 2011; 11: 10.
- Malvania EA, Ajithkrishnan CG; Prevalence and socio-demographic correlates of dental anxiety among a group of adult patients attending a dental institution in Vadodara city, Gujarat. *Indian journal of dental research*, 22(1), 2011.
- Humphris G; The prevalence of dental anxiety across previous distressing experiences : *Journal of Anxiety Disorders Volume 25, Issue 2, March 2011, Pages 232-236*
- Gisler V, Bassetti R, Mericske-Stern R, Bayer S, Enkling N. *Gerodontology*. A cross-sectional analysis of the prevalence of dental anxiety and its relation to the oral health-related quality of life in patients with dental treatment needs at a university clinic in Switzerland. 2012 Jun;29(2):
- Nicolas E, Collado V, Faulks D, Bullier B, Hennequin M: A national cross-sectional survey of dental anxiety in the French adult population *BMC Oral Health* 2007, 7:12
- Boman UW, Wennstrom A, Stenman U, Hakeberg M; Oral health-related quality of life, sense of coherence and dental anxiety: An epidemiological cross-sectional study of middle-aged women: *BMC Oral Health* 2012, 12:14.
- Shet RG, Jain G, Maroli S, Srivastava KJ, Kasina SP, Shwetha GS. Association of oral health related quality of life with dental anxiety and depression along with general health among people of Bhopal district, Madhya Pradesh. *J Int Oral Health* 2013; 5(6):1-8
- Humphris G, Crawford JR, Hill K, Gilbert A, Freeman R. UK population norms for the modified dental anxiety scale with percentile calculator: adult dental health survey 2009 results. *BMC Oral Health*. 2013 Jun 24;13:29.
- Syed S, Bilal S, Dawani N, Rizvi K. Dental anxiety among adult patients and its correlation with self-assessed dental status and treatment needs. *J Pak Med Assoc*. 2013 May;63(5):614-8.
- Sghaireen MG, Abdalwhab MA, Ibrahim AA, Sadeq M; Anxiety due to Dental Treatment and Procedures among University Students and Its Correlation with Their Gender and Field of Study.; *International Journal of Dentistry Volume 2013, Article ID 647436, 5 page*
- Khraisat H ; Dental Anxiety and Its Possible Effects on Caries Prevalence among a Group of Jordanian Adults . *JRMS June* 2013; 20(2): 26-31
- Tang Y, Zhu YQ: Survey and analysis of dental anxiety in adult outpatients. *Shanghai Kou Qiang Yi Xue*. 2013 Dec;22(6):695-7
- Yüzügüllü B, Gülşahi A, Celik C, Bulut S: Dental anxiety and fear: relationship with oral health behavior in a Turkish population. *Int J Prosthodont*. 2014 Jan-Feb;27(1):50-3.

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