

Psycho-Behavioral Particularities in Dental Anxiety

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Abstract

Dental anxiety is commonly seen among population, generating serious disorders of the teeth due to avoiding visits to the dentist. Some of the patients suffer from the disease called dentophobia and they often make troubles to dentists in their therapeutic approach, by difficult to control characteristic of specific triggers reactions in dealing with anxious stimulus. Adequate informed about fears trigger causes and their managing ways can lead to the resolution of these problems and, at the same time, increasing the quality of life.

Keywords: anxiety, dentophobia, orodental diseases, therapeutic methods

Concerns for the education and the adoption of a healthy lifestyle in order to improve the quality of life are necessary while permanent information covering the risk factors pertaining to lifestyle and on-going attempts in order to change attitudes and behaviors represent the main objective of health programs promotion. In dentistry, studies have highlighted the importance of communication for health using media, currently being the most important and prevalent source of mass media. Messages transmitted via advertisements must take into account the demographic aspect and the lifestyle of the recipient, on the one hand, but also how information is decoded by the patient, being desirable to use an accessible language, which does not result into confusion and the inability to lose information due to their incomprehension. However, it should be noted the fact that not only a lack of adequate information influences on the dental practice addressability, but also other factors, such as economic or psychological ones. Research has revealed that one of the most important factors that determine visit avoiding at the dentist is the dental anxiety. This constitutes a barrier hard to overcome to dental services access and a major problem with which practitioner often faces.

Dental anxiety has a powerful impact on the quality of life, delaying the moment of referral to the physician and, consequently, contributes to the worsening of dental diseases (caries, gingival bleeding, loss of teeth, periodontitis, etc.). For some people only the thought that they will pay a visit to the dentist can lead to a terrifying experience which, surely, it will make them to do anything to avoid the dentist interventions. Therefore, the identification of these persons before starting treatment will guide the dentist to adopt an attitude of understanding, in order to relieve anxiety and further on to obtain therapeutic compliance. Here's a questionnaire conceived by Kleinknecht (1) in order to precisely follow the fear of the dentist. It contains 20 items and it can self-administrate. Items were selected to obtain information on the anxiety stimuli, physiological reactions and tendencies to avoid dental treatment. Administration and scoring: Respondent subjects have a 5 steps scale to describe each item in terms of the intensity. The scores obtained for each item shall be aggregated to calculate an overall score that can range from 20 to 100. It can also be calculated 3 subscale: the scores sum obtained at the items no. 1, 2, 8, 9, 10, 11, 12, 13 and 20 indicates the tendency to avoid dental treatment, as well as anticipatory anxiety of it; the scores sum obtained at items no. 14-18 shows the reaction of fear in front of the actual stimulus, and the sum of the items no. 3-7 measures the physiological reaction that a subject has during dental treatment.

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The score can vary from 9 to 45 for the first subscale and from 5 to 25 for the other 2 subscales. The greater obtained score is, the more it indicates a greater degree of anxiety.

Inventory to Assess Anxiety to Dentist

'The items in this questionnaire are related to different situations, emotions and reactions to dental treatment. Please score your responses depending on their intensity.'

1. Fear of dental treatment ever determined you to postpone making an appointment: 1p - never; 2p - once or twice; 3p- several times; 4p - often; 5p - almost every time.
2. Fear of dental treatment ever made you cancel or not showing to an appointment: 1p - never; 2p - once or twice; 3p- several times; 4p - often; 5p - almost every time.
3. During dental treatment I become tense, my muscles contract: 1p – at all; 2p – a little; 3p – kind of; 4p - enough; 5p – very much.
4. Breathing rate increases: 1p – at all; 2p – a little; 3p – kind of; 4p - enough; 5p – very much.
5. I sweat: 1p – at all; 2p – a little; 3p – kind of; 4p - enough; 5p – very much.
6. I feel bad nausea and stomach: 1p – at all; 2p – a little; 3p – kind of; 4p - enough; 5p – very much.
7. My heart beats faster: 1p – at all; 2p – a little; 3p – kind of; 4p - enough; 5p – very much.

Below you have a list of situations that are fear and anxiety generating for many people. Each situation is scored from 1 to 5, considering that 1 means no anxiety situation and 5 is the maximum level of anxiety.

8. Make an appointment at the dentist
9. Get closer to the dental practice
10. Sit in the waiting room
11. Sit on the dentist chair
12. Smell the specific dental practice odor
13. See the dentist entering the room
14. See the anesthesia needle and syringe
15. Feel the needle
16. See the drill
17. Hear the drill
18. Feel the drill' vibrations
19. Enduring scaling, the process of teeth cleaning
20. Considering all these situations, how hard does dental treatment scare you in general?

The Causes of Dental Anxiety Apparition

Questioning patients, specialists (2) found several common reasons, such as:

- Pain: causing major intensity fear to 6% of patients, especially in adults aged over 24 years. This fear may be the result of bad experiences in the past, or it appears as a result of disclosures made known of acquaintances, who described the procedures to be unbearable.
- Lack of control: patients feel they can not control dentist interventions, so they can not intervene when the pain is intense because they have to sit still or they can not predict what the doctor will do next. Therefore, information on procedures is important and it can lead to patient relaxation.
- Embarrassment to the dentist: it occurs mainly in people who are concerned for their physical appearance. The mouth is an intimate part of the body, hence, some people feel embarrassed when a stranger looks inside their mouth.
- Past unpleasant experiences: pain, psychological discomfort, etc.
- Negative expectations about the success of surgical act: implants, extractions, bone addictions, etc.
- Drill noise: this noise may be associated with a "sharp" unbearable pain that the patient will have to bear.
- Bleeding gums: some people have a special sensitivity when they see blood, in some cases the doctor facing blackouts appearance.
- Fear of accidents occurrence: incorrect handling of the doctor, anesthetic triggering allergies.

These problems cause an avoidance behavior about visiting the dentist, based on fear, fear of any intervention, up to the emergence of anxiety, often accompanied by panic attacks and even the development of specific phobia of medical interventions and procedures (3). Dental phobia and anxiety are common.

In one of the studies on the subject, it reveals that 36% of respondents say that fear is what causes them not to go to the dentist on a regular basis (4).

Phobia Versus Anxiety

These terms are often considered as having the same meaning. However, please note that events are different in terms of the intensity of symptoms. People with dental anxiety feel agitated, tensioned and embarrassed before going to the dentist. They worry, exaggerate, fearing without no real reason, yet, often exceeding difficult moments, managing to "accept" the benefits of dental treatment. In phobias, people feel intense fear, become terrified, and suffer from panic attacks when confronted with anxious situation. Not infrequently, these subjects faint when they are in a medical practice. Fear of physical pain, the occurrence of physical deformities, blood and injections determine them to give up treatment, increasing the risk of gum disease and premature loss of teeth (5). This avoidance has negative effects on the psyche, as discolored or decayed teeth lead to loss of confidence in us. Teeth unpleasant appearance makes people to smile less, partially open their mouth and to difficult express themselves. Phobia is installed gradually as a result of repetition of experiences more or less anxious or through conditional or social learning. Sometimes, this conditioning is fixed during periods of high stress or hyperactivity intervals when reactions characterized by fear are easily learned (6).

Peculiarities of Specific Phobias

I. Holdevici (7) shows that phobia is an excessive and persistent fear towards an object or a situation, generating irrational desire of the subject to avoid those situations. Phobias are fears of maladaptive character which distort the ordinary lives of subjects.

Specific phobias are illustrated by:

1. Manifestation of a sharp and persistent fear about the presence or anticipation of the specific object or situation occurrence that, for most people, do not have an anxious nature.
2. Exposure to the stimulus, which is subject to phobia, causes increased anxiety that can progress to the intensity of a panic attack.
3. The subject recognizes that his fear is excessive and irrational.
4. Phobic situation is avoided or endured with excessively strong anxiety and discomfort.
5. Reactions of anxious situation avoidance, as well as discomfort felt by the subject, has a negative influence on daily, employment, social and relational individual life suffering because of his problem.

Symptoms of Dental Anxiety

1. Physiological symptoms: tachycardia, sweating, tremor, rapid breathing, blood pressure or, on the contrary, muscle weakness, tingling in the stomach, nausea, choking, etc. These symptoms are associated with panic attacks.
2. Behavioral symptoms: feeling that the subject is "petrified" or the tendency to run away.
3. Subjective symptoms: varying from one subject to another and include thoughts like "he could hurt me", "some dentists are careless, they can make mistakes" and affective symptoms, such as anger, shame, fear and anger.

These symptoms lead to avoidance reaction that they do not prevent their disappearance, but even more, causing new symptoms, such as anticipatory anxiety, danger apprehension and frustration (8). Subjective reactions include thoughts like "I'm gonna lose control," "I'm gonna faint", "that's awful", "I can not cope", "I should get out of here."

Methods of Reducing Dental Anxiety

Although the techniques used by dentists have considerably evolved and most of the procedures are now easier to bear, even painless, many people still postpone visiting the dentist. Typically, women are more fearful; more than 54% of those surveyed become more agitated and nervous the day before going to the dentist, and 57% say they are downright appalled while waiting to enter the dental practice. About 19% suffer from extreme anxiety, hence, some refuse to make an appointment at the dentist, reveals Daily Mail (9). The number of anxious women is double than that of men. The survey conducted in the UK on 18,000 subjects emphasizes that men are anxious and nervous, as well, but a large number of refuse to acknowledge this.

Therapeutic methods include proper identification of factors (conditions) that maintain the symptoms. If dental experiences were "horrific", it is indicated that the doctor to be informed about the patient's fears and feelings since this could help to overcome them by changing the method of treatment or recommending a psychologist (10). One of the methods of psychotherapy is gradual exposure to the stimuli that cause fear. Systematic desensitization is based on the assumption that wrong behavior learned can also be unlearned. Patients' resources may be an important factor in the evolution of treatment. The therapist should inform about adaptive strategies that the patient used before, because some of them may be adaptive in nature and could be incorporated into treatment (11). Another strategy is to identify factors that tend to moderate the level of experienced anxiety. The therapist should guide the patient to find a way to get closer to anxious stimuli and overcome subtle maneuvers of avoiding them (12).

Techniques for anxiety control

- a. Relaxation is particularly suitable with somatic symptoms of anxiety.
- b. Tension directed is especially recommended to subjects with blood phobia when signs of reduced blood pressure are being identified (subjects will tighten voluntarily the muscles for 10-15 seconds, then, they return to normal).
- c. Distraction technique is used for short-term and implies moving focus toward external stimuli.
- d. Identifying negative thoughts and finding new alternative thoughts.
- e. Playing character role useful especially in children (who can be encouraged to play the role of the doctor treating a doll).
- f. Hypnotherapy: inducing relaxation and hypnotic analgesia installation.

To facilitate the visit to the dentist, a Britishman has developed a device that filters out the noise, so that the patient no longer will hear drill noises. Furthermore, the device also allows patients listening to music on MP3, at the same time allowing them to hear the dentist, virtually eliminating only drill noise (13). Music therapy is a method with broad potential application, acting as an analgesic and anxiolytic, by inducing relaxation and distraction from noxious stimuli, thereby reducing the stress caused by dental treatment procedures. According to the authors Mc Caffry and Good (2000), cit. Iorgulescu, G. (14), music action is felt psychologically by creating three perceptive ways: a) sensation of familiarity in a foreign environment; b) sensation of comfort in an uncomfortable situation; c) attention's diversion from pain and fear. Depending on the targeted objective, as "audio-analgesia" or "audio-anxiolytic" (15), there are recommended repetitive dynamic rhythms, harmonic consonance, Baroque or Classical styles (with low sounds of strings), relaxing meditative compositions (Debussy or Vangelis), with no percussion instruments (16). For this reason has specially been designed CDs (such as Dental Anxiety Cure) to facilitate the circulation of subliminal messages into patients subconscious (14). Listening to music is performed throughout the whole dental procedures, usually into headphones and occasional medical intervention aims to inform the patient about his wishes, but music therapy effects' assessment as well.

Global assessments in dental practice highlight the music therapy's benefits as a triad:

1. Anxiolytic / relaxing effect.
2. Distracting attention from external stimuli (noise, dental procedures, etc.)
3. Analgesia effect (decreasing pain by secretion of endorphins).

In conclusion, music therapy contributes to the comfort emergence, an easy collaboration with the dentist and a greater efficiency of medical treatment.

Dental Anxiety in Children

Visits to the dentist are unpleasant experiences for children, but eliminating the stress factors in dental practices or waiting rooms can significantly reduce anxiety in little patients. A study by Dr. Michele Shapiro of "ISSI Shapiro" Educational Center and his colleagues of the University of Israel involved a group of 35 children, aged 6 to 11, concerning dental anxiety, revealed the importance of the environment in which medical procedures are applied (17). Thus, a favorable environment created by replacing fluorescent light above the dental chair with a small lamp which projects light directly into the child's mouth, a chair that transmits light vibrations and a soft soothing music broadcasted noticeably decreased anxiety levels at the second visit, and fear episodes duration falling from 3.69 min. to 1.48 min. By such methods it is hoped to give up soon to the abuse of sedatives and other invasive procedures. Changing attitudes of avoiding visits to the dentist dental practice and adopting sanogenetic behaviors and skills contribute to preventing the onset of oral-dental diseases, ensuring physical, mental and social comfort.

Bibliography

- Kleinknecht, R.A., Klepan, R.K., & Alexander, L.D., (1973), Origins and characteristics of fear of dentistry, *Journal of the American Dental Association*, 86, 842-848;
- Eli, I. (1992), *Oral psychophysiology: stress pain and behavior in dental care*, Boca Raton, FL: CRC Press.
- Corah NL, Gale EN, Illig SJ., Assessment of a dental anxiety scale. *JADA* 1979, 97(5):816-819.
- Filewich, R.J., Jackson, E., & Shore, H.(1981), Effects of dental fear on efficiency of routine dental procedures. *Journal of Dental Research*, 60(A), 533.
- Iamandescu, I.B., Aspectele psihosociale ale durerii. Vo. Rezumate – a doua Conferință Națională a Societ. Rom. Psihosom. Aplicată și Med. Comportamentală. Buzău, 2007, pp 23-25.
- Hofman, P.M., Van Riswick, J.G.A.& Van Opstal. A.J.(1998), Relearning sound localization with new ears. *Nature Neuroscience*, 1(5), 417-421.
- Holdevici, I., Psihoterapia cognitiv-comportamentală. Managementul stresului pentru un stil de viață sănătos. Ed. Științelor Medicale, București, 2005;
- Iorgulescu, G., Cap. “Psihosomatica Dentară”, 411-419, Psihosomatica aplicată (ed. I.B.Iamandescu), Ed. Infomedica, București, 2009. <http://www.unibuc.ro>
- Iamandescu, I. B., Psychoneuroallergology Romcartexim, Bucuresti, 1988
- Howitt JW, An evaluation of audio-analgesia effects. *J Dent Child* 1967;34(5):406-411.
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2175433>
- Cooke, M., Chaboyer, W., Schluter, P.,& Hiratos, M. (2005), The effect of music on preoperative anxiety in day surgery. *Journal of Advanced Nursing*, 52(1),47-55.
- Iorgulescu, G., Cap. Stomatologie / Utilizarea Muzicoterapiei în practica medicinei dentare, 547-552; Muzicoterapie receptivă, ediția a II-a (ed. I.B.Iamandescu), Ed. Fundația”Andrei Saguna”, Constanța, 2011.
- Verdeau-Paillés, J., Le bilan psychomusical, Ed. Fuzecen, Paris, 1985
- Iamandescu, I.B., Muzicoterapie receptivă, Ed. Infomedica 2004, București.
<http://www.eva.ro/sănătate>