

ON PSYCHOLOGICAL DISTRESS AND FEAR OF DENTISTRY

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Abstract

Anxiety and fear are normal reactions in humans when situations are evaluating as being painful. In medical dentistry, anxiety and fear characterize in fact a problematic patient with special reactions during dental interventions and avoidance behavior, both behaviors having a great impact on patient's dental health. The paper presents some aspects on the psychological profile of odontophobics, causes and consequences of dental fear on patient's dental health, and some considerations on psychological interventions meant at reducing anxiety and fear during dental treatment.

Keywords: *psychological distress, fear, dentistry, children, patient, adult.*

1. INTRODUCTION

The terms of dental anxiety (appreciated by self-report scales) and/or dental phobia (described by criteria present in psychiatric manuals) are often used as synonyms referring to the same problem. It is about a patient having a severe anxiety regarding dental care and a behavior pattern of avoiding dental interventions.

Dental anxiety has been reported to be around 20% in population, and severe phobia (including avoidance behavior) has been related in 5% of general population. Regarding the population suffering from severe dental fear, studies are pointing some results important for identifying causes and suggesting treatments. A study of Moore *et al.*, in which 208 patients with a high rate of dental fear were questioned, showed that 66% of them suffer from social embarrassment about their dental fear and their inability to solve this problem [1]. Anxiety and fear are probably the most significant predictors for dental behavior management difficulties and also the most important factors in self-evaluation of pain. Dental fear leads to poor dental health and consequently reduces life quality.

2. PSYCHOLOGICAL PROFILE OF ODONTOPHOBICS

Dental anxiety seems to be linked to self-pain reports. The studies focusing on the relation between different kinds of fear identified some possible components of the dental fear construct. Among them, fear about social contact, pain, mutilation and the lack of comfort determined by the closeness between doctor and patient.

People who experienced pain during dentistry treatments are more likely to react as being into a painful situation again, even if there is no dental intervention. Painful situations are usually unpredictable as to their intensity, duration and consequences. Some studies focusing on pain prediction proved that underpredicted pain is followed by an increase in predicted pain, while overpredicted pain is followed by a decrease in predicted pain; accurate predictions do not lead to changes in predictions [2-4]. Such studies are important for clinical practice, where medical interventions are causing different levels of physical distress, their results proving that clinical pain is determined by the tendency to overpredict pain and is related to an avoidance behavior [5].

Subjects fighting with some severe level of fear and continuously avoiding medical treatment are finally suffering from a bad condition of their teeth. The worse is their teeth condition, the more intense and painful is the intervention.

Anxious subjects are usually expecting more pain and fear than they experienced during dental treatments, whilst anxiety experienced during interventions seems to be the most important variable that feeds the reaction. Painful experiences will bring up memories to the surface

with appropriate intensity [6] and, even if anxious patients will not experience more pain during subsequent treatments, they will feel more distress than fearless patients.

Many studies focused on identifying the personality traits involved in anxiety and fear during dental interventions. Most of them proved that neuroticism seems to be the only variable involved in dental fear. Lower tendency, even if not significant, was seen between lower extraversion and agreeableness, and high dental fear [7]. People suffering from dental anxiety have been reported as more sensitive to dental stimuli, more likely to manifest avoidance behavior and tendency of somatisation, compared to normal population [8].

The health state of dentition is easy to be measured, being described by satisfaction with appearance, pain levels, oral comfort, general performance and eating capability. The daily living score is influenced by patient's satisfaction with dentition, which seems to be linked to neuroticism, extraversion and openness [9].

3. CAUSES

The origins of dental anxiety are not completely elucidated, however some causes are identified on odontophobics [10]:

- painful experience during childhood and adolescence (the study of Moore mentions that about 84% of the patients with high rate of dental fear explain the problem by their traumatic dental experiences, and 70% of them are identifying the moments as happening during childhood) [1];

- personality traits (for example, neuroticism);
- ideas transmitted from parents and peers (for example, a child not having her/his proper dental hygiene on time is told that she/he will be brought to the dentist, so that the association between dentist and something good is going to decrease);

- the behavior of the dentist (verbal and physical behavior);

- painful and unpleasant treatment during childhood;

- unexpected behavior or unexpected treatment (the child is not prepared to suffer dental intervention).

A study of Kleinknecht identified the most frequent fear stimuli and reactions associated with dentistry treatment and routine, the most common ones being: the sight of the anesthetic needle, the sound and sensation of the drill [11]. Another study identified some other causes, in the following order: the most important is the painful treatment, followed by drilling, ignorance of what will happen, injections, extractions, rude dentist, general fear of doctors, shame about their teeth condition, stories of the others, instruments, faulty treatment [6].

4. GENDER DIFFERENCES

Some studies stated gender differences in relation with the psychological distress caused by dentistry treatment, focusing on fear of treatment, fear of pain and fear of being closed-in with the doctor.

It seems that women are more likely to rate themselves as being afraid, compared to men [11,5]. On one hand, this involves women's capacity of evaluating emotions and, on the other, the fear of being mutilated (considering that the physical aspect is important for a having a high-level body image satisfaction and self-esteem). Some studies are proving that fear of mutilation is the strongest determinant of dental fear. No gender differences were reported between men and women regarding the fear of pain or fear of being closed-in [12].

Perets *et al.* stated that girls register higher rates of anxiety than boys and that the most anxious stimuli for adolescents involve seeing of and feeling the needle [13].

In several studies measuring the level of fear in 3,670 adults, Vassend reported that between 20 and 30% of the investigated subjects rated their last dental visit as moderately painful or worse, about 60% reported having had at least one very painful experience, and 5-6% experienced dental treatment in general to be very painful [14,15].

5. AGE DIFFERENCES

Townend *et al.* [16] observed that child's fear of dental treatment is more strongly correlated with previous subjective experience of pain than with objective dental pathology. Fear-related behaviors in children seem to decrease in case of an appropriate attitude of the dental staff: an empathic working style, a comfortable level of physical contact that provides trust and assures the relationship between doctor and child, and verbal reassurance.

Other studies proved that children and adolescents are more interested in body image and self-esteem, while their parents appreciate the results referring to self-image, oral functions and social life more than children do [13]. Also, a study of Brown and Moerenhout devoted to the differences among preadolescents, adolescents and adults regarding pain experience and psychological adjustment to orthodontic treatment showed that adolescents are the most vulnerable ones, reporting lower levels of psychological well-being and higher pain levels. The research concludes that age differences in the adjustment of orthodontic treatment should be taken into consideration during dental interventions [17].

6. CONSEQUENCES OF DENTAL PSYCHOLOGICAL DISTRESS

Negative consequences have been reported in:

- physical distress due to the bad condition of teeth. The avoidance behavior is leading to deterioration of dental health, inducing pain due to the bad condition of teeth and a higher perceived rate of fear and pain during intervention;

- psychological distress (apart from the anxiety level, people became less satisfied about their body image and the level of self-esteem is reduced);

- personal relationship (embarrassment caused by the poor oral health has consequences on intimacy and couple relationship);

- social relationship (patients are more and more ashamed about their oral health condition, so that they come to avoid relationship with

colleagues, keep distance between partners during conversation, cover their mouth while laughing, use chewing-gum or other ways to refresh the smelling breath; also, poor involvement in the social context and an increasing number of absences of work are presented by some studies) [18,19];

- life quality (psychological and physical well-being record lower rates) [20].

7. THERAPY

Dental anxiety can lead to a high level of psychological distress and a higher rate of dental impairments. In order to reduce dental anxiety and avoidance, some techniques were developed for identifying the best practices that can lead to better coping. Among them, good results were registered in cognitive-behavioral therapy, relaxation training, premedication, music distraction, hypnotherapy, acupuncture, sedation, and use of some oil scent (for example, lavender).

A study of Gordon *et al.* showed that the most efficient type of therapy is the cognitive-behavioral one. Other types of cognitive therapies, relaxation and the techniques used to increase patient's sense of control proved to have good results only when combined with gradual and repeated exposure [21]. Some techniques present a lot of risks. For example, exposure-based behavioral treatments could increase the level of anxiety and conventional treatment under sedation or anesthesia, being associated with certain difficult medical situations, even mortality, the rate being 1:100,000 cases of general anesthesia [22,23].

The most efficient therapy seems to be the cognitive one; however, most of the studies established no important differences between sedation and cognitive therapy. In a study of Kebriaee *et al.*, no important differences were evidenced between sedation and this kind of psychological therapy, both methods being effective in reducing children's anxiety. Nevertheless, considering the possible adverse effects of nitrous oxide and oxygen inhalation sedation, doubled by the necessity of an equate medical equipment and a well-trained medical

staff, cognitive-behavioral therapy seems to be preferred [24,25]. Also important is to point out the free-cost of this therapy, so benefits are on both sides (dentist and patient).

8. RECOMMENDED PRACTICES FOR STOMATOLOGISTS

The efficiency of dental interventions is not measured only by the professionalism of doctors about medical techniques and results, it is also about their capacity of not increasing the level of anxiety and fear and of maintaining patient's dental health (one of the factors here involved being patient's availability to have a dental control with optimum frequency and not only when pain is announcing a severe dental problem). Consequently, medical skills must be doubled by psycho-pedagogical abilities. For the patient, psychological well-being will increase the rate of physical well-being, as a serene patient is easier to work with. In order to create a good relationship with the patient during dental interventions, studies are pointing out some important aspects, such as:

- good verbal skills reinforce the patient and create a relaxing atmosphere. The doctor should be a good listener, capable to identify in patient's verbal describing some possible fears and expectations, and to point out the advantages for patient's daily living (most of the benefits depending on age, psychological profile, expectations and gender),

- empathy, meant at predicting patient's reactions, namely to understand behind words, to "read" every verbal or physical reaction and to adjust the behavior for reducing psychological and physical distress,

- physical contact, in order to offer comfort to the patient. Some studies state that the medical staff that use adequate physical contact are more likely to be pleased and create a good relationship with the patient. Patients touched by the staff are more disposed to perceive a sense of care, whereas those not touched viewed the nurse as only wanting to get their job done [26]. Caring and touching are antagonistic to fear; the patient is not a sophisticated consumer of technical knowledge and, within limits, "people don't care

how much you know, they only know how much you care" [27].

9. CONCLUSIONS

A good patient management is the clue of any dental treatment. An emphatic working style, an adequate physical contact between doctor and patient and a constant verbal reassurance seem to be the best ways to avoid anxiety among dental patients and future negative expectations, especially in childhood. Because dental anxiety has consequences, in time, on patient's dental health and may lead to avoidance behavior, it is important to develop communication skills and to offer good training in cognitive-behavior therapy to dental medical students.

References

1. Moore R, Brødsgaard I, Rosenberg N. The contribution of embarrassment to phobic dental anxiety: a qualitative research study. *BMC psychiatry*. 2004;4(1):10.
2. Arntz A, Lousberg R. The effects of underestimated pain and their relationship to habituation. *Behav Res Ther*. 1990; 28(1):15-28.
3. Arntz A, Van den Hout MA. Generalizability of the match/mismatch model of fear. *Behav Res Ther*. 1988;26(3):207-23.
4. Rachman S, Lopatka C. Accurate and inaccurate predictions of pain. *Behav Res Ther*. 1988;26(4):291-6.
5. Kleinknecht RA, Klepac RK, Alexander LD. Origins and characteristics of fear of dentistry. *J Am Dent Assoc*. 1973;86(4):842-8.
6. Arntz A, Van Eck M, Heijmans M. Predictions of dental pain: the fear of any expected evil, is worse than the evil itself. *Behav Res Ther*. 1990;28(1):29-41.
7. Halonen H, Salo T, Hakko H, Räsänen P. Association of dental anxiety to personality traits in a general population sample of Finnish University students. *Acta Odontol Scand*. 2012;70(2):96-100.
8. Kaufman E, Bauman A, Lichtenstein T, Garfunkel AA, Hertz DD. Comparison between the psychopathological profile of dental anxiety patients and an average dental population. *Int J Psychosom*. 1991; 38(1-4):52-7.
9. Karasneh J, Al-Omiri MK, Al-Hamad KQ, Al Quran FA. Relationship between patients' oral health-related quality of life, satisfaction with dentition, and personality profiles. *J Contemp Dent Pract*. 2009;10(6):E049-56.
10. Wardle J. Fear of dentistry. *Brit J Med Psychol*. 1982;55(2):119-26.
11. Kleinknecht RA, Bernstein DA. The assessment of dental fear. *Behav Ther*. 1978;9(4):626-34.

12. McNeil DW, Berryman ML. Components of dental fear in adults? *Behav Res Ther.* 1989;27(3):233-36.
13. Peretz B, Efrat J. Dental anxiety among young adolescent patients in Israel. *Int J Paediatr Dent.* 2000;10(2):126-32.
14. Vassend O, Røysamb E, Nielsen CS. Dental anxiety in relation to neuroticism and pain sensitivity. A twin study. *J Anxiety Disord.* 2011;25(2):302-8.
15. Vassend O. Anxiety, pain and discomfort associated with dental treatment. *Behav Res Ther.* 1993; 31(7):659-66.
16. Townend E, Dimigen G, Fung D. A clinical study of child dental anxiety. *Behav Res Ther.* 2000;38(1):31-46.
17. Brown DF, Moerenhout RG. The pain experience and psychological adjustment to orthodontic treatment of pre-adolescents, adolescents, and adults. *Am J Orthod Dentofacial Orthop.* 1991;100(4):349-56.
18. Armfield JM, Stewart JF, Spencer, AJ. The vicious cycle of dental fear: exploring the interplay between oral health, service utilization and dental fear. *BMC Oral health.* 2007;7:1.
19. Locker, D. Psychosocial consequences of dental fear and anxiety. *Community Dent Oral Epidemiol.* 2003;31(2):144-51.
20. McGrath C, Bedi R. The association between dental anxiety and oral health-related quality of life in Britain. *Community Dent Oral Epidemiol.* 2004;32(1):67-72.
21. Gordon D, Heimberg RG, Tellez M, Ismail AI. A critical review of approaches to the treatment of dental anxiety in adults. *J Anxiety Disord.* 2013;27(4) :365-78.
22. Messieha Z. Risks of general anesthesia for the special needs dental patient. *Spec Care Dentist.* 2009;29(1):21-5.
23. Woolgrove J, Cumberbatch G. Dental anxiety and regularity of dental attendance. *J Dent.* 1986;14(5):209-13.
24. Kebriaee F, Shirazi AS, Fani K, Moharreri F, Soltanifar A, Khaksar Y, Mazhari F. Comparison of the effects of cognitive behavioural therapy and inhalation sedation on child dental anxiety. *Eur Arch Paediatr Dent.* 2015;16(2):173-9.
25. Tung W, Kiyak HA. Psychological influences on the timing of orthodontic treatment. *Am J Orthod Dentofacial Orthop.* 1998;113(1):29-39
26. McCoy P. Further proof that touches speaks louder than words. *RN.* 1977;40(11):43-6.
27. Pawlicki RE. Psychological/behavioral techniques in managing pain and anxiety in the dental patient. *Anesth Prog.* 1991;38(4-5):120-7.