ANXIETY ASSOCIATED WITH VISIT TO THE DENTIST

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ABSTRACT

Aim of the study Anxiety disorder is a mental condition that makes dental treatment difficult both for children and adults. The purpose of this study was to compare the efficacy of behavior management techniques and use of Nitrous Oxide to reduce anxiety in adult pediatric patients **Material and methods** 170 patients, adults and children in evidence with anxiety disorders were analyzed. Subjects underwent a complex psychological intervention ("tell-show-do" method, music therapy, and respiratory therapy) and in non-responders inhalation with nitrogen protoxide and oxygen was used. **Results** From the mature subject's analysis, the main reason for low addressability in dentistry for almost half of the subjects is fear. Of the mature subjects, 76% of women and only 24% of men required psychological therapy of anxiety and the effectiveness of psychological methods used to reduce anxiety has a percentage of 46% for men and 34% for women. In the children group there is a very low addressability to the dental services of the people from rural areas. Anxiety related to dental interventions is higher than in older people but the effectiveness of behavioral therapies is very good. In both groups prevalence of dental fear is significantly higher in females Conclusions behavior management techniques like "tell-show-do", music therapy, respiratory therapy are safe and easy to implement. The effectiveness of this method is good in adults (40%) and exceptional in children (90 % success rate).

Key words: anxiety disorder, dental anxiety, dental care, fear, oral health, pain management

INTRODUCTION

Anxiety associated with a visit to the dentist for preventive care or dental procedures is called dental anxiety. In classical literature, it was quoted as the fifth cause of anxiety [1]. Dental anxiety is accompanied by its double, the fear associated with the dental context. From a terminological point of view, fear refers to a reaction to a real event (dental procedure) while anxiety precedes the event. Phobia, another term, is a state of intense, persistent and unrealistic fear of a specific stimulus, which leads to the complete avoidance of the perceived danger - in this case the dental act. In practice, these emotions are lived in a mixt manner by the anxious subject and are accompanied by a corollary of noetic, vegetative and behavioral elements. Thus, from cognitive point of view, the subject is considered threatened and weak in the face of the challenge, in the vegetative area occurs cardiac symptoms (tachycardia, high blood

pressure), respiratory symptoms (tachypnea), tremor, various somatic unpleasant sensations and from behavioral point of view the subject shows avoidance / delay or escape reaction, compromising oral hygiene strategies [2]. The subject of these experiences can thus avoid or deny the dental service, especially in the preventive stages, or turn the visit to the dentist in an unpleasant experience on both sides [3]. Anxiety, fear and dental phobia are related to avoiding (possible) encounters with a nociceptive stimulus. Dental anxiety leads to the neglect of dental pathologies in the onset phase, poor periodontal status, culminating in an emergency presentation, a traumatic event that fuel anxiety, in a vicious circle described in the literature as such [4] [5]. Dental anxiety occurs in Western cultures from 1 in 6 subjects to 1 in 3 vulnerable subjects (i.e. middle-aged women) [6]. Milgrom [7] identifies four types of subjects with dental anxiety (*Seattle System*), a typology that later was validated [8] and encompasses specific anxiety relief interventions: 1. Subjects with fear linked to a stimulus (smell, a certain noise or a certain image), sometimes given the interface between the biological material and the one used in the dental technique, including the appearance of new substances through the body's reaction [9], [10], [11] – suitable for desensitization interventions. 2. Subjects anticipating medical disasters (related to anesthesia or inoculation of microbes); in this case, a professional-authoritarian attitude is indicated, as well as education measures, professional explanations, and slow titration of the anesthetic. 3. Subjects with generalized dental anxiety who can not identify panic stimuli but feel fear related to any element of dentistry (so call nervous patients) – another kind of approach is indicated, such as reassuring, gradual exposure to stimuli, relaxation measures to initially address anxiety and after then dental procedure per se. 4. Interpretative subjects who blame medical personnel, hostile and suspicious toward medical staff – they respond to the adequacy of the medical act in the sense of over-asking for permission, information, over-polite and deferential attitude [7].

MATERIAL AND METHODS

The examination and selection of cases took place over a period of 12 months between August 2016 and July 2017 in an individual dental office in Galati.

This work is the result of a study of two groups of patients who had a history of anxiety disorder diagnosis.

Lot A encompasses 140 patients, 92 urban and 48 rural, aged 25-66. In terms of gender distribution, 78 were female and 62 were male.

Lot B studied 30 patients aged 6-17 years. From the distributional point of view, 28 were from urban and 2 from rural areas. According to the gender distribution of the batch, the study analyzed from group B 17 female and 13 male patients.

Subjects underwent a complex psychological intervention ("tell-show-do" method, music therapy, respiratory therapy) and non-responder undergone inhalation with nitrogen and oxygen protoxide.

The collection of data was carried out in accordance with the legislation, and the Informed Consent Form was completed[12]. For minor patients, questionnaires were completed by the legal guardians who accompanied the patients in the dental office during the dental treatment.

The study used anamnestic data from the observation sheet as well as the survey method at each session of dental therapy in order to monitor the evolution of anxious symptoms.

The statistical analysis was done using the SPSS program, for the correlation study, the

Chi square test was used [13].

RESULTS AND DISCUSSIONS

Group A (mature patients) had a gender-balanced distribution (56% female, 44 male), living environment (66% urban, 34% rural). In terms of age, 62% of women were in the 25-45 year segment and 38% in the 46-66 age group. In men group, 89% were in the segment 25-45 years and 11% in interval of 46-66 years old.

Analyzing the main reason for postponing dental consultations, we found that for almost half of the anxiety patients the item inexplicable fear is the main reason, followed by previous traumas. Significant statistical differences ($p < 0.05$), depending on the background, are found in the susceptibility to previous trauma, 19% of urban patients considering previous traumas as the main motivation, while rural respondents identifying it as a major factor in only 12% cases (Fig. 1).

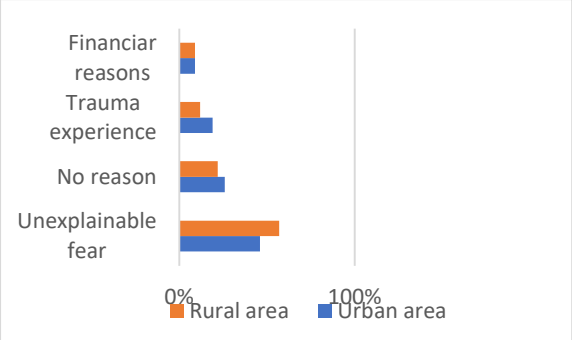

Figure 1. Reasons for refusal of dental consultation according to the residence environment- *adults*

Of the mature subjects, 76% of women only 24% of men required psychological therapy.

These data are in line with those in the literature, women being more concerned with dental anxiety [14]. As a result of anxiety reduction interventions, the study found improvement in discomfort due to the application of psychological methods to reduce anxiety by 46% in men and 34% in women (Figure 2).

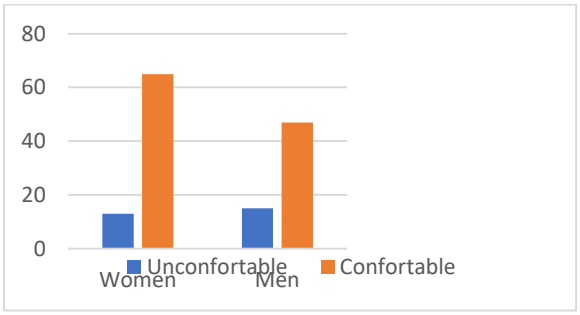

Figure 2. Discomfort improvement due to application of psychological methods to reduce anxiety in children in adults

Inhalation therapy was reserved for non-respondents to psychological therapy, 23% of women accepted this intervention and 18% of men. Batch B, the size of children under the age of 18, which is gender balanced (57% girls and 43% boys), is almost entirely made up of urban children (93%).

The analysis of the motivations of non-access to dental services reveals a statistically significant difference ($p < 0.05$) in terms of financial motivation, only 1% of respondents citing this cause. The small number of rural patients did not allow a comparative statistical analysis according to this criterion (Figure 3).

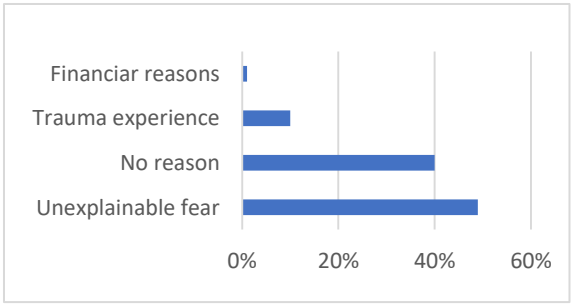

Figure 3. Reasons for refusal of dental consultation according to the residence environment- *children*

The whole group was subjected to psychological intervention to reduce anxiety, response rate was 90%, much better than in adults, only 3 children requiring inhalation. (Figure 4).

It is noticeable that girls are more prone to anxiety than boys, the same situation exists in adults according to our study. The result of this study is in line with the results of other studies [15] and conflicts with other studies [16] that indicate that boys more often develop anxiety related to dental interventions. The rear reason could be the cultural differences among the analyzed populations.

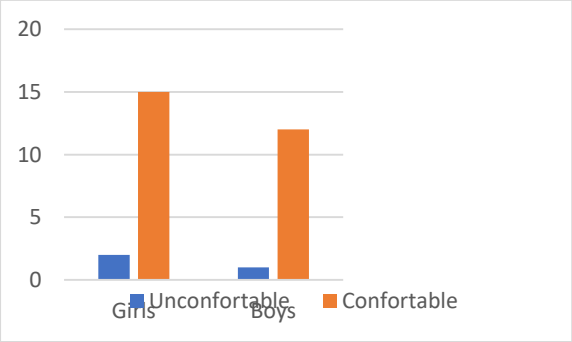

Figure 4. Discomfort improvement due to application of psychological methods to reduce anxiety in children

There is no consensus about the relationship between age and anxiety induced by dental interventions. Most population studies and meta-analyzes show that younger individuals were usually more anxious than the elderly [17, 18, 19]. But there are studies that have shown that younger people (15-25 years) have a lower level of dental anxiety than older people [20, 21, 22]. In our study, we found a significant reversal correlation between age and anxiety: fear fades with age. This result may be relevant because younger people are more affected by environmental factors such as other people's negative experiences [23]. Besides dental procedures and other diagnostic or therapeutic procedures, they generate anxiety, especially among children and young people; studies in children undergoing digestive endoscopy reveal correlations between patient anxiety and parental anxiety over the procedure [24]. Thus, younger patients develop more often prejudices about pain associated with dental procedures [25, 26]. This correlates with a general impression that older patients are more tolerant of pain [27].

CONCLUSIONS

Anxiety is an important factor in which patients get late in the dental office, which affects patient-to-patient collaboration and makes dental care difficult
Anxiety is more common in females.
Urban patients are more likely to be affected by previous traumatic experiences.
Associated psychological interventions ("tell-show-do", music therapy, respiratory therapy) offer effective methods and techniques to reduce the negative stress level in the dental office, in adults and especially children, reducing the need for pharmacological sedation.

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