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## Relaxation and systematic desensitization in reducing dental anxiety

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#### Abstract

The anxiety experience in dentist's office is one of the main barriers that prevent patients from using dental services, therefore a specific strategy is needed. The aim was to compare the efficacy of two methods: relaxation therapy and systematic desensitization. The general hypothesis is that the use of methods for reducing dental anxiety has a different efficacy. Participants were 60 patients of a dental clinic in Bucharest (scores MDAS≥13). Anxious reactions were assessed with MDAS and DFS. After using the relaxation technique, the anxiety level decreased to the greatest extent, both for the global anxiety index and for its components.

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Keywords: dental anxiety; relaxation therapy; desensitization.

#### 1. Introduction

Dental anxiety is deemed as a multidimensional state which imposes a holistic approach (Berggren, Hakeberg & Carlsson, 2000) of emotional and psychological aspects of the anxious patient. Patients with dental anxiety are a heterogeneous group with origins, onset age and manifestations which vary to a great extent between individuals (Milgrom, Weinstein, Kleinknecht & Getz, 1985; Locker, Shapiro & Liddell, 1997). The anxiety patients experience in dentist's office is one of the main barriers that prevent people from using medical services for routine clinical

\* Corresponding author. Tel.:+40 0722 576 219 E-mail address: ruxandra.sfeatcu@gmail.com examination and/or specialized treatment and also decreases patients' compliance to the proposed treatment (Locker, Liddell & Shapiro, 1999). Anxious patients avoid going to the dentist even if they have scheduled an appointment; also, they need to spend more time on dentist's chair for their treatment and, last but not least, override their own daily oral hygiene habits and their oral health state is generally poor (Pawlicki, 1987). Although dental anxiety prevention is recommended, once established, a specific strategy for approaching the anxious patient is needed. The first step is to identify anxious patients and then to ascertain the severity degree of dental anxiety. After that, methods for reducing the anxiety level must be used, such as: relaxation, systematic desensitization and cognitive approaching (diverting attention from the stressful situation, focusing on positive aspects of the treatment). These methods have been compared in many specialized studies and have proven to be effective in reducing dental anxiety (Berggren, Hakeberg & Carlsson, 2000). Relaxation is based upon the physiological impact (increased heart rate, muscle tension, sweat, etc.) of psychological feelings correlated with anxiety. As far as the patient learns and manages to use their imagination and to control their emotional manifestations, the anxiety level decreases to a great extent, according to the principle that one can't be relaxed and anxious at the same time (Corah, Gale & Illig, 1979). Therefore, relaxation methods, although require several sessions in order to be successful, are useful in dentistry as well. Systematic desensitization consists of training the patient to face gradually stimuli or situations that create anxiety. At first, fear-triggering stimuli should be identified and afterwards their hierarchy is to be ascertained. Then the patient should be exposed repeatedly to anxiogenic stimuli, starting with the situation that induces the lowest degree of fear. The exposure takes place after the patient is taught how to relax, and the next stimulus is called in once the patient feels he/she is ready. At the end of each session, the patient is invited to face the reality of the situations for which the desensitization has been performed. Systematic desensitization method lasts 5-10 sessions, until the patient believes that the anxiogenic representations are tolerable. A review of a behavioral investigational research in dentistry related to dental anxiety and avoidance of dental treatment shows the efficacy of several behavioral therapy methods such as systematized desensitization, modeling and relaxation whose efficacy can be compared with cognitive techniques (Bray, Chhun, Donkersgoed, Hoover & Levitan, 2009).

#### 2. Research Methodology

The purpose of the study was to compare the efficacy of two methods for treating dental anxiety: relaxation therapy and systematic desensitization.

- **2.1.** The research hypotheses of the study were as follows: the general hypothesis, which we propose to demonstrate, is that the use of methods for reducing dental anxiety has a different efficacy on the general anxiety level and will determine a significant decrease of anxiety level; the specific hypotheses are as follows: it can be assumed that the effect of methods for reducing anxiety is a decrease of avoidance-anticipation anxiety, of physiological anxiety during the treatment and of the level of anxiety to stimuli and situations specific to dental treatment; it can be assumed that relaxation has the highest efficacy on physiological reactions during the dental treatment, desensitization techniques have the highest efficacy on anxiety related to stimuli and situations specific to dental treatment and cognitive techniques have the highest efficacy on dental treatment avoidance-anticipation anxiety.
- **2.2. Participants** in this study were 67 patients of a private dental clinic in Bucharest, of whom 60 meet the criteria for inclusion into the research project (scores resulted from the assessment of anxiety level were above average values, MDAS≥13). Patients are 22-59 years old (median age 38.23 years and a standard deviation of 8.05) and gender distribution is 43.8% men and 56.3% women. Ethical Considerations: by filling in the questionnaires, subjects agreed freely to participate in the study; participants' confidentiality in relation with results of the questionnaires has been guaranteed.
- **2.3. Instruments and Research Methods** The following research methods have been used: theoretical (assessment of dental anxiety level with questionnaires specific to dental medicine), investigational (intervention experiments methods for reducing anxiety to treatment) and statistical methods (SPSS software version 13.0): descriptive analysis and t-student analysis (Independent One Samples T test).
- **2.3.1. Analysis instruments.** Questionnaires recording social-demographic personal information related to age, gender and fear level, as well as dental anxious reactions have been used and assessed with 2 clearly established

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