COMMUNICATION WITH THE ANXIOUS PATIENT IN THE PEDODONTIC OFFICE

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Abstract: The aim of the present work is to study the effects of cognitive-behavioral therapy's techniques applied to treating anxious and stressed young patients in the dental office in order to reestablish the right communication between children and dentist. The paper presents suggestive cases of anxiety manifested in the dental office and the relaxation techniques applied in order to reduce the consciously perceived tension of the patients. The proper relaxation techniques were identified according to the anxious child's age. The present work demonstrates the need for a psychological approach when dealing with anxious patients and also indicates individualization of psychological therapy used by dentist because each case is a unique one.

Keywords : anxiety, communication, relaxation, cognitive-behavioral, dentistry

1. Introduction

In the field of pediatric dentistry getting a good result means first of all to get a very good communication with the child patient. Patient's fear or anxiety frequently intervenes and blocks communication with the dentist [1, 2].

There are many cases when patients faced painful experiences in the past; they consequently manifest an unjustified fear of the dental treatment or even of smells or sounds specific to the dental office. Exaggerated fear can lead to poor communication with the doctor then to bad results or undesirable events [3]. The dentist has the responsibility to combat the young patient's fear and to shape the child's attitude and behavior during treatment.

Fear and anxiety are not synonyms. Fear is a feeling of tension experienced in the presence or thought of danger, being a normal reaction to a real threat that disappears when the danger passed. Anxiety is defined as an irrational fear with unknown motivation and unexplained by another mental illness or organic disorder [4].

In our study we tried to emphasize the effects of the cognitive-behavioral therapy on decreasing anxiety in the child patient.

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2. Theoretical background

Anxiety has two forms: state anxiety, defined as "a transitory emotional condition that varies in intensity and fluctuates over time" whereas" trait anxiety is a personality trait that remains relatively stable"[5].

We determined our patients' anxiety level using a psychological questionnaire, Spielberger's State-Trait Anxiety Inventory – STAI. This is the best known psychological instrument used for investigating anxiety, approved and validated in studies [6]. We used the Romanian translation of the questionnaire.

STAI contains two scales, A-state and A-trait, measuring the two different anxiety forms: state anxiety (how someone is feeling in a certain situation) and trait anxiety (common fear). "Both scales consist of twenty items for which a person rates anxiety on a scale from one (almost never) to four (very much so)" [5]. Scores of both scales range from a minimum of 20 to a maximum of 80.

Normal values for trait anxiety are: 42.11 with a Standard Deviation of 7.04 in women and 40.16 with a Standard Deviation of 8.33 in men. Regarding state anxiety normal values are 41.39 with a Standard Deviation of 8.30 in women and 40.38 with a Standard Deviation of 7.21 in men [7].

A-state scores increase during stressful situations and decrease after applying relaxation techniques [8]. Therefore, this part of the questionnaire is very useful in measuring anxiety in certain moments of a situation, which in our case is the dental visit.

The patients who score high in A-trait will demonstrate increases in A-state more frequently than those who score low or normal because they react to a larger number of situations, judging them threatening or dangerous [9].

State anxiety is a transitory emotional condition of the body characterized by consciously perceived tension and fear and increased activity of the Autonomic Nervous System (ANS) [10]. The ANS controls by the sympathetic nervous system some vital functions such as blood pressure, heart activity, perspiration, salivation and plays a role in stress conditions.

The most effective therapeutic possibilities in dealing with stress and anxiety and correcting cognitive distortions that lead to these feelings are cognitive-behavioral therapies which combine cognitive techniques - cognitive restructuring - with those of behavioral therapy - exposure - focusing on the role of thought, of action, of doubt, of decision making process, all belonging to the psychology's educational model. According to this model therapy is a process of learning by acquiring and practicing new ways of thinking and new capabilities to accommodate with [11].

Cognitive-behavioral psychotherapy is based on the idea that how we think determines how we feel and how we feel determines how we behave [11].

Wrong thinking leads to emotional problems, consequently to behavior disorders. First of all the patient should be helped to identify the wrong elements of thinking, the so-called irrational beliefs. Then the therapist or the doctor in our case serves as a patient educator who teaches a new healthy way of thinking, the relationship between them being one of active collaboration. The patient is encouraged and helped to contribute actively to a change in thinking and consequently in behavior. His/her negative, irrational and dysfunctional beliefs become rational and functional [11].

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Cognitive-behavioral therapy is widely used in treating anxiety in children and adolescents. Among these therapies the best known are: relaxation techniques, troubleshooting training, cognitive restructuring and stress inoculation training [11].

Psychological approach to a child patient has certain peculiarities compared to the adults' one, so the role of the doctor-patient communication is crucial for a successful treatment. When we decide what normal or pathological thinking or behavior are we must take into account the child's state of intellectual development which constantly tends to reach the stage of formal operations.

Young children who have difficulties expressing themselves by words are very sensitive to non-verbal communication.

Generally, the first visit to the dentist is essential for the future formation of the child 's attitudes regarding dental treatment; if this first encounter with the dentist and the dental office is a success premises are favorable for the young patient's further appropriate behavior. The moment of the first meeting between the child patient and the dentist is crucial for the young patient's first impression. Being so receptive to non-verbal communication and also very sensitive because of the pain and the fear that is putting the whole body in a state of alarm, the child is capable to notice the doctor's bad mood, his impatience or incompetence.

In order to facilitate communication the dentist tracks the following guidelines:

- To use words and sentences as short and simple as possible;
- To clearly formulate the information that is to be communicated;
- To avoid the use of highly technical language which is unknown to the patient;
- To give detailed, specific and accurate information;
- The patient has to repeat medical indications.

The patient has to be encouraged to speak with the doctor; the more he/she speaks and reveals personal thoughts the better communication is between them.

In order to decrease children's stress and anxiety it is very useful and also important to create a pleasant climate in the waiting room, where it is recommended to have a television, toys, games and many pictures on the walls representing cartoon characters. It has been found that the colours with the most calming effect on children are peach and yellow, so we suggest that the walls of the waiting room and of the dental office should be painted in those shades.

3. Methods

Presentation of some representative cases of anxiety in the dental office by analyzing the effects of several cognitive-behavioral relaxation techniques applied on them. My three cases belonged to a lot of 30 patients of our office that were asked to fill in STAI questionnaire. Statistical analysis of the group showed a Mean of 49.33 with a Standard Deviation of 7.41 regarding state anxiety and a Mean of 47.87 regarding trait anxiety with a Standard Deviation of 9.18.

4. Results and Discussions

4.1. Case report number 1

We used to treat C.M., a very fragile and shy little girl aged 6. When she first came to our office her mother told us it was the girl's first visit to a dental office. She was very scared

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especially by the sounds of the dental drills. The ambiance was new for her so, during the first visit we tried to accommodate the little child with the office by showing the dental chair and present it as if it were a little robot that the girl could play with. I tried to introduce instruments as toys. Although she had many odontal problems I decided to do nothing at that first visit because she was very stressed, was crying all the time. I still wasn't able to communicate with her.

On the second visit she behaved the same way, she was crying, her voice was trembling, her face was red and she was stamping her feet in the dental chair. She didn't accept anyway to open her mouth. So, I decided to ask her to fill in STAI questionnaire. The results were: A-state=67 and A-trait=51, both very high values of anxiety as a trait and also as a state.

Trying to find out the reason of her permanent anxiety I found out she was afraid of the dark. Her mother told me the girl used to have this problem when she was 3-4 years old but fear came back the moment she started to go to school.

I wanted to communicate with her by trying to catch her eye and speaking in a pleasant tone, trying to explain her that treatment would not be painful if she listened to me. I was as gentle as possible while explaining it to her and I described the treatment as a game that we were going to play together.

The girl started to relax but still it was not enough for beginning the dental treatment. Consequently I decided to apply cognitive-behavioral techniques in order to calm her down and establish the right doctor-patient communication.

I chose to apply "Breathing Control Technique" in her case. In cognitive-behavioral therapy this technique is a relaxation one, useful in anxiety situations (general or specific), crises and panic. Relaxation techniques aim to install a state of relaxation similar to that present when the body is at rest, inducing changes at the biological level by adjusting the autonomic balance. This technique prevents hyperventilation that occurs in anxious patients with accelerated chest breathing. Hyperventilation leads to a higher concentration of oxygen in the blood and to symptoms which are similar with those in the panic attacks.

General principles of the Breathing Control Technique are:

- Breathing is slow, allowing oxygen to be absorbed and toxins to be eliminated;
- Breathing is deep, pulmonary inhalation and exhalation are complete, using as much of the surface of the lungs as possible;
- Presence of a continuous, smooth flow of inhalation-exhalation with a constant rate, without interruptions;
- Breathing will always be nasal not oral;

Inhalation takes 3-4 seconds, exhalation lasts 4 seconds. [11]

Exhalation is very important because that moment the body becomes completely relaxed.

The patient was instructed to breathe abdominal. After applying this technique for five minutes we found a noticeable decrease in the state anxiety of the little girl. She was able to start the dental treatment.

To check the anxiety level I asked her again to fill in the psychological questionnaire used before and I found that anxiety levels decreased to values close to normal: A-state=46 and A-trait=47.

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I considered the decrease of trait anxiety necessary for further collaboration, so on the third visit I used another method of cognitive-behavioral therapy: the "Rational Story", which acts on the subconscious of the child by a therapeutic message, changing irrational beliefs into rational and functional ones. I spent a few minutes telling her the next story:

"Once upon a time there was a pretty little girl living in a very large and beautiful room with the walls full of elegant furniture where she was keeping her clothes, toys, story books, watercolours and coloured cards.

The problem was that the girl could never see anything in the darkness behind the furniture and she was afraid of that dark. Behind the furniture lived a dragon that the girl couldn't see but she heard him from time to time running, crackling and making various noises that frightened her.

The girl often asked him not to make noise but the dragon would not stop. One morning, while the little girl was playing, the dragon began to bounce again. The girl was sick of fearing him, so she threw with anger a doll in his direction. Then the noise stopped so she could play quietly with other dolls.

But after a while when the little girl was playing with cubes, noises reappeared. The girl threw a green cube behind the closet and nothing happened for a few minutes but after a while noises reappeared. In time, the girl threw away all her toys at the dragon. So, the girl took a flashlight to look after the beast behind the closet and she was very surprised to see a little cute dragon, just like one of her plush toys. He wagged his tail to make again the noises that frightened her so bad, but she was laughing like hell, seeing that cute little dragon which had so long frightened her.

The girl regretted that because of her fear she had never tried before to meet the dragon. She told him that she wanted to be friends but then he was the scared one. After a while he approached the girl and they began to play together. He gave back all the toys taken from the girl.

They became friends, they played together and it seemed natural for the little girl to love and have fun with the dragon."

After telling this story I felt that psychologically I got her confidence. I instructed her mother to repeat the story every night and after 2 weeks and 6 dental treatment sessions the girl behaved very well and our communication had a great improvement.

Repeating the questionnaire I found out that A-trait was 43 which is a normal value. My treatment ended successfully.

4.2. Case report number 2

The patient I.S., male, 10 years old, came to our office for dental treatment accompanied by his mother. She asked me to be gentle with her son because he had painful experiences in the past caused by dental treatments. The truth was the boy was very scared and presented some vegetative symptoms of stress, such as sweating, facial redness and hypersalivation. I couldn't cooperate with him because he was always with his eyes on me watching my every movement which he perceived as a threat. Our communication was impossible because of his exaggerated anxiety status. He was in no mood to talk to me.

I started to have a chat with him trying to distract his attention from what was happening in the dental office. For this purpose I identified his areas of interest which were

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sports and music and I tried to talk to him on these issues. Even if the situation seemed to improve, when I wanted to start the treatment I couldn't because he became again stressed.

Asking him to fill in STAI questionnaire the results were: A-state=65 and A-trait=44; so, a very high value of anxiety as a state.

So, I decided to apply in his case the Breathing Control Technique described before and after several minutes he was feeling relaxed and our cooperation became possible. Due to the patient's age I could better explain to him the right chair position for applying this technique: body aligned symmetrically; spine supported by the dental chair, right and elongated; feet side by side, uncrossed; shoulder blades down, allowing the shoulder to lean down and the chest to open; arms sideways, hands placed in the lap, palms directed upward; upper portion of the head toward the ceiling.

Background music can be used to enhance relaxation, the melodic line being slow, calm and repetitive.

Reanalyzing his anxiety values after applying this technique by the same questionnaire I found out that A-trait suffered a slight decrease to the value of 42 while A-state decreased significantly to 45 which was almost the normal anxiety value.

Our communication also improved significantly.

On the second visit the patient was again very anxious, exactly like the first time he came, with the same symptoms. Asking him to fill in STAI questionnaire the results were: A-state=64 and A-trait=44 again a very high value of anxiety as a state.

This time I decided to apply another relaxation technique belonging to cognitive-behavioral therapies, "Jacobson's Progressive Relaxation Technique" in order to see if the child did not react better to this one.

This technique consists of a series of exercises in which the patients direct their attention to certain muscle groups then relaxes them. Muscle relaxation begins with the lower part of the body, from toes to head, the final result being the relaxation of the whole body.

The general steps of the Jacobson's Progressive Relaxation Technique are:

- Keeping attention on different areas of the body with the purpose of learning the difference between tension and relaxation;
- Stretching the muscles for 3-6 seconds thereby obtaining an immediate release of tension;
- Relaxation with the natural release of the muscular tension; doctor's suggestions include images focused on feeling tension release;
- Awareness of relaxation when the patient learns to recognize the feeling of relaxation in order to turn this state into a natural state of the body.

This exercise lasts for the first time it is taught between 20 and 30 minutes. [11]

After applying this technique, the psychological status of the patient improved a little bit, but not to the extent that he relaxed with Breathing Relaxation Technique. Even if the patient was apparently calm he was slightly trembling at the sounds of dental drills.

Psychological questionnaire's results showed the same value of trait anxiety but still a high value of state anxiety – A-state=49.

I think that in this case Jacobson's Progressive Relaxation was not as successful as Breathing Control because the child was too young to understand and execute correctly this multi-step technique. Another reason would be the long period of time necessary to perform

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the exercise correctly the first time it is taught. The too young patient lost patience executing the steps of this technique.

4.3. Case report number 3

The patient B.S., male, 17 years old came to our office requiring treatment for a lot of dental problems. He told me that he got in this situation because of exaggerated fear that prevented him from appealing to a specialist's services. The patient told me that he had tried to treat his teeth once in the past but fainted from fear in the dental chair.

He manifested vegetative symptoms related to anxiety, such as sweating, facial pallor, hypersalivation.

I asked him to fill in STAI questionnaire and the results were: A-state=68 which indicates a very high value of anxiety as a state and A-trait=45 which is slightly higher than normal.

First I applied on him Breathing Control Technique and I got a slight decrease of the patient's anxiety but he was still trembling, watching with fear all my movements as if I were an enemy. Our communication was not improved. Reanalyzing his psychological condition I found A-state=54 and A-trait=44 so, a small decrease of anxiety as a trait but still a high value of anxiety as a state.

So, I decided to apply Jacobson's Progressive Relaxation Technique in order to reduce his state anxiety. I explained him carefully the steps of the exercise which he understood very well and executed correctly.

Medical attitudes when applying relaxation techniques should be calm, expressing self-confidence. Body language should be adequate with an open posture, doctor's breathing should be regular and relaxed because patients unconsciously tend to imitate this. Voice's tone indicated in relaxation exercises must be slow and calm, with a certain rhythm.

After Jacobson's technique the patient calmed down and became communicative and cooperative.

Repeating the psychological questionnaire I found A-state=44 and A=trait=43 so, a small decrease of anxiety as a trait and a considerable decrease of anxiety as a state. Therefore, the patient reacted much better to the Jacobson's Progressive Relaxation Technique.

5. Conclusions

The paper demonstrates the need for a psychological approach when dealing with anxious patients. Anxiety greatly reduces communication between doctor and child patient. The dentist should be aware of the child's psychology and should know some techniques in order to reduce anxiety that most of the children manifest in the dental office. The doctor should also know the behavior, attitude and correct ways by which to communicate with the young patient.

Individualization of psychological therapy used by the dentist is important because each case is a unique one. The choice of cognitive-behavioral technique to be applied must take into account the age and the cognitive development of the child patient, as well as the anxiety level determined by precise measurements.

We have to extend the study of cognitive-behavioral relaxation techniques effects on anxious patients in order to establish the normal doctor-patient communication.

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Bibliography

[1] Vassend O., Willumsen T., Hoffart A., "Effects of Dental Fear Treatment on General Distress: The Role of Personality Variables and Treatment Method". *Behav. Modif.* 2000, 24: 580-99.
[2] Townend E., Dimigen G., Fung D., "A clinical study of child dental anxiety", *Behav. Res. Ther.* 2000, 38: 31-46.
[3] Arnrup K,, Broberg A,G,, Berggren U,, Bodin L., "Temperamental reactivity and negative emotionality in uncooperative children referred to specialized paediatric dentistry compared to children in ordinary dental care", *Int. J. Paediatric Dentistry* 2007, 17: 419-29.
[4] Vera L., Leveau J., Vera L.P., *Terapia cognitiv-comportamentală la copii şi adolescent*, Ed. Polirom, Iaşi 2011: 166-72.
[5] Spielberger C.D., Gorsuch R.L., Lushene R., *Manual for the State-Trait Anxiety Inventory*. Consulting Psychologists Press, Palo Alto, California, 1983.
[6] Okun A., Stein R.E., Bauman L.J., Silver E.J., "Content validity of the State-Trait Anxiety Inventory from the perspective of DSM-IV", *Psychol. Rep.* 2006, 79: 1060-69.
[7] Coaşan A., *Îndrumător pentru evaluarea personalităţii*, Ed. Dimitrie Cantemir, Tg. Mureş, 2005: 33
[8] Eppley K.R., Abrams A.I., Shear J., "Differential effects of relaxation techniques on trait-anxiety: A meta-analysis", *J. of Clinical Psychology*, 1989, 45: 957-74 .
[9] Grossman P., Niemann L., Schmidt S., Walach H., "Mindfulness – based stress reduction and stress benefits: A meta-analysis", *J. of Psychosomatic Research* 2004, 57: 35-43.
[10] West G.A., Reid K.H., Bastawi A.E., "Clinical Science: Autonomic Responses to Dental Procedures in Pedodontic Patients During a Standard Restoration Session", *J. of Dental Research* 1985 62: 728-32.
[11] David D., *Tratat de psihoterapii cognitive şi comportamentale*, Ed. Polirom, Iaşi 2006: 69-107; 217-22.

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