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ДЕНТОФОБИЯ: ПРИЧИНЫ И МЕТОДЫ ПРОФИЛАКТИКИ
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DENTOPHOBIA: CAUSES AND METHODS OF PREVENTION
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Резюме. Дентофобией называют сильный страх перед посещением стоматолога и получением стоматологической помощи. Дентофобия не только ухудшает состояние пациента на приеме, но и оказывает влияние на продолжительность и качество производимых процедур, повышает распространенность запущенных стоматологических заболеваний. В данной работе мы исследовали страхи реальных пациентов, чтобы разработать методы их профилактики.

Ключевые слова: дентофобия, стресс, комфорт пациента, метод ICON.

Resume. Dental phobia is known as an intense fear of visiting a dentist and receiving dental care. Dentophobia not only worsens the patient's condition at the reception, but also affects the duration and quality of procedures performed, and increases the prevalence of advanced dental diseases. In this research, we investigated the fears of real patients in order to develop methods for their prevention.

Keywords: dentophobia, stress, patient's comfort, ICON method.

Relevance. Today, the problems of dentophobia are very relevant for a number of reasons. According to studies, people with dentophobia have poorer oral health, as they refuse to visit the dentist.

Due to fear, patients refuse to visit their dentist before a problem with their teeth has become worse [2]. Patients' fears may disrupt dental procedures and make them take longer. Statistical analysis will help to develop measures to prevent dentophobia, which will improve the quality of procedures performed, and will possibly reduce the number of people who are afraid of dentists.

Aim: to study the causes of dentophobia and to suggest some methods for its prevention and elimination.

Objectives:

1. To identify patterns of manifestations of dentophobia among various social groups.
2. To determine the etiology of the investigated disease.
3. To study and systematize the existing methods of preventing dentophobia.
4. To develop our own methods of combatting dentophobia.

Materials and methods. We interviewed medical students and people not related to medicine. 186 people took part in the survey; 24 of them were medical students (13 people from the Faculty of Dentistry, 8 from the Faculty of General Medicine and 3 students of the Pediatric Faculty). The methods used are a survey (Google Forms platform), analysis and

systematization of the information received, studying Internet resources relative to the topic.

Results and their discussion. The manifestations of dentophobia are patient's anxiety and emotional stress caused by therapeutic or diagnostic dental procedures. Symptoms vary depending on the nature and severity of the disorder.

There are two classifications of this disorder.

According to the degree of manifestation, latent, manifested and pronounced forms are distinguished. In the latent form, symptoms are rare and are not assessed as requiring correction. The manifested form is characterized by the appearance of discomfort in anticipation of specific procedures, it being related to pain in the majority of cases. With a pronounced form, any visit to the dentist causes severe stress.

According to the severity, dentophobia can be classified as mild, moderate, severe. The mild form is the most widespread and does not interfere with dental procedures. It is characterized by slight nervous tension. In the moderate form, patients experience severe anxiety and fear, but they can cope with it on their own or by taking mild sedatives. If the patient has a severe form, the symptoms begin a few days before the appointment and reach their peak during medical procedures. It is accompanied by emotional-vegetative reactions requiring medication correction (panic attacks, palpitations, difficulty breathing).

The way dentophobia is treated depends on the form of its manifestation. If the patient has a mild form of the disorder, therapy is not required. Emotional stress can be reduced by creating a comfortable psychological environment at the appointment.

The moderate form of dentophobia requires professional psychological help. The use of methods of cognitive behavioral therapy and rational psychotherapy is quite common. These types of psychotherapy focus on changing beliefs, attitudes, way of thinking and behavior.

In case of severe dentophobia, an integrated treatment approach is used. It includes both psychotherapy and psychological support during the appointment, as well as medication correction of the emotional state. Groups of drugs such as herbal sedatives, tranquilizers, and anti-anxiety medications are used. The prognosis for recovery in the treatment of dentophobia is positive in most cases.

Preventing dentophobia is an important step towards increasing patient comfort and improving the quality of dental procedures. To develop methods to prevent this disorder, it is necessary to investigate the causes of the phobia, identify the age groups most susceptible to dentophobia, as well as factors contributing to its further progression.

In order to understand the fears of future patients, we conducted a study. We interviewed people not related to medicine (children, students and adults) and students of the medical university. 186 people took part in the survey, 24 of them were medical students. According to the results of the survey, 34.9% (1/3 of the total number) of people not related to medicine answered 'Yes' to the question "Are you afraid of going to the dentist?". They belong to different age groups: 13-17 year-old – 23.1%; aged 18-25 – 6.2%; 26-45 – 33.8%; older than 45 years of age – 27.7%. Among medical students, 9.2% suffer from dentophobia (2 people from the Faculty of Dentistry and 4 students from the Pediatric and General Medicine faculties).

In the course of the research, we found out that due to fear, about 25% of people postponed their visit to the dentist. The main fears of the respondents were: pain during and after the treatment, noise from dental instruments, smell of preparations, incorrect attitude of the doctor, the cost of the procedures performed. About 83% of people developed a fear of dentists in their childhood.

The main reason for dentophobia was the unpleasant experience of visiting a dentist. Most people have experienced severe pain during procedures, including root canal treatment, cavity preparation and tooth extraction. Another reason of dentophobia was the incompetent attitude of the doctor towards the patient. Some patients also received poor-quality treatment, which led to infection or a relapse of the disease. Another important factor in the development of dentophobia is public opinion. If a person has never had the experience of visiting a dentist, he will rely on the stories of his friends and relatives, which may form a misconception of dentistry in general.

Based on the results of the study, we found out that the majority of people suffering from dentophobia belong to the generation born before the 2000s.

Despite the fact that modern methods of treatment imply the maximum possible provision of patient comfort, in the past dental procedures were of lower quality and caused discomfort and pain to patients. The past century's dentistry had a number of negative features, which include rather aggressive treatment methods and lack of sufficient equipment. For example, the production of foot-operated drills continued until the 1960s. Although electric-powered devices appeared in the 1950s, they operated at low speeds and had cooling problems, which caused pain to patients.

Many procedures were performed without anesthesia. Due to the lack of proper equipment, the fillings were not sufficiently processed, which resulted in the recurrence of caries or the loss of the filling. The use of arsenic in dentistry was very common, this treatment method often led to complications: burns of the oral mucosa, swelling and inflammation of the pulp, necrosis of the periosteum and bone tissues, toxic effects on the body, osteonecrosis.

According to the survey results, the majority (83%) of people developed dentophobia in their childhood. An important point in the prevention of the development of dentophobia is the formation of positive attitude towards dental appointments in children. Dealing with a child, the doctor should choose a communication style based on his/her age and degree of maturity. It is important to establish an informal, friendly nature of communication, showing interest in the personality of the child. Positive lexis should be used while explaining the treatment plan to the child. The doctor should remain calm in all situations, be ready to change the work plan taking into account the patient's behavior. When treating children, it is recommended to use non-verbal means such as eye contact, a friendly smile and a soft timbre of voice. Distractions are used to reduce stress during the treatment, allowing the dentist to perform the necessary manipulations. For example, some clinics are equipped with television.

The first experience has a huge impact on the dentist perception formation. The goal of the doctor in this case is not only to take care of health, but also to develop a positive attitude towards dentistry in general. It is recommended to visit a dentist for a preventive examination in order to avoid the formation of a '*dentist = pain*' association in a child.

When choosing the time of appointment, the biological rhythms of the child's body should be taken into account.

The main factor influencing the perception of dentistry in adults is the doctor's attitude towards the patient. Communication should be based on mutual respect and trust. The doctor must adhere to such principles as respect for the patient's autonomy, honesty, confidentiality and the desire to help.

The respondents were also asked the question "What better describes your condition during the appointment?" About half of the respondents described their condition as *'a slight anxiety before starting the procedures'*, a quarter remains tension during the appointment, and 7% of people experience intense fear before anesthesia is administered. Finally, two of the respondents suffer from a panic that cannot be stopped by anything.

As already mentioned, patients' fear is most often caused by pain during manipulations. Treatment technologies are constantly being improved in order to increase patient comfort. Examples of such innovative technologies are:

The ICON method. The name of the technology is an abbreviation of the Infiltration Concept. The method was developed in Germany, and consists in applying a special polymer solution that hardens under ultraviolet light to the tooth. The solution destroys pathogenic microorganisms, restores enamel and seals the carious cavity. The method is used only in the initial stages of caries.

Treatment of caries with ozone. This method was developed in England and is aimed at suppressing pathogenic bacteria, as well as the subsequent remineralization of dental tissues. Ozone is applied to the tooth for a short period of time (about 30 seconds), it neutralizes carious lesions and destroys microorganisms that provoke the destruction of tooth tissues. Healthy tissues are not sensitive to such effects and remain intact.

Air-abrasive treatment of caries. The method was invented in the USA and consists in the mechanical treatment of carious areas with sandblasting machines, which are also used for professional oral hygiene. Air-abrasive treatment has a number of advantages: it eliminates the possibility of secondary caries, reduces the risk of microcracks, and does not require anesthesia to treat early stages of caries. However, the method is not applicable to hard-to-reach areas of the teeth and in some cases may lead to increased sensitivity of the teeth.

Laser treatment of caries. The method involves the exposure of the affected area to laser. This completely suppresses the growth of carious bacteria and eliminates the risk of secondary caries. This method does not harm healthy teeth, neither leads to microcracks of the enamel [1].

These methods allow to remove caries without drilling the tooth or affecting healthy tissues. But they are mainly aimed at combatting the superficial form of caries, in the later stages the use of non-invasive technologies is ineffective.

One of the methods to reduce the emotional stress of patients while waiting for an appointment is to create a comfortable environment. The psychology of color is a concept that explains how a particular shade or brightness of a color palette affects a person. Warm, neutral or fresh tones in the wall decoration will create a sense of calm, reduce the level of anxiety of patients and cheer them up before a visit to the dentist. The emphasis on decorative items can distract patients from thoughts about the upcoming appointment.

Wildlife objects also have a positive effect on a person's emotional state. So, placing plants or an aquarium with fish in the waiting area will also help reduce stress levels.

Conclusion:

1. Questioning real patients about their fears will help future dentists avoid mistakes during all the procedures performed.

2. If people stop being afraid of dentists and have regular checkups, many diseases will be detected at the early stage and complications can be avoided.

3. We have identified the main methods of preventing dentophobia: 1) adhering to medical ethics; 2) finding an individual approach to the patient; 3) providing comfortable conditions in the dentist's office; 4) recognizing the forms of dentophobia in order to deal with them properly; 5) possessing a sufficient level of professionalism.

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