

Assessment of The Psychological Status of Patients with Dental Anomalies

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Abstract:

Among dental diseases, anomalies of teeth and jaws occupy the third place in frequency and prevalence after dental caries and periodontal diseases. One of the urgent problems in dentistry is the high prevalence of anomalies of occlusion of the dentition in young children and are accompanied by deformation of the occlusal plane, changes in the movements of the lower jaw, violation (disharmony) of the masticatory muscles and temporomandibular joints. Anomalies of occlusion of dentition belong to the group of major dental diseases and are characterized by high prevalence. Despite the implementation of preventive programs and the introduction of advanced medical technologies, the prevalence of dental anomalies in children over the past ten years has not tended to decrease and remains high both in Uzbekistan and abroad.

Key words: dentistry, malocclusion pathology, psychoemotional disorder, quality of life.

Introduction

It is known from a number of scientific publications that the development of dental anomalies and deformations is considered polyethological. In particular, common etiological factors: insufficient birth weight, gestational and birth defects, lag in fetal development, disorders of the nervous system, incidence of various diseases in infancy, eating disorders, spiritual stresses: local etiological factors - negative changes in the functioning of the maxillary region as a result of bad habits, improper treatment of baby teeth, premature loss of baby teeth, untimely elimination of defects of dentition and others. For early detection of dental anomalies and deformities, to prevent the manifestation of risk factors in the development of dental anomalies, there is an urgent need to include an orthodontist in preventive examinations conducted in kindergartens and schools. Pediatricians should refer all children after the age of three to an orthodontist for consultation in order to timely identify, form and maintain dispensary groups among children and adolescents.

In this pathological condition, along with a violation of the cosmetic condition, a violation of chewing food, various pathological changes occur in the temporomandibular joint. When pathological bites are observed in adolescents, changes in their general psycho-emotional state are also observed. Medical and psychological approaches that study the living conditions and family environment of children and adolescents are the most effective in the treatment processes.

Diagnosis and treatment of dental and dental deformities of children are considered one of the urgent tasks of orthodontics, which affect the masticatory functions, causing speech disorders,

aesthetic defects and leading to a limitation of the manifestation of human potential, which significantly reduces the quality of life. The aim of the task was to assess the psychoemotional disorder and quality of life in the early diagnosis and treatment of malocclusion in children.

The following research objectives were set:

- study of the structure and spread of malocclusion in children with permanent bite;
- assessment of the dental condition of children with malocclusion;
- evaluation of the effectiveness of examination methods-orthopantomograms and telereöntograms in the examination of children with malocclusion;
- assessment of the medico-social and medico-psychological state of children with malocclusion;
- development of an algorithm for the complex treatment of malocclusion in children.

The scientific novelty of the study was as follows:

The epidemiology of malocclusion in children during the period of permanent bite, the risk factors leading to their formation were studied, the role of risk factors in the occurrence of malocclusion was evaluated. In the course of the research, a medical and psychological approach was applied to the treatment of malocclusion in children, the effectiveness of treatment was increased taking into account the social and psychological state of adolescents. An algorithm of measures has been developed that have given sufficient effect in short- and long-term observations aimed at the comprehensive treatment of malocclusion in children.

Materials and Methods: Clinical material was collected from 140 children, including 110 patients with malocclusion by students in secondary schools. Those who applied for dental treatment at the “Dental Educational, Scientific and Practical Center” of the Bukhara State Medical Institute.

Out of all 140 surveyed aged 10 to 18 years living in the city of Bukhara, anamnestic and medico-social data were obtained; 78 of them were boys (55.71%) and 62 girls (44.29%). Of these, 110 examined were children with malocclusion (the main group – MG) and 30 examined with normal bite (the control group – CG).

Clinical examinations were conducted on the basis of a survey and included: a survey, an examination of the face and oral cavity. Local etiological and pathogenetic factors leading to the occurrence and development of malocclusion have not been identified. Important attention was paid to the peculiarities of the analysis of morphological and functional changes leading to the intersection of the lower and upper dentition on the opposite side of the jaw. In addition, anthropometric and X-ray studies were carried out. Clinical examination showed that 97 patients (88.2%) in the main group had not previously been examined by an orthodontist, and only 13 (11.8%) were registered in dispensary observation. At the same time, the patients used removable orthodontic devices, but the treatment was not completed for various reasons.

The highest growth rate of the physiological height of the face was observed in children of the main group of 14-18 years. In healthy boys aged 14-18, the physiological height of the face averaged 19.01 ± 0.10 cm (without growth rate), and in girls the same parameter averaged about 18.00 ± 0.10 cm (growth rate -2.0%). In healthy children, the morphological height of the face averaged about 13.01 ± 0.03 (growth rate – 1.2%), and in girls 13.00 -about 13.00 ± 0.06 (growth rate -1.4%).

In children and adolescents with malocclusion, the morphological and physiological growth of the face increased with indicators directed in different directions, compared with healthy children. The anthropometric parameters of the face in healthy children were almost the same for equal periods of time with the growth rate.

In children with malocclusion, the hygienic index was the highest in the group of children aged 14-18 years-2.8. In the control group, this was also more often observed in the group of children aged 14-18 years.

In order to assess the effectiveness of therapeutic and preventive measures aimed at improving adaptation to orthodontic structures, 110 children aged 10-18 years with malocclusion were selected for hardware treatment. The examined children in the main group were divided into 2 groups.

Group 1 A (87 children with malocclusion) – with simultaneous treatment with removable plate devices and braces, complex therapy using Omega 3-6-9 was used. Based on the study, in combination with orthodontic treatment in the complex treatment of malocclusion, children were given Palora 5-10 ml 3 times a day before meals for 1 month, taking into account their psychological state and from sedatives (sedatives), which led to an increase in the effectiveness of treatment. In order to prevent inflammatory periodontal diseases, Ginginorm rinsing with a natural herbal remedy was prescribed 3 times a day 15-20 minutes before meals.

Group 2B (23 children with malocclusion) – only basic therapy was used in orthodontic treatment.

Results and discussions: Psychoemotional state and quality of life at the stages of orthodontic treatment, a clinical and psychological study was conducted to study the characteristics of the psychoemotional state of patients with crossbites of varying intensity. In group 1A -22 (25.3%) patients with low (low) anxiety and moderate anxiety in 65 (74.3%) patients, reactive anxiety in 17 (19.6%) and 70 (80,4,4%) patients was expressed in low and medium values. In group 1B – in 23 (100%) patients, personal and reactive anxiety was expressed by average values.

The data obtained during the anxiety survey indicate a tendency to increase anxiety depending on the severity of the cross bite. This fact was explained by the influence of aesthetic manifestations of appearance on the deep layers of the psyche responsible for the perception of reality, which was expressed in a decrease in the threshold of stress tolerance, a tendency to risk the development of neurotic and psychosomatic disorders that threaten the integrity of personality in patients with perception anomalies of a wide range of situations.

Analysis of the obtained data on the Tsung scale showed that in the main group, patients were diagnosed with a non-depressive state (average score -39.0 ± 2.2). According to the results of the survey, patients in the control group were diagnosed with mild depression caused by this disease (the average score was 57.3 ± 2.5).

The dynamics of the quality-of-life indicators of patients with malocclusion pathologies was evaluated by treatment in accordance with the SF-36 and OHIP-14-RU questionnaires. Analysis of changes in the SF-36 questionnaire indicators showed a positive trend in all survival rates in two subgroups of patients after orthodontic treatment. Improving the aesthetic properties of a smile contributes to the normalization of physical condition and contributes to the establishment and maintenance of social ties.

In group 1A patients, orthodontic treatment is aimed not only at improving the aesthetic aspects of the smile, but also at eliminating painful causes in patients. In this regard, the work activity of such patients is significantly improved by improving their physical condition, reducing pain and, accordingly, restoring the quality of mental and physical life. Analysis of the dynamics of the indicators of the OHIP-14-RU questionnaire also showed a significant improvement in the overall OHIP indices in patients in all subgroups.

In group 1A, the main impact was aimed at correcting aesthetic disorders, the resolution of which led to an improvement in the psychological state.

As for the quality-of-life indicators 2 years after orthodontic treatment, in group 1B there were slight fluctuations in their growth compared to the indicators obtained immediately after treatment, but such differences are not statistically significant.

Understanding the psychoemotional state of patients coming to the orthodontist at the initial stages allows us to suggest possible ways of interacting with the patient, determine treatment tactics and, if necessary, conduct joint treatment with the involvement of additional psychological and psychotherapeutic specialists. The study of the dynamics of quality of life, as well as morphological data complement each other in assessing the effectiveness of orthodontic treatment. The diagnosis of depressive spectrum disorders, the study of self-esteem, the level of anxiety, as well as the assessment of the external involvement of the face and smile are the main motivational indicators in patients and are traced at the level of the relationship between the doctor and the patient.

Conclusion: Development of a new effective integrated approach - early detection and correct diagnosis of malocclusion in children, an integrated approach to treatment, ensures timely timing of morphofunctional development of the dental system and prevention of cosmetic defects in children.

Taking into account the psychological state of children, the use of the recommendations of a psychologist makes it possible to reduce the time of treatment of children and improve the process of adaptation to orthodontic devices.

Based on the purpose, task and scientific novelty, the dissertator made the following conclusions:

1. With the help of anthropometric measurements of the face in children, the possibility of assessing normal or pathological growth processes was revealed. The highest growth rate of the physiological height of the face in children with crossbite was observed in the main group of children aged 14-18 years. The highest rate of physiological height of the face in boys and girls was determined at 14-18 years. The angles of occlusal transversal curves were determined to be 9.0° and higher in 100% of cases in the area of the second molars in the main group. The average prevalence of dental caries in children aged 10-18 years was 69.8%. At the same time, at the age of 10, the prevalence of caries was 64.3%, at 13 years - 62.1%, at 15 years - 45.1%, at 18 years-38.6% ($p < 0.001$), and the greatest increase in the prevalence of caries was observed in children aged 10 to 13 years.

2. In the process of early diagnosis and treatment of pathological bites in children, early pathological changes were revealed using an orthopantomogram and telereöntgenological examination. The conducted telereöntgenographic analysis in the anterior projection made it possible to detect the state of facial asymmetry in patients early, while early detection of malocclusion was achieved in 17.8% of cases in children with replaceable bites.

3. Comprehensive treatment is reflected in the scores on the Tsung depression scale. The analysis of the results showed a statistically significant decrease in scores on the Tsung scale in the main group from 39 points before treatment and 22.9 points after treatment. The treatment directed the vector of personal changes in a positive direction, which manifested itself in a change in the global attitude to oneself, self-esteem (respect) of patients, as well as in increasing their adaptability.

4. With a psychological approach to the treatment of malocclusion, taking into account the psychological state of children, the process of getting used to orthodontic devices is reduced and the patient's use of orthodontic devices increases. The developed algorithm of complex treatment reduced the duration of treatment, and the effectiveness of treatment was 93.6% in the main group and 68.3% in the control group.

The proposed complex algorithm of treatment with early detection of malocclusion in children and early initiation of treatment made it possible to identify the working condition of the dental system and prevent the obvious development of complications of the disease.

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