



## Assessment Of The Severity Of Morphofunctional Disorders In The Dentition System With Changes In The Level Of Bite Of Dentition In Children

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Article History	Abstract
Received: 06 June 2023 Revised: 05 Sept 2023 Accepted: 13 Oct 2023	<p><i>In recent years, attention has significantly increased to the problem of the constant growth of diseases and deformities of the dental system. Despite the fact that modern diagnostic methods are being introduced, unfortunately, there is an increase in the prevalence rate every year. The strategy of orthodontic treatment of dental deformities and the choice of orthodontic devices in patients of different ages depends on the etiological and pathogenetic components of pathologies of a particular dental apparatus. In addition, the correct choice of an orthodontic device depends on the condition of the patient's oral cavity (gastrointestinal tract), the capabilities of the orthodontic laboratory and the professional abilities of the orthodontist. Currently, many fundamental aspects of prevention in the process of orthodontic treatment have not yet found their full solution. There is no data on the use of deep fluoridation in orthodontics. During orthodontic treatment, the issues of evaluating the effectiveness of tooth enamel resistance and remineralizing agents using Cappa are not sufficiently disclosed. Therefore, the improvement of preventive measures in the process of orthodontic treatment is an urgent task. It is known from a number of scientific publications that the development of dental anomalies and deformations is considered polyetiological. Including general etiological factors: low birth weight, pregnancy and birth defects, fetal development delay, nervous system disorders, infection with various diseases in infancy, dietary disorders, raxian strains: local etiological factors - negative changes in the motor activity of the jaws as a result of bad habits, improper nutrition. treatment of baby teeth, premature loss of baby teeth, untimely elimination of defects in dentistry.</i></p> <p><b>Keywords:</b> Effectiveness, Disorders</p>
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### 1. Introduction

The opinions expressed by the researchers raise the question of the need for a detailed study of various types of dental formations to determine the relationship of these pathologies at all periods of the formation of dental diseases and the somatic state of the examined [2.4.6.8].

The frequency of diseases of the dental system occurs in 50% of children, 30% of adolescents and adults. The results of research in recent decades show that the downward trend of this indicator has not been fully determined. Disorders and deformities of the dental system in children are the third most common among dental diseases after caries and periodontal diseases. Their prevalence ranges from 11.4% to 80%.

Dental anomalies in children are based on congenital bilateral arches of the lip and palate in 12-25% of cases, and this is a severe type of pathology of the dental system [1.3.5.7].

The study of the frequency and prevalence of dental anomalies in children is one of the urgent problems of modern dentistry. One child out of 1000 newborns is born with this anomaly, which is about 0.04% of the world's population.

Amanullaev R.A. and other authors cite data in the literature that the etiology and epidemiological problems of congenital hematomas of the upper lip and palate, the provision of specialized care to such children in a specialized center and the development of specific programs for the comprehensive treatment of children with this pathology remain one of the urgent problems.

Specific programs aimed at the treatment of these pathologies, standardization of measures and the obligation of their implementation by medical examination centers to provide high-level care to children with congenital defects of the palate and lips, as well as the implementation of therapeutic measures by special medical institutions in this scientific and practical direction have positive economic efficiency [9.11.13.15].

Dental anomalies occupy the second place in the frequency of occurrence of orthodontic diseases and are among the most serious morphofunctional changes of the face and jaw. Children with dental anomalies need complex, long-term and systemic treatment, which should be registered in a lifelong dispensary.

Dental anomalies have a significant impact on the quality of life of sick children. Comprehensive rehabilitation of children with dental anomalies and deformities, planning of an individual program for restoring vital functions, breathing, sucking, swallowing and restoring the state of chewing capacity from the first days of life to increase the effectiveness of further activities of the psychological and pedagogical service [10.12.14.16]. From the first days of life in children with defects of the facial part of the jaw, early orthodontic treatment of children is a preparatory stage in the preoperative period, which is aimed at creating favorable conditions for further surgical intervention. Early orthodontic treatment procedures are aimed at separating the oral cavity and nose, preventing the development of secondary deformities and normalizing the feeding process.

Among patients seeking orthodontic care, patients with distal occlusion of teeth account for 65%. An analysis of publications on the epidemiology of distal occlusion of teeth allowed us to determine that this anomaly is one of the most common dental anomalies and accounts on average (12.5–30.5%) of all types of distal occlusion. In the presence of common somatic diseases, this indicator increases by 74.6% [17.19.21.23].

The study of the frequency of pathology of the development of dental anomalies in children is the first step towards optimizing dynamic monitoring and improving the organization of orthodontic care for children. Over the past 30-40 years, there has been a tendency to increase the frequency of DAA in children, which is associated with the influence of stable pathological mechanisms on their formation.

A number of authors claim that the increase in morbidity is associated with a change in the environmental situation: air pollution, changes in the content of trace elements in drinking water. Their conclusion is based on the inextricable connection between macro- and microorganisms. One of the very important factors in the development of dental anomalies and deformities in children is damage to the dental system, which has occurred for many millennia and continues at the present time as a result of exogenous and endogenous influences during embryonic development [18.20.22.24.26.28].

The study of the spread of diseases and deformities of the dental system and the effectiveness of their treatment is an urgent problem. Among dental diseases, dental anomalies occupy the third place after dental caries and periodontal diseases in terms of frequency and prevalence. During the period of alternating bite, the tooth-jaw is at the stage of growth and formation, therefore, the symptoms of anomalies and deformities that are eliminated in time subsequently lead to normalization of growth. In addition, when studying the age aspect, it turns out that the older the children, the greater the need for treatment in connection with orthodontic prevention. Early treatment reduces the need for more complex orthodontic treatment, therefore, in the early stages it is important to use rational methods aimed not only at preserving the pathology in its original form, but also for treatment.

## **2. Materials And Methods**

**Research objective-** In children, tooth rows are detected early morphofunctional changes in the occlusion level to prevent anomalies and deformities.

**Research tasks.**

- Study of the structure and distribution of changes in the occlusion level of tooth rows in children;
- Assessment of the manifestations of morphofunctional disorders in the tooth-jaw system in changes in the occlusion level of tooth rows in children;
- Assessment of dental status in changes in the occlusion level of dental rows in children;
- Treatment of changes in the occlusion level of children's tooth rows-development of a preventive algorithm

**Object of study.** During the study, 145 children aged 10-18 years old with morphofunctional disorders of the tooth-jaw system were examined in changes in the occlusion level of the tooth rows. Clinical – laboratory validations serve as the main criteria for selecting patients to the group under study.

**Research methods.** The examination program consists of traditional and special clinical examination methods and dental examination methods at all stages.

- clinical-dental examination methods
- anthropometric
- X-rayolok
- biochemical and microbiological

### **3. Results and Discussion**

The defining clinical sign of mesial occlusion is the location of the chips of the incisors in the upper and lower jaw. In the anomaly of the mesial occlusion, attention is paid to both lateral and anterior sections. In the study, the identification of changes in the position and inclination of the anterior and posterior teeth of patients examined with mesial occlusion diagnosis is important in their mesial occlusion formation. The lower jaw's first permanent molar teeth come out of the Permanent Teeth FIRST, so their condition can also be considered decisive for the formation of the mesial occlusion. However, having studied the inclination angles of the axes of the lower first constant molar teeth and their position with respect to the coordinate point K, we found that these parameters are no different from the average norm data ( $R > 0.05$ ). At the same time, in the analysis of diagnostic models of the jaws and during the clinical examination, as mentioned above, the crowns of the lower jawmolar teeth were often rotated (in about 60% of cases) in the direction of the mouth.

In addition unlike the first molars, our studies show that the incisors of the lower jaw have a pronounced distal inclination of the crowns (retrusion), which was confirmed by an increase in the angle of inclination towards the plane of their axes. It was found that the lower jaw changes with the base and the front parts of the skull. However, the position of the cutting edges of the crowns in relation to the Kikk point of the NB line does not differ from the average. Such a tendency of the lower jawing teeth is explained by the fact that an increase in the length of the apical base and lower jaw determines the anterior position of the ends of the roots of the incisors, which leads to the formation of incisors.

According to the results of our studies, the crowns of the lower jaw teeth are distally inclined, which was a sign of an increase in the angles of inclination of their axes with respect to ML. However, unlike incisors, the distal inclination of the crowns of the incisors is combined with a decrease in the distance from the coordinate point K to the top of the incisors.

Based on the above, we can say that the growth of the lower jaw is the main factor in the development of teeth-jawomalia, leading to an increase in mesial occlusion. The growth of the lower jaw, according to most authors, is associated with the formation and outflow of teeth, including the third molar teeth. To find out how much the lateral TRG of the head to increase the length of the lower jaw at the exit of the third molar teeth, the dimensions of the body and the branches of the lower jaw were studied in patients with mesial occlusion. At the same time, an increase in body length by an average of 11.4% (to a value equal to the mesiodistal size of the crown of the third molar teeth) and an increase in the height

of the branches of the lower jaw by an average of 15%. (the crown part of the third molar teeth measures 1 to 2 mesodistals) were noted. In addition to the fact that the morphology of the facial part of the skull with occlusion anomalies was studied in sufficient detail, information was revealed about the size of all parts of the base of the skull and their changes. In comparison with the physiological state of changes that occurred in different parts of the base of the skull during mesial occlusion, changes in the teeth and mesial and physiological occlusions were studied during the period of constant prikus. The lines drawn sequentially through the marked points formed the configuration of the base of the skull. With the help of this technique, 13 linear parameters were studied that characterize different parts of the base of the skull. Compared to the norm in the period of exchange of teeth with mesial occlusion, there are significant changes in the anterior, middle and posterior parts of the base of the skull.

To determine the normal relationship between the indicators of the base of the skull, a correlation analysis of the indicators of the base of the skull of patients with mesial occlusion was carried out during the period of tooth exchange. He revealed the following features. The length of the orifice (va-Vo) is reversed to the anterior height of the anterior skull base (G1-N) and directly depends on the posterior height of the anterior region (FMN-G1), which in turn has been found to be directly related to the length of the posterior region base of the skull (Vo-Pk). The length of the posterior segment of the base of the anterior skull (TS-Se) is inversely related to the size of the Turkish saddle. It was observed that the length of the nasal bone (N-NB) directly depends on the length of the anterior segment of the middle part of the base of the skull [25.27.28].

In a group of patients with permanent dental occlusion, a parameter such as the previous height (G1-N) of the front part of the base of the skull is directly related to the length (N-Nb) and length of the nasal bone. Also, reverse correlation with the length of the posterior part of the base of the skull (Vo-Pk), which, in turn, is directly related to the posterior segment of its middle part (Ag -). The anterior and posterior segments of the base of the anterior skull are directly connected to each other. The anterior segment (Se-Fmn) of the anterior part of the base of the skull has an inverse relationship with the length (Pt-Ptm).

#### 4. Conclusion

In patients with mesial occlusion during the period of tooth replacement, the following correlations were found: skull and palate arc length (Pt-Ptm) were studied to have inverse correlations with the length of the posterior segment of the anterior skull base (Ts-Se). This is directly related to the length of the anterior part of the skull (Se-Fmn) and the length of the posterior part of the base of the skull (Vo-Pk). The latter is directly related to the height of the anterior part of the base of the skull (FMN-G1), the length of the middle part (Ptm-Ag), which is directly related to the anterior segment of the middle part of the base of the skull (Nb-Pt) and the size of the Turkish saddle was observed.

Based on the results of the study, it can be concluded that the dimensions of the base of the skull in patients with mesial occlusion differ from the physiological norm: in patients with mesial occlusion, the greatest changes in the parameters of the base of the skull are considered.

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