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Principles of a comprehensive approach to improving early diagnosis and treatment of crossbite in children

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The monograph shows the justification of the principles of an integrated approach to early diagnosis and treatment of cross bite in children. Early detection of a crossbite in children, improving the examination taking into account the psychological condition of children, conducting orthodontic treatment together with psychologists. To reduce the treatment of children and improve the process of getting used to orthodontic devices, which has saved to save on expensive treatment in the future.

The monograph is intended for dentists, scientific applicants, masters.

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ANNOTATION

Among dental diseases, anomalies of the dentition in terms of frequency and prevalence occupy the third place after dental caries and periodontal diseases. From a number of scientific publications it is known that the development of anomalies and deformities of the dentoalveolar system is polyetiological. Including common etiological factors: low birth weight, pregnancy and congenital malformations, fetal growth retardation, disorders of the nervous system, various diseases during infancy, eating disorders, mental stress: local etiological factors - dentition include bad habits, negative changes in activity, improper treatment of milk teeth, early loss of milk teeth, untimely elimination of defects in the dentition. Diagnosis and treatment of dentoalveolar and occlusion deformities in children is considered one of the urgent tasks of orthodontics, since they affect chewing functions, cause speech disorders, aesthetic defects, limit the manifestation of a person's potential, significantly reducing the quality of life.

Стоматологик касалликлар орасида тиш-жағ аномалиялари учраши ва тарқалганлиги бўйича тишлар кариеси ва пародонт касалликларидан кейин учинчи ўринни эгаллаб туради. Қатор илмий нашрлардан маълумки, тиш-жағ аномалиялари ва деформацияларининг ривожланиши полиэтиологик саналади. Жумладан, умумий этиологик омиллар: туғилганда тана вазнининг камлиги, ҳомиладорлик ва туғилиш нуқсонлари, ҳомила ривожланишининг ортда қолиши, асаб тизимининг бузилиши, чақалоқлик даврида турли касалликлар билан касалланиш, овқат рационининг бузилиши, руҳий зўриқишлар: маҳаллий этиологик омиллар - зарарли одатлар натижасида тиш-жағ соҳаси фаолиятидаги салбий ўзгаришлар, сут тишларини нотўғри даволаш, сут тишларини эрта йўқотилиши, тиш қаторларидаги

нуқсонларни вақтида бартараф этилмаслиги шулар жумласидандир. Тиш-жағ ва тишлов деформацияларини болаларда ташхислаш ва даволаш ортодонтиядаги долзарб вазифалардан бири саналади, модомики улар чайнаш функцияларига таъсир қилиб, нутқ бузилишлари, эстетик нуқсонларга олиб келади ва инсон салоҳиятини намоён қилишни чекланишига олиб келиб, ҳаёт сифатини сезиларли равишда пасайтиради.

Среди стоматологических заболеваний аномалии зубочелюстной системы по частоте и распространенности занимают третье место после кариеса зубов и заболеваний пародонта. Из ряда научных публикаций известно, что развитие аномалий и деформаций зубочелюстной системы полиэтиологично. В том числе общие этиологические факторы: малая масса тела при рождении, беременность и врожденные пороки, задержка развития плода, нарушения нервной системы, различные заболевания в младенческом возрасте, нарушения питания, умственные нагрузки: местные этиологические факторы - зубочелюстная область в результате вредных привычек. К ним относятся негативные изменения в деятельности, неправильное лечение молочных зубов, ранняя потеря молочных зубов, несвоевременное устранение дефектов зубных рядов. Диагностика и лечение зубочелюстных деформаций и деформаций прикуса у детей считается одной из актуальных задач ортодонтии, поскольку они влияют на функции жевания, вызывают нарушения речи, эстетические дефекты и ограничивают проявление потенциала человека, существенно снижая качество жизни.

CONTENT

List of abbreviations

MG	The main group
VAM	Visual analog measurements
SPA	Social and psychological adaptation
CT	Computed tomography
CO	Central occlusion
CR	Central ratio
CG	Control group
LJ	Lower jaw
TA	Tall anomalies
TD	Toothless deformation
DS	The dentist system
TP	Trigger points
TRG	Televisionrentgenography
FO	Physiological occlusion
QL	Quality of life
TMJ	The temporomandibular joint
UJ	Upper jaw
MFR	Maxillofacial region
FI	Facial index
MHF	Morphological height of the face
PHF	Physiological height of the face
SF-36	Questionnaire for assessing the quality of life
OHIP	A questionnaire of the quality of life

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I.MODERN INTERPRETATION OF ETIOLOGY, PATHOGENESIS, IMPROVEMENT OF DIAGNOSIS AND TREATMENT CROSS BITE

The appeal of people to dental care, especially orthodontic, largely depends on the level of their motivation. Analysis of the literature on the epidemiology of anomalies and deformations of teeth and jaws among the population of our republic, especially in children and adolescents, showed the lack of a tendency to reduce this pathology over the past decades. Analysis of the literature on the epidemiology of anomalies and deformations of teeth and jaws among the population of our republic, especially in children and adolescents, showed the lack of a tendency to reduce this pathology over the past decades.

Tall anomalies affect not only the state of health, but also the quality of life of the patient, which leads to restrictions in the future choice of the specialty of children and adolescents.

Modern views on etiology, pathogenesis, clinic and diagnosis of cross bite in children

Toothless deformation and deformation of the bite are the third in prevalence of dental diseases in children. Their diagnosis and treatment are considered one of the urgent tasks of orthodontics, since they affect the functions of chewing, cause speech disorders, aesthetic defects and limit a manifestation of human potential, significantly reducing the quality of life. [35, 21].

Anomalies of the bite of the dentition belong to the group of basic dental diseases and are widely used. With temporary bites, their frequency and prevalence over the past decades have increased significantly in the world from 17 to 100%. [1, 29].

In our country, important tasks aimed at the radical improvement of the healthcare system, the adaptation of medical

care of the population to the requirements of health standards, including a decrease in dental incidence in patients with abnormalities of the dentist system.

When implementing these tasks, it is advisable to conduct research on the early detection of anomalies and deformations of the dentition in dentistry, improve the quality of diagnosis and treatment, and develop preventive measures.

Opinions expressed by the researchers raise the question of the stability of the mechanisms of the formation of diseases of the dentition, the need for detailed study of various dentitions in order to determine the interconnection of pathology data and the somatic state of the examined during all periods of the formation of dentisted deformations.

Occramlous abnormalities are accompanied by deformation of the occlusal plane, changes in the movements of the lower jaw, impaired functioning muscles and the temporomandibular joints (disharmony) [2, 34].

It should be noted that the information presented in the literature is quite fragmented and associated with the socio-economic, territorial and population differences in the group under study. It is known that a large number of morphological and functional changes in the dentition system are associated with genetic, biological and social determinants of the environment. In addition, data on the composition of anomalies and deformations of the dentition system are not the same. Anomalies of the bite of dentitions are often found in young children [8,10].

According to the author, the dentition anomaly is 22.0-56.0%, an anomaly of the form of the dentition is 12.0-32.0%, distal occlusion is 30.0-56.0%, the meisial occlusion is 2.5- 7.8%.

Khoroshilkina F. Ya. (1999) According to the results of the study, until the age of 17 years, dentition anomalies were found during the milk bite - 24%, during the shift period - 49%, during

the constant bite - 35%. The number of anomalies increased by 25% from the period of the formation of a temporary bite to the beginning of the exchange period. Disorders of oropharative functions enhance the manifestation of dentistal abnormalities. 27.9% of such children observed problems with the pronunciation of individual sounds, 47.1% had normal rotary breathing or mixed breathing, in 23.8% - the infantile type of swallowing, 29% - in 44, in 44, in 44 4% - often sick children (external respiration function violations), and in children with intact teeth, only 6.8% have speech defects and even in 10.5% - motor disorders.

In children with anomalies of the dentition bite, violations of the immune system were revealed, a decrease in the main indicators of external respiration and a decrease in the concentration of oxygen in the blood, low blood saturation, a high level of caries activity. Violations of chewing, speech, breathing, closing the mouth and swallowing are found in 40–69% children with anomalies in the development of teeth. Currently, the researchers have established the concept of general factors that form both the dental state and the state of somatic health [13,32].

On the one hand, risk factors are an unsatisfactory dental status, the presence and chronic course of general diseases. On the other hand, the state of the dentist system is considered as an indicator of somatic health [3,4,9].

The assessment of dental status in children with chronic gastroduodenitis, diabetes, vegeto-vascular dystonia and chronic bronchitis shows that the deformation of the bite was detected in more than half of the examined ones. Orthodontic pathology was most observed (62.5%) in children with endocrine diseases, and least of all (44.0%) in children with vegetative-vascular dystonia [17, 20, 25].

The influence of thyroxine on the development of the jaw system was proved by A. Petrovich. According to the author, the indicated hormone determines the growth of the occipital bones,

the growth of the upper jaw in the area of the nasal arcs, bone seams and at the same time the size and position of the upper jaw. Violations in the dentist system are also detected with pituitary deficiency, which is associated with a decrease in the secretion of all hormones produced in the anterior pituitary gland. The slow formation of permanent teeth, slow growth and jaw development, a deep bite were found.

Sex hormones are undoubtedly one of the main factors that determine not only the growth and development of the entire bone skeleton, but also the growth of the lower jaw. When the level of sexual hormones changes, the sagittal growth of the lower jaw, its architecture, the disproportionate development of the facial department of the skull are disturbed.

With hypogonadism, deformation of the facial skeleton, deformation of the bite, changes in the structures of the teeth and jaws are detected. So, during the examination of 122 patients with β-Talassemia with hypogonadism, disproportionate development of the craniopathic region was revealed.

Thus, the interdependence of local disorders in the teeth, the face-melting area in children and adolescents with general diseases allows us to systematize the deformation of teeth and jaws as a multiple organized and socially significant pathology. Therefore, in the diagnosis, tactics of treatment and prevention of teeth deformations, their organs and systems, it should be considered from the point of view of the interdependence of their form and function and integrity of the developing organism of the child.

Considering that the early signs of deformation when replacing the teeth are difficult to diagnose, the position of the dental comb can only be determined by radiologically, it is important to develop and introduce diagnostic models when examining the patient, which allows you to draw up a rational treatment plan [6. 19, 36].

Deformations in the dentofacial area consist of medical rehabilitation, step-by-step surgical and orthodontic treatment of pediatric patients who require high compensatory capabilities from the body. Deformities of the craniofacial region acquired in children, such as lower micrognathia and ankylosis of the temporomandibular joint (TMJ), account for almost 14% of all deformities in this area. [22, 31, 34].

Patients with pathology of the temporomandibular joint often do not turn out to be timely and correct medical care, moreover, dental orthopedic methods are pathogenetic and most effective methods for the treatment of the temporal-nomplete joint, therefore, for date of pain with the dysfunction It remains the most false and urgent problem in the treatment of patients.

Violations of the vascular system are also important in the development of diseases TMJ. During a series of studies conducted in this direction, as a result of alternating fixation of the external and internal carotid arteries of animals along with pathologies in the region of the ENT in organs and tissues, systemic changes of various levels were manifested. bodies. Explicit disorders of this process include irreversible disturbances in the central nervous system, changes in the cardiovascular system, obvious shifts in the respiratory system and lung ventilation, depression, slowdown, increased red blood cells, hemoglobin leukocytes, sugar levels in the peripheral vessels brook and in order to prevent the occurrence of such processes, it is recommended to develop cases of artificial feeding close to natural methods of breastfeeding.

In the process of analyzing a number of research materials among dental diseases of the periodontal pathology, one of the places after caries and its complications and periodontal diseases. It is emphasized that the role of natural feeding in early childhood and the increasing force of pressure on the dentist system and the area of the dentist system as a result of breast

sucking is one of the important factors of the formation of TMJ. According to literature, the main reasons leading to the formation of deformations are: the consequences of inflammatory processes in the jaw, including hematogenous osteomyelitis of the jaw bone, the consequences of the surgical removal of tumors of the jaw bones. , as well as the jaw bone, for example, a fracture of the jaw bone at the birth of a child, injury to the region [30, 33].

The clinical course of the pathology of the tooth-melting region often leads to congenital malformations associated with cardiovascular, musculoskeletal, central nervous system, visual analyzer, ENT-organs, dysplasia of connective tissue and other diseases [7, 12, 26]. On the other hand, the development of many small deformations is shown in the area of teeth and jaws, which indicates the presence of connective tissue dysplasia in a patient.

Patients with dysplasia of connective tissue are characterized by the development of alimentary failure, which leads to the deepening of the initial postoperative period and lengthening the rehabilitation period. At the same time, the frequency of occurrence of connective tissue dysplasia and its direct influence on the postoperative period in the treatment of jaw deformations are still unknown. It is shown that connective tissue dysplasia can have a direct effect on the state of microcirculatory tubules, the hemodynamic system and its neuro -sutured regulation [11, 23, 24].

There is no information about the state of blood supply in the literature that characterize local metabolic processes and dysplasia of connective tissue, which is important for determining the timing of surgery, in children of different ages.

According to a number of authors, in recent years, the meeting of deformations of the dentition system does not tend to a decrease, and its increase in in accordance with age dynamics in various pathological structures is noted [14, 18].

Opinions expressed by researchers raise the question of the sustainability of the mechanisms of the formation of diseases of the dentist system in all periods of the formation of dentisted deformations, the need for detailed study of various dentitions in order to determine the relationship of these pathologies and the somatic state of the subject [15,16].

Experiments conducted on animals show that when the chewing muscles are reduced and the volume of air passing through the nasal cavity, deformation of the bones of the face and skull is observed. During the period of active growth and formation of the facial department of the skull, morphological changes affect the organs of the face-melting region and the work of other functional systems of the body.

The deformations of the bite are multifactorial pathology. General etiological pathologies of the antenatal period: small body weight at birth, pathology of pregnancy and childbirth, delay in the development of the fetus; early childhood diseases; hypodynamia; irrational nutrition; different stressful and local etiological factors: bad habits, functional disorders of the facelular area, such factors as the early removal of milk teeth and the inability to replace them with prosthetics [13, 27].

The authors found that in recent years the number of occlusal deformations that occur during the bite. It was established that the level of deformation is low during the temporary and formed constant bite during the period of temporary and formed. The deformations of the dentition system are an important aspect of prevention, and during the period of dental replacement, it is necessary to identify and eliminate the causes of deformations of the dentition system.

A prolonged respiratory disturbance through the nose in childhood not only affects the development of the chest, but also causes face deformation: the upper jaw develops abnormally, its lateral parts merge, the hard sky becomes narrow and high. As a

result, the dentitions of the upper jaw are narrowed, first the upper, and then the dentition of the lower jaw is compressed and compacted [8].

When studying changes in the electrical activity of the muscles around the mouth, chewing and face, it was found that there is a connection between a decrease in their activity and disorders of the respiratory system. Low electrical activity was observed in the circular muscles of the mouth. In some patients, the activity of all facial and facial muscles is significantly reduced. In many children with short -term breathing, enlarged adenoids are observed in the trachea, the posterior wall of the larynx, enlarged palatine folds, curvature of the nasal septum and other pathologies, as well as damage to the nasopharyngeal mucosa [33].

When studying the bioelectric activity of the muscles of the neck and spine in children who have the habit of breathing through the mouth, these muscles were as tense as possible when exhaling in children breathing through the mouth, compared with children breathing through the nose in the control group. [14]. The author notes that breathing through the mouth negatively affects the bioelectric activity of all skeletal muscles, as it leads to deformations at all levels [22].

The results of a study conducted at the University of Milan revealed an organic connection between the II class of the form of the skeleton and dysfunction or parafunction soft tissues, breathing through the mouth and the growth of the patient. With distal occlusion, electrical activity in the temporal muscles was higher than in the chewing muscles. At the same time, the electrical activity of the masticatory muscles is reduced to the level usually observed during hypotrophy, the potentials for normal occlusion and bite cotton drives are the same, which indicates the presence of the interclous gap [11].

In children, the most common abnormalities of the tooth position are the neutral attachment of the first permanent molars (35-42%), distal bite (24-46%), deep cover of incisors (18-34%), less commonly mesial bite. (8-13%), open bite (5-7%), other anomalies (1-9%).

Due to the wide scatter of the prevalence of dentistal anomalies, there is no consensus on the classification of the main diseases of the oral cavity. Even cases are known when anomalies of the dentist system in children are given one of the leading places in the general dental pathology. But in the 21st century, new ways to study the factors of the occurrence of dental and jaw pathologies, methods of their diagnosis and prevention, appear.

A thorough analysis of data (more than 300 scientific articles, dissertations and books) in our country and foreign literature on the problem of the etiology of occlusal disorders in school -age children confirms that this topic is extremely relevant and unsystematized. Thus, attempts have been made to classify anomalies of bite by etiological attribute to facilitate the choice of the necessary tactics of treatment for each pathology.

The latest technologies open up new ways to diagnose these factors and develop modern methods of correction of bite pathologies. The emergence and strengthening the pathologies of the bite usually occurs as a result of the interaction of genetic and external factors (mainly bad habits associated with the maxillofacial region).

Another etiological factor of bite disorders in children is the occurrence of uterine anomalies due to various factors during pregnancy: toxicosis or risk of premature birth; diseases in the mother; medication; harmful environmental factors (including ionizing radiation, nicotine, alcohol).

Investigations of children in childbirth and injuries of the maxillofacial region, including surgical, also lead to anomalies in the development of a bite. Many chronic diseases in childhood,

including endocrine disorders, neurofibromatosis and problems in ENT organs, problems with posture (scoliosis), can also lead to the formation of DFA during the period of teeth development.

A specific example is a typical formation of a distal bite with a deep sky and a narrowing of the upper jaw, an adenoid type of face. Rachite is a sign of vitamin D deficiency, as well as the influence of common -scale diseases on the development of a bite pathology in children.

Obesity and allergies in children cause breathing problems, as a result of which there is DFA. The harmful environmental conditions indirectly affect the development of bite pathology due to the development of allergic diseases of ENT organs. Breathing through the mouth, as a consequence of allergic rhinitis or asthma, is the cause of many DFA in children.

Disorders of nasal breathing, regardless of the etiological factor, temporarily cause violations of occlusion during the bite.

Local inflammatory processes in the maxillofacial region (for example, hematogenous, odontogenic, osteomyelitis) can cause a delay in the growth of jaw areas in children and the development of abnormalities of the size of the jaw and bite. Inflammatory processes in the joint of the lower jaw can be considered both the cause and the result of anomalies of bite in children.

The child's use of only soft foods, carious teeth or the presence of irregular restorations or orthodontic devices can lead to premature contact, selective destruction of temporary teeth and the formation of occlusal abnormalities, respectively.

A delay in temporary tooth replacement can lead to a violation of the normal development of the dentition system, the pathology of the bite. This can be a direct consequence of the child's consumption of soft food (for example, the "double row" of the lower incisors), but also ankylosis of the periapic region, permanent teeth in the area of the dental follicle can be caused by the "invasion" of the root. With ankylosis leading to the fusion of

dental cement with an alveolar bone, infraoclose, rapid eruption of the antagonist, deviation of the side teeth, a decrease in the length of the alveolar arc, and the delay in the eruption of constant teeth are often observed. All this undoubtedly leads to the development of DFA.

Prevention of bite pathologies in babies is one of the most difficult sections of modern dentistry, since it requires the active participation of both parents and children. This should be involved not only in children's dentists, but also dentists of general practice, orthodontists, hygiene, pediatricians, speech therapists, employees of children's preschool and school educational institutions. In addition, the low cost of treatment also causes difficulties. Therefore, throughout the world, the prevention of dental diseases in children is given little attention.

However, the etiological factors of bite anomalies can affect different stages of the child's development, therefore, preventive measures must be provided during all periods of growth and development of the child's chillucity region. Many scientists believe that the elimination of bad habits in the oral cavity is a priority in the prevention of DFA. It is important to teach children and parents to get rid of bad habits and, if necessary, choose functional corrective devices.

To eliminate fingers sucking in children of the first year of life, it is recommended to use protective clothing, prolonging the time of breastfeeding, artificial breastfeeding, bringing it closer to the natural technique of breastfeeding. Kids older than a year, it is recommended to wear a longtime on the hem of clothing in the elbow joint (the handle does not bend, and the finger does not reach the mouth), psychological correction of behavior. And the use of vestibular records with a "barrier" for a finger.

To confirm the genetic predisposition to the development of anomalies of bite, it is necessary to examine the parents of the child and a survey of other relatives.

The sequence of teething is very important for predicting the correct bite in children. The periods of teething are less important, but they should also be taken into account when planning orthodontic prevention.

According to studies conducted by foreign scientists, excess teeth should be removed only after that how they cut it out. For surviving super -complex teeth, the tactics of subsequent observation are often developed if there is a risk of damage to the root during a super -complex operation.

It is recommended that the child eat soft food, and parents explain the need to include solid food in the child's diet, as well as eliminate temporarily erosized tubercles by selective pointing.

A deep study of the relationship between external respiration and occlusal deformations, actively carried out in recent years, allows you to better understand the etiology and pathogenesis of occlusal deformations and confirms the need for early orthodontic treatment of deformations caused by normal rotary breathing [9].

The influence of many chronic diseases on the development of a bite pathology can be excluded only by treating the root cause - the disease itself. Therefore, researchers recommend directing such children to a narrow circle of specialists to eliminate the pathology of organs: to the ENT doctor and/or allergist for breathing problems (asthma, apnea), to the endocrinologist with rickets, etc. [12].

Matveeva E.A. In his dissertation, he considers the option of starting sanitary and explanatory work with parents even before the birth of a child in order to create a complete medical and genetic card. After the birth of a child, a practical doctor as the main determines aspects of assessing the nature of the nutrition and speech development of the child. Since then, the entire practical work of the children's dentist has been aimed at the

formation of a healthy bite in the child's mouth, which includes both preventive measures and treatment of any pathology.

It is necessary to warn parents about the possible pathological growth and development of DFA and attract them to the process of correction of the disease.

One of the most complex pathologies in orthodontic practice is undoubtedly a crossbite. The cross bite is included in the transverse anomalies. This is due to the fact that the transverse dimensions and the shape of the dentition do not coincide. Different terms are used to describe the cross bite: a scythe, lateral, buccal, vestibulo-, bookcolingwal bite, lateral forced bite, articulated cross bite, latinatius, laterality, lator, lator-dinatia, work- and endooplization.

Late diagnostics during the cross examination increases the treatment of pathology, as well as the social adaptation of the child. According to authors, the frequency of transverse clashes is different at different ages: children and adolescents - from 0.39 to 1.9%, adults - about 3%.

Cross occlusion is one -sided and bilateral. Cross occlusion can be caused by one row of teeth (upper, lower) or both rows of teeth, as well as the bones of the jaw.

Clinically, this form has the following features of the face: the asymmetry of the face depending on the shape and severity of the anomaly, one -sided or bilateral violation, the degree and length of the dentition, dentoalveolar or the skeletal form of the anomaly; It is manifested by a distortion of the configuration of the face, the displacement of the chin towards the lips and twisting the chin.

In case of palatine occlusion, the upper side teeth are located on the oral side relative to the Fissour of the lower teeth when the jaw is closed due to the reduction of the transverse sizes of the palatine tubercles of the upper dentition. At the same time, when the tubercles of the side teeth of the upper jaw, the lower side

teeth are not in contact with the longitudinal cracks, but with their linguistic tubercles and may remain out of contact in anomaly [5].

The prerequisites for the development of the cross bite are diverse: the inflammatory process and the emergence of jaw growth, a decrease in chewing function (slowed chewing) or one - sided chewing (large amount of caries, early teeth, the sequence and dullness of teeth, unevenness of the dental lines and the disruption of the tubercles and the uneature of the tubercles, and the uneature of the tubercles. milk teeth, breathing violations through the nose, improper swallowing; General diseases associated with impaired calcium metabolism; Violation of the myodynamic balance, the result of injury, etc. [19].

Signs of cross bite: the improper cross bite is first detected visually. When the jaws are compressed, individual teeth or groups of the teeth of the lower jaw are closed with the corresponding teeth of the upper jaw. The upper and lower teeth "intersect" with each other. The indirect signs of a cross bite are the asymmetry of the face and the wrong position of the jaw.

The cross bite is accompanied by physical discomfort when the teeth stick together. However, as a rule, anomalies of bite develop gradually throughout life, so a person gets used to discomfort and does not notice them. The causes of the cross bite: the pathologies of the bite are often formed in early childhood during the milk teeth or when the milk teeth to the permanent teeth.

The bite is also formed under the influence of inhuman factors: the features of the structure and development of the jaws and teeth, as well as due to the bad habits of the child or the improper care of the teeth, as well as the improper development of the jaws due to heredity, lack of calcium, the delay of teething of constant teeth, also causes otorhinolaryngological diseases (rhinitis, sinusitis).

Frequent reasons for the development of cross-bite include violations of the musculoskeletal system, dysplastic diseases, systemic damage to the dentition, and the bone skeleton. According to the authors, transverse anomalies in such patients occur 1.6 times more often [27].

All of the foregoing confirms the need for new approaches to the diagnosis and treatment of incisors in children.

In children aged 3 to 7 years, chewing ability is lower than in adults, so the duration of the chewing period is longer. With the development and teething of permanent teeth, as a result of an increase in chewing ability, the duration of the chewing period is reduced. At this age, the chewing muscles are undergoing training and the final formation of control through the nervous system, the size and volume of muscle tissue increase, and the formation of neuromuscular synapses occurs. It should be noted that only the complete chewing of solid food contributes to the balanced development of swallowing and chewing functions, as well as the formation and interaction of reflexes in the person-human region [36].

Incorrect swallowing negatively affects the vice of the development of the dentition, the work of the muscles of the oral cavity and around the oral cavity, in addition, can cause relapses of dentist deformation and lengthen the stages of orthodontic treatment. An example of clinical signs of improper swallowing is the increased activity of facial expressions. During swallowing, it feels that the tip of the tongue touches the inner surface of the lip, the lip swells and increases. As a result of this function, the dentition remains intact and increases the height of the lower part of the face. If the patient's lips are quickly opened when swallowing, you can see the tip of the tongue between the teeth. The position of the language in the front position gradually leads to the development of deformation of the bite, often to the vertical opening of the scapula. In the process of swallowing, the lips and

lungs serve as a support for the tongue. The “infantile” type of swallowing has been preserved for many years or throughout life and often interferes with effective orthodontic treatment [26].

Electromyography is one of the most adequate diagnostic methods for studying the functional state of the muscles of the face-melting area. In the process of its growth and development, regardless of the initial state, the human body tries to optimally function with the help of flexible mechanisms - dental, skeletal, articular and neuromuscular components.

In medical practice, electromyography is a method of studying the electrical excitability of chewing and facial muscles of the face-melting area. In scientific studies, they emphasized the use of specific indicators in the method of electromiographic examination of facial expressions and chewing muscles, determination of pressure during movement, as well as pathological conditions that cause the development of morphological and motor disorders in the person-human system.

In dentistry, electromyography is an electrophysiological method for diagnosing a neuromuscular system, which is considered an important diagnostic information to assess the position of the lower jaw and the state of chewing muscles.

Thanks to the synergistic action controlled by the nervous system, groups of agonists and antagonists muscles are reduced simultaneously. This is necessary for optimal movement inside the joint, stabilization of the joint and creating a support point for muscles located in a movable segment.

Features of the function of the chewing muscles, muscles of the tongue and the percent area are considered an important factor in the etiology of occlusal deformations. In this regard, for practical dentistry, the study of the muscles of the face-melting region using modern objective research methods, including electromyography, is of particular importance.

The determination of the activity of chewing and facial muscles is usually determined by the movement of the lower jaw, which is characteristic of different types of bite. To study the condition of the muscles, surface or needle electrodes are used.

The study of the bioelectric activity of chewing and facial muscles around the dentition allows you to determine the effect of their function on the growth of the jaw bones and the formation of a bite.

It is known that the initial chewing muscles have relatively short fibers and a large mass. As a result of the contraction of these muscles, the lower jaw moves up and forward. According to some authors, if the functions of the original chewing muscles prevail, then the lower jaw is very well developed. According to the author, the function of the chewing muscles is observed with mesial occlusion, and the temporal muscles with distal occlusion. Holding the lower jaw in a certain position with increased muscle tone for a long time, as well as muscle training causes a change in the position of the lower jaw in the relatively physiological state of rest. After eliminating parafunctions and their causes, the patient gets used to holding the lower jaw in the correct position, as a result of which the muscle tone gradually increases. Muscle exercises are carried out in the period until the correct position of the lower jaw becomes normal, that is, until a certain stereotype is developed.

The analysis of literary data shows that there is a big difference in determining the average value of EMG muscle, and the authors often give statistical average values excluding variability, trusting intervals, etc. In addition, such studies did not use the standardization of parameters.

With a unilateral form of cross bite in children, an electromiographical study of muscles revealed an imbalance of muscle activity. Chewing by the usual side for a long time leads to changes in the muscles of the face-melting area, which in turn

leads to the formation of a cross bite. Using the electromyography, the state of the muscle system in children with one -sided transverse occlusia has been studied.

Studies have shown that there is an imbalance of the activity of chewing muscles in the jaw. This disproportion was present in the normal position of the lower jaw, even after using the temporary occlusal kappa. According to the authors, one-sided hypertrophy of the chewing muscles can be caused by neuromuscular damage caused by occlusal barriers.

The neuromuscular balance is crucial for occlusal disorders and can hold the lower jaw in a forced position even with unbalanced occlusal contact. Functional displacement of the lower jaw from the symphysis line - occurs due to the crowding of the teeth with the displacement of the lower incisors, the loss of fangs or other milk teeth, the displacement of the middle line due to the loss of primary adents or teeth, as well as the loss of the lower incisors. Super contacts lead to hypertonicity and hyperactivity of the chewing muscles, which leads to incorrect movements of the lower jaw. As a rule, the correction of occlusal contacts between the teeth normalizes the position of the lower jaw. The skew of several or groups of teeth leads to the forced work of the muscles of the lower jaw. Dysfunction of the joints occurs as a result of improper functioning of muscles in childhood. The lateral deviation of the lower jaw is observed in many patients with similar occlusal deformations.

The diagnosis of cross -bite is based on the data of the author's clinical examination. The authors collect complaints (the main of them: complaints about the bite of the mucous membranes of the cheeks, the imbalance of the sizes of super contacts and dentitions, the narrow location of the blade teeth, the imbalance of the upper hand and mandibular arcs, the expressed asymmetry of the face , the presence of pain in the area of The temporal- joint joints; alveolar tumor, general inspection,

examination of the face and oral cavity, palpation and additional methods of study TMJ when lifting and lowering the lower jaw, measurement of the width of the apical bases and dental rows, dental dimensions (Ponn, Linder Hart, metodes N.G. Snagina), the study of TRG and the Ortopantomograms of the head in a direct projection.

During an external examination, the authors note a more sharp violation of the face configuration: the chin is pushed to the side, the upper lip is turned in one direction, and the lower part of the face is straightened in the opposite direction.

The angles of the lower jaw also change: on the side of the usual displacement it is closer to the straight line, and on the opposite side it rotates by 135-140°. On the displaced side, shortening of the body of the lower jaw and horn is often observed. To determine the displacement of the lower jaw, functional testing according to Ilyin-Markosyan is used. [24, 30].

In all forms of crossbite, chewing function is significantly impaired, which is associated with a decrease in the area of occlusal contact and bite of the buccal mucosa. With a cross bite of the tongue, the lower jaw has a limited ability to side.

The cross bite is accompanied by a significant violation of the chewing function, blocking the movements of the lower jaw and a violation of the coordination activity of the chewing muscles.

In children, anomalies formed in the transverse plane lead to rethinking the dentition system not only at the level of dentition and alveolar growth, but also at the level of the body of the jaw [36].

For comparative diagnostics, radiological examination of the maxillofacial joints is of great importance. With a cross bite without displacement of the lower jaw, both joint heads are often located at the base of the joint fossa symmetrically. With the displacement of the lower jaw, they can be asymmetric. The

normal function of the maxillofacial joint is often impaired, which can subsequently cause deforming osteoarthritis.

Incorrect displacement of the lower jaw leads to undesirable changes in the upper and lower jaws, alveolar compensation of the teeth, which further leads to asymmetry and facial dysfunction [25].

Complex approaches to the treatment of crossbite in children

Early orthodontic treatment leads to the complete restoration of chewing function, which ensures the harmonious development of the dental system and creates full-fledged conditions for the functioning of the entire gastrointestinal tract of the child. Carrying out a number of and without hardware measures - in order to eliminate identified violations at an early age, has quite reasonable grounds [24, 36].

About a hundred years ago, separate work began to appear on the study of the prevalence of dental-alveolar anomalies. These data will be necessary for the development of organizational principles of DFA prevention and specialized medical care and dispensary work.

Thus, for the early detection of dentitions and deformations, it is necessary to prevent the manifestation of risk factors for the development of dentistal anomalies; It is necessary to include preventive examinations conducted in children by an orthodont doctor in preschool institutions and schools. For timely detection, formation and inclusion in dispensary groups among children and adolescents, after 3 years old, pediatricians must be directed to doctors.

The results of clinical and epidemiological studies of recent years indicate that among the prevalence and structure of

diseases of the maxillofacial region, the leading positions are occupied by anomalies of the dentition system.

In addition to functional disorders associated with chewing, pain, dentistal anomalies (DFA), often cause aesthetic disorders that negatively affect the personal and social life of people.

The main complaints of such personalities are the change in appearance, violation of the pronunciation of sounds, incorrect chewing, limitation in choosing a profession, difficulties in communication.

All of the above affects the psycho -emotional state and leads to psychological disorders and social difficulties in patients.

During the 20th century, the concept of orthodontic treatment was mainly used to correct the anomalies of occlusion and deformation of the skeleton using cephalometric analysis. Today, more and more attention is paid to the correction of the parameters of the soft tissues of the face, therefore, to achieve optimal aesthetic results, a special role is played by a clinical examination of the soft tissues of the face.

In the treatment of patients, it is very important to know the anatomical features of the facial skull, which directly affect the planning process and the results of treatment.

It is important to evaluate each factor that can cause an anomaly of occlusion, which can affect its treatment.

Khoroshilkina F.Ya. When making a diagnosis, it is important to include morphological, aesthetic, etiopathogenetic, functional and general disorders of the body, while the issue of orthodontic treatment can be resolved after the symptom complex of morphological and functional disorders of the dentition system [7, 9].

These data can be obtained only after a comprehensive examination of patients, including the main clinical and additional examination methods.

Thus, dental anomalies of the face affect not only the health status, but also the quality of life of the patient, which leads to restrictions in the choice of specialty for children and adolescents, which cannot but affect their future career.

The effectiveness of the combined treatment of patients with dentition anomaly will largely depend on the choice of qualitative diagnosis, planning and treatment tactics.

These components are the key to the achievement of functional occlusion, the balance of facial parameters and the correction of skeleton deformations.

Aesthetic teeth defects have a special effect on the psyche of children and adolescents. Children with aesthetic defects, as a rule, are more closed and less closed than their peers without defects. A number of studies showed that children with aesthetic defects of the teeth are mentally and physically lag behind peers without defects.

In the same way, the presence of aesthetic defects on the face negatively affects the psyche, while orthodontic treatment causes positive changes.

Thus, in patients who have successfully underwent orthodontic treatment, self -esteem, communicative activity, social activity are increasing. Children become more sociable, they conflict less, and easier find a common language with peers.

Of great importance in assessing the effectiveness of orthodontic treatment are not only objective data, but also a subjective perception by a person by a person of psychological, emotional and socio-hygienic aspects of his life, that is, general well-being.

II. CLINICAL ASSESSMENT OF THE DENTAL STATUS OF CHILDREN AND ADOLESCENTS WITH CROSSBITE

The high prevalence of dentisted deformations and tooth decay, the complications associated with them determine the relevance and importance of the problem of the early detection and prevention of this type of pathology.

Tooth -muffled deformation is considered multifactorial pathology. General etiological factors are distinguished: pathology of the antenatal period: small body weight at birth, pathology of pregnancy and childbirth, slowdown in pregnancy; neurological disorders; diseases in the early period of life; physical inaction; Improper nutrition, stress and local etiological factors: bad habits, violations in the face-melting region, early removal of temporary teeth and the impossibility of replacing them.

During the scientific study, 502 children were examined, including 110 patients - students of secondary schools with incisors.

The diagnostic process of children was divided into two stages according to the method proposed by V. N. Kopeikin. At the first stage, the information received directly from the patient was collected and analyzed, his opinion was heard about what the disease began and how it developed. At the second stage, a detailed objective examination of the patient was carried out. In 76.5% of cases, signs of deformations of the dentition system were found in children, of which a cross bite in 16.5%.

To study and assess the dental condition of the oral cavity (hygienic condition of the oral cavity, periodontological index, caries, morphometric indicators of the face), anamnestic and medical and social data from all 140 people from 10 to 18 years living in the city were collected Bukhara.); Of these, 78 boys

(55.71%) and 62 girls (44.29%). Of these, 110 examined children with intricate teeth (main group - MG) and 30 examined children with normal teeth (control group - CG) (Table 2.1).

For orthodontists, the period of bite in children is of great importance, during this period the rapid growth of the bones of the jaw occurs, the processes of bone metabolism are enhanced. For this reason, during this period, the development of anomalies of the bite is observed.

In 1952 I.L. Zlotnik proposed the following terms for the formation of the dentition: 6-9 years - the period of early shift bite of teeth, 10-13 years - the period of a late shift bite of teeth and 14-18 years - a period of constant bite.

Local etiological and pathogenetic factors are determined, leading to the emergence and development of bite disorders. Significant attention is paid to the features in the analysis of morphofunctional changes, leading to the intersection of the lower and upper dentitions on the side of the jaw.

Table-2.1

Distribution of examined children by groups , n =140

Gender	The main group, n = 110				Control group, n = 30				All			
	ABS	M (%)	m	P.	ABS	M (%)	m	P.	ABS	M (%)	m	P.
Boys	62	44,29	4,20	Chi-quadrata = 0.133; P = 0.715	16	11,43	2,69	Chi-quadrata = 1.78; p = 0.182	78	55,71	4,20	Chi-quadrata = 1.829; P = 0.176
Girls	48	34,29	4,01		14	10,00	2,54		62	44,29	4,20	
All	110	78,57	3,47		30	21,43	3,47		140	100,0	0,00	
P	Pearson Chi-square = 0.088; P = 0.767											

Analysis of clinical studies of patients with cross - bite

The clinical examination was carried out by a standard set of dental instruments: subjective inspection, objective inspection, inspection of the oral mucosa (OM), examination of teeth and dentition, periodontal tissue, chewing muscles, temporomandibular joints (TMJ). The etiology, the timing of the premature loss of milk teeth and the timing of their removal are determined. Orthodontic treatment is necessary or not whether surgical intervention was determined. To evaluate the aesthetics of the face, a person was examined.

When assessing the face, attention was paid to the shape, angular size and relief of the lower jaw, symmetry of the face, vertical ratio, symmetry of bite relative to the middle line, lips compact. During the inspection of soft fabrics, attention was paid to the position and dimensions of the chin, tongue, lips, gums, regional periodontal, palatine roller. They assessed the condition of the hard tissues of the teeth, the absence of teeth, the shape of the tooth arc, the configuration of the alveolar tumor. In the sagittal, vertical and transverse directions, the characteristics of the connection of the dentition were evaluated. To establish the functional part of the diagnosis, dynamic tests (breathing, speech, swallowing) were carried out. According to the indicators of Ilyina-Markosyan, clinical functional tests were carried out.

The orthodontic diagnosis was established according to the classification of Engl, L.S. Persin. The results of these clinical inspections and additional examinations were included in a specially designed card, which indicates the passport data, the anamnesis, diagnosis, orthodontic treatment plan, the design of the apparatus, and radiological examination.

Index CSR +cs is the intensity of caries lesion.

CSR is the total amount of caries (c), seals (p) and removal (U) for the examined. The sum of C+S+R reflects the intensity of

the carious process in a particular patient.The intensity of the carious process was determined for a constant bite.

The average intensity of dental caries in each patient is determined by the following formula:

$$CSR = \frac{\text{the sum of the total number of CSRs among the subjects}}{\text{total number of subjects}}$$

- WHO distinguishes 5 degrees of intensity of tooth decay.
- 0.2-1.5 - very low
- 1.6-6.2 - low
- 6.3-12.7 - average
- 12.8-16.2 - High
- 16.3 and above - very high

Green-Vermilon hygiene index is the definition of OHI-S (1964). Using this indicator, the hygienic condition of the oral cavity was studied. To evaluate the vestibular surfaces of the teeth 11, 16, 26, 31 and the lingual surfaces of the teeth 36, 46 were stained with Schiller-Pisarev solution (potassium iodide 2.0 g + crystalline iodine 1.0 g + Distilled 40.0 ml water) or Fuchsin solution. , discovered caries and stones.

Dental raids evaluated and s according to the next scale:

0 - there is no raid ;

1 - more than 1/3 of the surface of the tooth crown;

2 - more than 1/3 of the surface of the tooth crown;

3 - more than 2/3 of the surface of the tooth crown;

Then the number of solid stones was estimated according to the following criteria:

0 - there is no tooth stone ;

1 - supragingival stones occupying up to 1/3 of the outer surface of the tooth;

2 - supragingival calculus covering 1/3 to 2/3 of the outer surface of the tooth, and isolated small subgingival calculus around the neck of the tooth.

The average value of the patient for this patient was calculated and added to obtain a general OHI-S index. The calculation is made according to the following formula:

$$\text{OHI} - \text{S} = \frac{\Sigma\text{points}}{6\ (\text{number of teeth groups})}$$

Interpretation of the index and hygiene level:

From 0 to 1.2 means good condition of hygiene;

From 1.3 to 3.0 - unsatisfactory condition;

From 3.1 to 6.0 - poor condition of the oral cavity.

Interpretation of the OHI-S index according to the indicator of tartar:

0.0-0.6 means good hygiene;

0.7 - 1.8 - satisfactory;

1.9 - 3.0 - poor oral hygiene.

This index is universal and valid for the entire period of teeth, so it is convenient to perform it to obtain reliable comparable results.

Based on the results of the dispensation, 97 patients of the main group (88.2%) were not previously examined in the orthodontist and only 13 patients (11.8%) were on dispensary control, while patients used removable orthodontic devices, but treatment was not completed according to various reasons.

Studies have shown that the prevalence of dental caries in children of this age was an average of 69.8%. At the age of 10, the prevalence of dental caries is 64.3%; at 13 - 62.1%; At the age of 15 - 45.1%, at 18 - 38.6% ($R < 0.001$) (Fig. 2.1).

The data presented in Figure 2.1 show that the greatest increase in incidence of caries was observed in children aged 10 to 13 years. The intensity of the caries process of permanent teeth in children during the late shift bite was an average of 2.45 ± 0.13. Alternatively, the intensity of the caries process in children 16 years old is 0.63 ± 0.04. The intensity of caries of permanent teeth in children 17 years old was 2.27 ± 0.09, and in children 18 years old - 2.67 ± 0.04. In children, the carious cavities spread mainly on

the occlusal surfaces of the root teeth, in the natural cavities and fissures, and the carious foci in the form of chalk spots were observed on the cervical part of the incisors and on the proximal surface.

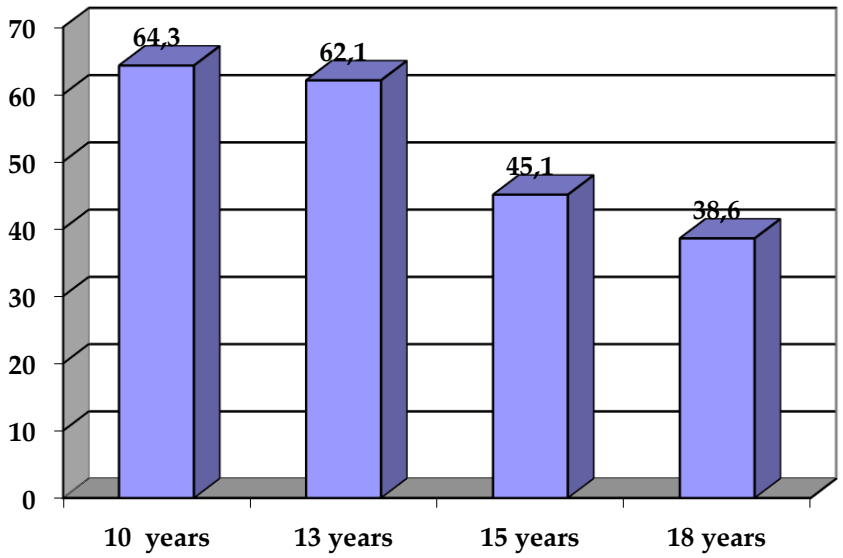


Fig. 2. 1. The prevalence of caries is constantn teeth in children from 10 to 18 years old at different ages, %

Compared to the total number of examined children, the percentage of children with carious cavities of the first four molars was 38.11%. This pattern indicates the high susceptibility of the indigenous teeth to caries during the period of early shift bite and mineralization of teeth, which is associated with pathogenetic mechanisms. Computing analysis of the density and distribution of temporary and permanent teeth was carried out at the age of 13-18. Old children with incisors.

The study showed that the prevalence of caries in children with a cross bite at this age is an average of 69.8%± 2.14%. The average value of this indicator in children of the control group was 53.92 ± 4.18%. Reliable differences were detected in the indicators of the distribution rate of the carious process of permanent teeth in children with a hereek bite and children of the control group.

The intensity of caries of permanent teeth was very high for this age and amounted to 5.22 ± 0.16 in children of the main group. The level of the permanent teeth of the permanent teeth in children of the control group was significantly lower than in children of the control group, and amounted to 1.22 ± 0.34 (Fig. 2.2).

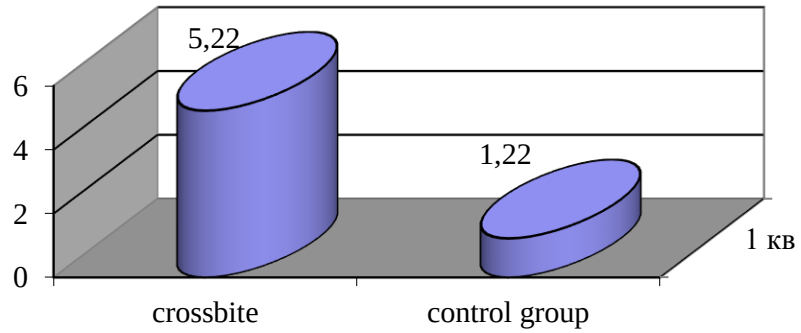


Fig. 2 .2. The intensity of constant caries of teeth in children 13-18 years old with a crossbite and a control group

A hygienic index in children with a herecrested bite was 2.8, the highest indicator in the group of children is 14-18 years old.

The data presented in table 2.2 show that the initial hygienic condition of the children outlined for the complex treatment of incisors was “unsatisfactory”, a statistically significant difference in quantity and quality was not revealed. In the main group, tartar was detected in 72.5%.

The data presented in this table show that the initial hygienic status of children under complex treatment corresponded to the status of "unsatisfactory". The values of the PMA index in periodontal tissues and inflammatory changes according to the scheme of Schiller-Pisarev in children with cross-bite were distinguished more clearly and reliably with the corresponding data of a practically healthy group.

Table-2.2.

GI indicators in the group of children with crossbite and healthy children

The age of the children	GI						
	The main group, n = 110			Control group, n = 30			P.
	N	M	Σ	n	M	Σ	
10-13 years	23	1,80	0,23	8	1,10	0,16	<0.001
15-18 years	87	2,80	0,56	22	1,20	0,27	<0.001
All	110	2,59	0,65	30	1,17	0,25	P <0.001

Note: P is the difference in reliability compared to a control group.

In children with a cross bite during the first inspection, a sign of frequent bleeding from the gums is revealed. 77.5% of cases in children of the main group. In the main group, tartar was detected in 72.5%. In the control group, tartar was detected in 10 children, which is 33%. Both groups of children needed the "professional" hygiene of the oral cavity, which included learning to hygienic skills, motivation and control of teeth brushing, according to the CPITN index. According to the CPITN index, the need for these measures in the main group was 82.5%, in the control - 55%.

After the preparatory stage of medical and preventive measures, a repeated dispensary examination of children was carried out.

Index indicators PMA (r <0.01) were significantly improved compared to the results of the previous study. Statistically reliable differences between the indicators of the PMA index in children and the control group, taking into account the significance of the criterion <0.05 with the probability of g = 0.95.

After the use of professional hygiene and basic and developed preventive complexes, according to Schiller-Pisarev, the intensity of inflammation in the tissues of the gums in the

original state decreased in all groups, which indicates the reliability of differences (R <0.01).

Table-2.3

Hygienic condition of the oral cavity and periodontal tissues before orthodontic treatment with crossbite

Indicator	Examined groups				
	The main group, n = 110		Control group, n = 30		P
	M	S.	M	S.	
PMA%	28,11	1,96	13,01	1,64	P <0.001
Schiller-Pisarev sample	1,76	0,29	1,05	0,20	P <0.001
Bleeding	0,43	0,05	0,142	0,02	P <0.001
Tooth stones	0,27	0,05	0,176	0,03	P <0.001
CPITN	0,76	0,22	0,34	0,07	P <0.001

Note: P is the difference in reliability compared to the control group

Table-2.4

Hygienic condition of the oral cavity and periodontal tissues 6 months after orthodontic treatment of cross bite

Indicators of the studied groups	PMA%	Schiller-Pisarev sample	Bleeding	Tooth stones	CPITN
1a group (n = 87)	15.5 ± 0.61	1.3 ± 0.04	0.16 ± 00.5	0.16 ± 0.01	0.19 ± 0.04
1b group (n = 23)	12.9 ± 1.03	1.0 ± 0.06	0.13 ± 0.05	0.05 ± 0.02	0.19 ± 0.05

In the main group, Schiller -Pisarev index decreased by 59.7%, in the control - by 45.1%. According to this indicator, a statistically significant difference was revealed between the arithmetic mean in all studied groups. After medical and preventive measures, all children have a significant decrease in the indicator of bleeding gums. Thus, therapeutic and preventive

measures significantly improve the hygienic condition of the tissues of the oral cavity and periodontal.

The values of the PMA index in children of the main group were exceeded 1.4 times, the corresponding indicators of the control group increased 1.7 times. There were no reliable differences according to the criterion of Schiller-Pisarev in all groups.

In children with a herecrested bite there is a deterioration in the hygienic condition of the oral cavity, especially in a group where traditional treatment measures were used ($R<0.05$). In terms of indicators, the level of oral hygiene in all groups was evaluated as "satisfactory". A month after the start of the active phase of treatment, the indicators of the PMA index in children with cross -bite and in healthy children increased compared to the indicators obtained before the fixation of the apparatus. Symptoms of gingivitis were more often diagnosed in children of the control group at a reliable ($R <0.01$) level compared to the data of the main group with increased PMA and the periodontal sample of Schiller-Pisarev. There was no reliable difference in the results of Schiller Schiller-Pisarev in children of the main group with erased teeth and a healthy group (Table 2.4).

The results of the study of the anthropometric face parameters and the jaw system in children and adolescents with cross-bite showed that the highest growth rate of the physiological height of the face was observed in children of the main group aged 14-18 years.

In healthy boys of 14-18 years old, the physiological height of the face was an average of 19.01 ± 0.10 cm (there is no growth rate), and in girls this indicator was an average of 18.00 ± 0.10 cm (growth rate - 2.0 %). The morphological height of the face in healthy children was an average of 13.01 ± 0.03 (growth rate - 1.2%), and in girls - an average of 13.00 ± 0.06 (growth rate - 1.4%).

The morphological parameters of the parts of the face and their proportions are presented in table 2.5.

Thus, in children and adolescents with crossed teeth, the morphological and physiological height of the face grows in different directions compared to healthy children. In healthy children, anthropometric facial parameters in the same period of time are almost the same (Table 2.6).

It would be advisable to use the proposed method Nazarov O.Zh. This is the method of checking functional occlusion: - assessment of the symmetry of the movement of articular heads with various movements of the lower jaw; - determine the symmetry of the movement of the lower jaw to the right and left, the presence of movement restriction in one or both sides; - checking the position of the rear contact and displacement of central occlusion to the secondary, compulsory position; - determine the restrictions created in the chewing muscles and the temporomandibular region in the movement of the lower jaw; - gave the opportunity to identify premature occlusal contacts that limit or change the movement of the lower jaw.

Table-2.5

Morphological face parameters in a group of children 14-18 years old with cross-bite and healthy children

Facial parameters (sm)	Groups	Gender; n = 140				U Manna-Uytney	
		Boy		Girl			
		M	Σ	M	Σ	Z	P.
Physiological height of the face	Og	19,11	0,28	18,80	0,15	-5,872	0,000
	Kg	19,01	0,63	19,00	0,18	-0,334	0,738
P1		> 0.05		<0.001			
Morphological height of the face	Og	12,30	0,10	12,10	0,36	-3,514	0,000
	Kg	13,01	0,07	13,00	0,07	-0,504	0,614

P1		<0.001		<0.001			
The height of the upper face	Og	6,49	0,97	6,70	0,50	-1,047	0,295
	Kg	6,80	0,16	6,65	0,07	-2,671	0,008
P1		> 0.05		> 0.05			
The height of the middle part	Og	6,02	0,08	6,80	0,08	-9,118	0,000
	Kg	6,41	0,10	6,80	0,10	-4,709	0,000
P1		<0.001		> 0.05		0,808	
Lower face height	Og	6,45	0,62	5,70	0,14	-6,818	0,000
	Kg	6,21	0,07	6,80	0,14	-4,744	0,000
P1		> 0.05		<0.001			

Note: P - in relation to the floor; P1 is the difference in reliability compared to the control group

Table-2.6

Dental defects in examined children

Defects of the dentition	The main group, n = 110				Control group, n = 30				All			
	ABS	M (%)	m	P.	ABS	M (%)	M	P.	ABS	M (%)	m	P.
There is no defect	81	73,64	4,20	Hi-quadrata = 199.273; P = 0,000	26	86,67	6,21	Chi-quadrata = 60.933; P = 0,000	107	76,43	3,59	Chi-quadrata = 280.42; P = 0,000
Distopia	3	2,73	1,55		0	0,00	0,00		3	2,14	1,22	
Infraoclise	8	7,27	2,48		1	3,33	3,28		9	6,43	2,07	
Diastema	7	6,36	2,33		1	3,33	3,28		8	5,71	1,96	
Supraocclusia	11	10,00	2,86		2	6,67	4,55		13	9,29	2,45	
All	29	26,36	4,20		4	13,33	6,21		33	23,57	3,59	
P					Pieron's Chi-square = 2.57; P = 0.632							

Analysis of the anthropometric faceters of the face and teeth jaw system in children and adolescents with crossbite

To evaluate clinical anthropometric indicators - the parameters of the face were measured according to the methodology of N.Kh.Shomirzaev.

In an anthropometric study of the face and head, there are several points and goals. In our study, we used several of them (Fig. 2.2 and 2.3).

A - the deepest front point of the apical base of the upper jaw;

B - the deepest front point of the apical base of the lower jaw;

Gn - (gnation) anterior lower point of the body of the lower jaw;

N - (nasion) point on the front surface of the nose-forehead line;

Or - (orbital) lower point of the outer edge of the orbit of the eye, this palpator is determined by the subjects, and in the picture - it is located at the bottom of the lower eyelid on the width of the eye slit, with his eyes open and looking forward.

Po - (porion) the upper point of the external auditory pass, which in the picture corresponds to the upper boundary of the eardrum.

S- (Sella) the point between the Turkish saddle;

Zy - point of external prominence of the zygomatic arch;

FH - Frankfurt- the surface of the ear-eye, Frankfurt is a horizontal surface passing through points Po and Or and serving to determine the horizontal goals of the head;

Oc P- Occramlusion surface is the surface on which the dentition is closed.

Determination of the type of face. According to the classification Garson and Kollman there are three types of faces: oblong, medium and wide.

To determine the type of face, two parameters were determined: the height of the face in front and the width of the face between the cheeks (Fig. 2.4-2.5) were measured using a simple circula and Sealgenzirkul.

The shape of the face is determined by the front index (and l). The measurement of the frontal height of the face is divided into the width of the face between the cheeks, multiplied by the face.

FI = (n -ugn/ze-zy) x 100

FI - elongated face, if 88 or more;

FI - If it is equal to 84 to 87.9, then this is a middle person;

FI - A broad face, if it is equal or less than 88.9;

Direct identification of the type of face profile in patients. To achieve the goal in our research work, you can qualitatively determine the type of face profile without a photograph of the patient. It is determined whether the face is straight, concave or convex. To determine the type of face profile, a rectangular colorless plate (15 x 5 cm) was used. A vertical perpendicular line is drawn through the center, as well as the line crossing the middle. Two lines are drawn from the point of intersection of lines on both sides of the vertical line, 5 ° below the vertical line. When determining the type of face profile, a colorless plate is placed at a distance of 1-2 mm from the side of the face. The horizontal line on the plate should correspond to the upper lip, and the vertical - to touch the most convex part of the forehead. If the most convex point of the forehead touches the vertical line or touches the line that deviates inside and out to 5° is the correct type of face profile. The concentrated or convex types of facial profile arise when the inclination point differs by more than 5° from the straight line.

Fotometric analysis of the face. The condition of the soft tissues of the profile of the face was evaluated by the photometric method. Clinical photography in orthodontics includes external and intrahrot shooting. Before and after orthodontic treatment, it has an important clinical value in the diagnosis of dentition anomalies, in assessing the effectiveness of treatment methods and for the purpose of their further improvement.

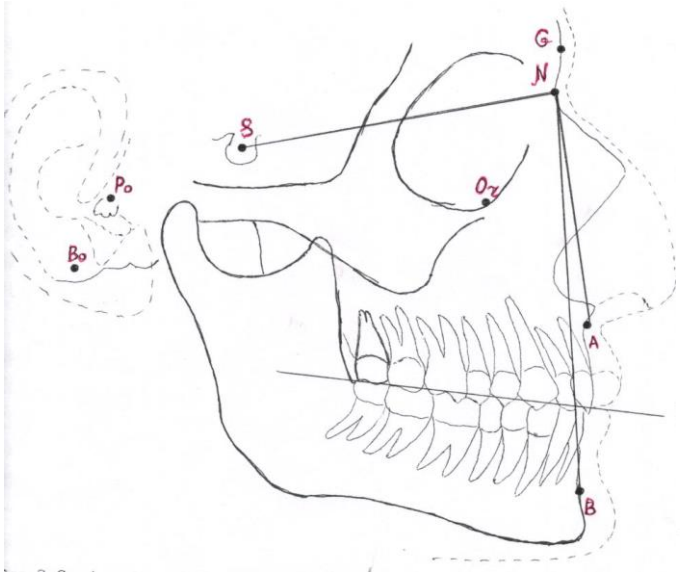


Fig. 2.2. Parameters and anthropometric points when determining the type of face

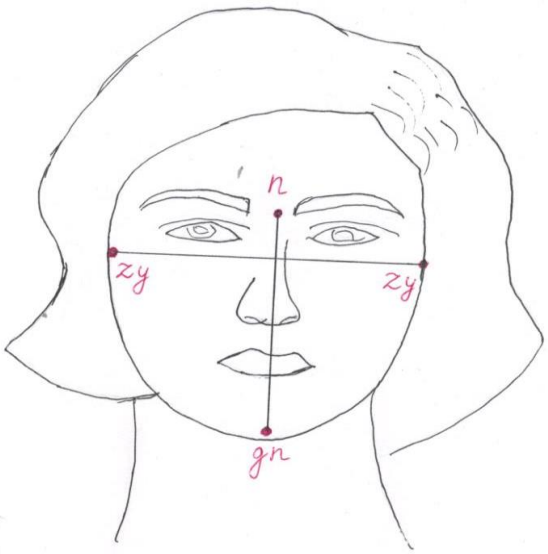


Fig. 2.3. Lines and anthropometric points when determining the type of vertical profile of the face

Important changes, such as the state of the profile, the presence of asymmetry of the face, the features of the bite, etc., can not always be determined at the initial reception. Photos allow you to determine the type of disease in the absence of a patient. Unlike control models, they are always on the computer and viewing them saves the doctor's time. In addition, photographs are a good visual material for scientific publications and presentations.

According to the photographs of the face in the profile, the position of the lips relative to the plane of the Ricketts was

determined and the position of the face was evaluated by Merrifield. According to the Schwartz, the profile of the face (the biometric field of drifus - according to the location of the chin, limited perpendicular to the Frankfurt horizontal at point N, on the one hand, and passing through the axis, perpendicular to the Frankfurt horizontal, on the other hand), as well as the corner of the nasal -guba, T. was measured in size The corner of the profile.

Fig. 2.4. Measurement of vertical anthropometric points of the face.

Fig. 2.5. Measurement of horizontal anthropometric points of the face.

According to Schwartz, he determines the mesophrontal face - the point of the nose of SN Frankfurt lies on the horizontal perpendicular N, the cisfrontal face - the point of the nose of SN is located behind the point, the perpendicular nose n, the transfrontal face - the point point SN is located in front of the perpendicular to the point of the nose n.

In the biometric field of drifus, depending on the position of the chin, the front face, the face thrown back and a straight face are distinguished. According to the Merrifield, the position of the face was determined by the magnitude of the angle formed by the Frankfurt horizontal line and the intersection of the protruding

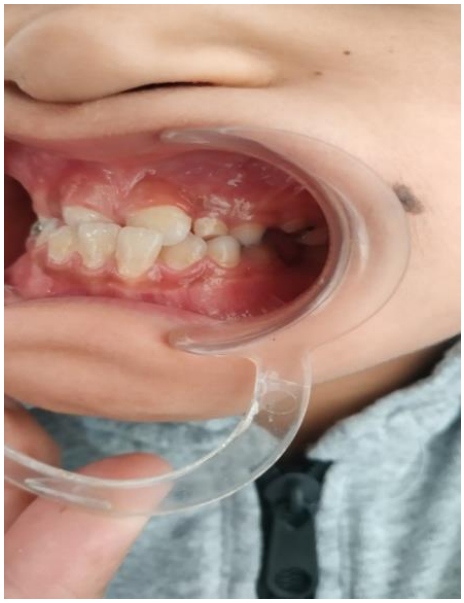
points of the lower lip and the chin. The corner of the profile T is formed by the line connecting the SN region and the most protruding point of the PG chin with a perpendicular to the Frankfurt horizontal at the nasal point N (PN PN plane), usually 3 10 °. The nasolabial angle is formed by a line, a point under the nose along the base of the nose and the transition from the tip of the nose to the most convex point of the upper lip is usually 110 °.

Diagnostic models are cast and formalized from high - strength gypsum; The models show rows of teeth, their apical base and sky. The study of models facilitated the diagnosis. A comparative analysis of the diagnostic models of the jaws in biometric studies was carried out taking into account the cross bite of the dentition, the average indicator of the orthogonatic bite was compared with the data of individualized standards. For the manufacture of a diagnostic model, an anatomical form with an alginate elastic molding raw materials was obtained. The diagnostic model was made of gypsum. In diagnostic models, the position of the dentition is carried out, their relationship and anthropometric studies are carried out.

It is possible to determine the ratio of dentitions in the case of central occlusion by biting the patient (Fig. 2.6 and 2.7).

In a normal physiological bite, a double-sided symmetrical, fissure-conduced spike is observed, and in the area of the central teeth-symmetrical cut-launched contact (spatulay and wedge-shaped teeth). Such normal adhesion protects the periodontal tissue from stress, distributes chewing pressure along the axis of the tooth.

It forms small ridges on the mesial and distal surfaces of tubercles, which provide the sliding surface for antagonistic tubercles. For the correct correction of occlusal contacts in the articulator in compliance with certain requirements, both occlusal contacts and the installation of the diagnostic model in the oral cavity are installed.



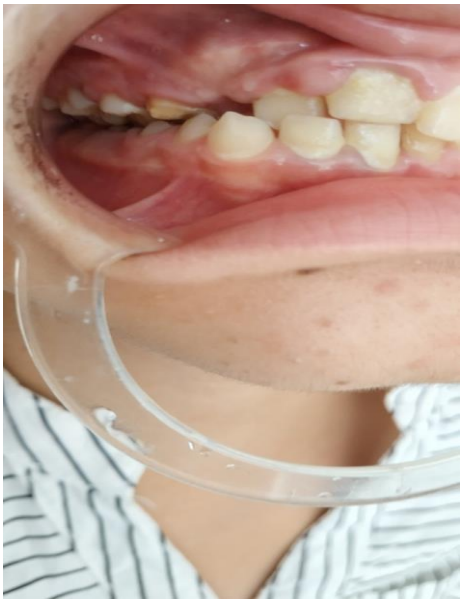


Fig. 2.6. Patient A. 10 years. **Fig. 2.7. Patient R., 15 years.**

Diagnosis. Unilateral crossbite.

The study of the relationship, occlusion and relief of the dentition of the upper and lower jaw was carried out in statics (central occlusion (CO), central ratio (CR)) and dynamics (functional occlusion). For its detection and labeling, OSUNG and a hundred-day articulator STRATOS-300 were used. The forms were removed with standard metal spoons using alginate raw materials, the models were cast from the supergips. Determined the position of the upper jaw relative to the temporomandibular joint in the direction of the Frankfurt horizontal; The position of the upper jaw in the skull was determined using the front arc, this information was transmitted from the front arc to the articulator. In this way, 60 diagnostic models have been studied, 32 boys and 28 teenage girls were determined, occlusal contacts in the anterior, posterior and lateral occlusions in the CO. Analysis was carried out according to the method of occlusionography models, O. Zh. Nazarov (2010). Milikievich V.Yu., Kibkalo A.P., Ivanov L.P. For a biometric study of the arrangement of occlusal contacts of the teeth of the upper and lower jaw in children with a cross bite.

The analysis of the occlusal relationships of the teeth was carried out directly in the patient's mouth, as well as on models installed on the articulator. To determine the angular values of the transverse curves, we made an additional horizontal line. It is formed by connecting the first and second wings on top and left (the right side of the face and the left side of the face or the right sky with the left sky). The angle formed between this horizontal and transverse curve was the angle of the transverse occlusal curve. According to the law of equality of the values of opposite corners formed by two intersecting straight lines, the values of the external and internal angles of steel became equal.

SPEE curve - compensatory, curve of occlusion, distal and upper deviation of the plane of occlusion. Drinking the chewing surface with the deepest point in are of the first root teeth. This curve is part, the center of the circle is located in the center of the orbit. The larger the barrier of the shift, the sharper the curve. The Wilson curve is the curvature of the plane of occlusion, if you look in the front plane (meteral tilt). The intersection of transverse occlusal curves along the medium-sugittal line determines the symmetry of the dominant and stabilizing sides of the chewing apparatus.

The study of diagnostic models and results of functional occlusion studies.

To assess the features of the occlusal surface of the teeth, we used Nazarova O.Yu. We used the proposed method. This method of checking functional occlusion gave us the following possibilities: - assessment of the symmetry of the movement of articular heads with various movements of the lower jaw; - determine the symmetry of the movement of the lower jaw to the right and left, the presence of movement restriction in one or both sides; -the verification of the displacement of the posterior contact position and central occlusion to the secondary, forced position; - determine the restrictions created in the chewing muscles and the

temporomandibular region in the movement of the lower jaw; - identification of premature occlusal contacts, restrictions or changes in the lower jaw.

In the main group, morphological features were observed on the occlusal surfaces of the teeth - in children, the upper first and second molars, as well as fought areas, but more in the teeth of the chewing side than in the teeth of the opposite side. Data of the instrumental analysis of intra -born and functional occlusion in the main group. With central occlusion, multiple contact of the teeth of all groups was observed. Various super contacts were found in the anterior and lateral occlusions. So, in 5 patients, only one cutter of the upper jaw was in contact with the anterior occlusion, as a result of which the lower jaw was shifted forward until the occlusal contact on the opposite side reaches. In 27 patients with lateral occlusion, occlusal contacts on the balancing side were detected.

Unilateral hyperbalanting supercontacts were detected in 12 patients. The reasons for their appearance are different. With central occlusion, this did not interfere with the connection of the dentition, during the occlusal movement of the lower jaw to the left side, premature contact arose on the distal slope of the palatine tubercle on 7 teeth of the upper right side and on the front hillock of the attack on the lower right side in 8 teeth, which did not allow you to connect the teeth from the work side.

In the remaining three cases, hyperbalanting supercontacts were found in the upper second molar and the lower third molar, since the latter was incorrectly cut and its distal tubercles prevented the smooth movements of the lower jaw, directed by the chewing muscles and the TMJ.

It should be noted that in all cases, hyperbalanting supercontacts were detected only during the analysis of functional occlusion in the articulator, while the lateral movement of the lower jaw, leading to the appearance of these contacts, was

impossible due to a limited excursion of the jaw. Perhaps this is explained by the usual position of the patient's return to The position of forced contact to prevent premature contact when the patient is closed.

In accordance with the notes, the implementation of these movements in the articulator showed that violation of the direction of movement and asymmetry of the lower jaw is formed due to the presence of balancing and hyperbalanting supercontacts. Symmetric cutting of cutters was absent in 6 patients. Unilateral balancing contacts were detected with lateral occlusion in patients with intact dentition.

Thus, all patients have a lateral displacement of the central point of occlusion relative to the central line of the ratio.

The rear contact position also shifted laterally in 20 patients, 13 of which had a coincidence of the rear contact position and central occlusion. In 7 patients, lateral occlusal movements were symmetrical, the amplitude of these movements was limited. In all patients, protrusive movements were disturbed, deviated from the front sagittal line. In 2 patients, protrusive and side occlusive movements were sharply limited to 1-2 mm due to TMJ dysfunction.

When determining the angles of the transverse occlusal curves, the values of the angles between the horizontal association of the tubercles of the same name moths and the transverse curves on the right and left separately for these teeth were determined.

The areas of the first molars in all cases were from 0 to 4.0°. The corners of the transverse curves in the second molar were ranging from 0 to 5° in 8 cases, from 5.5 to 9.0° on the right and left in 18 cases, from 9 and above in 14 cases.

In the main group, the corners of the transverse occlusal curves in the region of the first molars of the right and left teeth in 2 cases were from 0 to 4.5 °, in 5 cases from 5.0 to 9.0° and in 12

cases it was 9 or higher. The angles of the transverse curves in the field of second molars in 100% of cases were 9.0° and higher (Table 2.7).

X-ray examination plays a key role in a functional examination of teeth, jaw and temporal-nomplete joint.

Our examinations using the orthopantomogram showed that the main group made it possible to analyze the condition of the dentition of the upper and lower jaw, the ratio of the bite and the sequence of teething in our patients (Fig. 2.8).

Table-2.7

The results of the biometric measurement of transverse occlusive curves

Biometric measurement of transverse occlusion curves	The main group, n = 110				Control group, n = 30			
	6 I 6		7 I 7		6 I 6		7 I 7	
	abs	%	abs	%	abs	%	abs	
0-4,0	4	3.63*	0	0,00	20	2,90	1	3,33
4,0-8,5	31	28,1*	0	0.00*	0	0,00	5	6,6
Assessment of 9.0 degrees or higher	18	16.36*	45	40.9*	0	0,00	2	6,66

Note : * - The difference in reliability p<0.05 compared to the control group

Teleradiography - the method of X -ray research is initially carried out at a considerable distance (about 1.5 meters). In this study, X -rays take the direction parallel to each other, showing the minimum position of the object studied due to minimizing projection distortions. As a result, a picture of the head and neck can be made in full size, which is also the advantage of this research method. Currently, there is a method of converting a three -dimensional image into flat. Telesterenography can be of two types: in the lateral (sagittal) projection and in the direct frontal (frontal) projection (Fig. 2.9).

The lateral television group allows you to clearly evaluate the intersection of the jaws.

The results of X -ray examination in children with improper bite.

During computed tomography, the relationship of the displacement of the joint head was analyzed, depending on the type of bite.

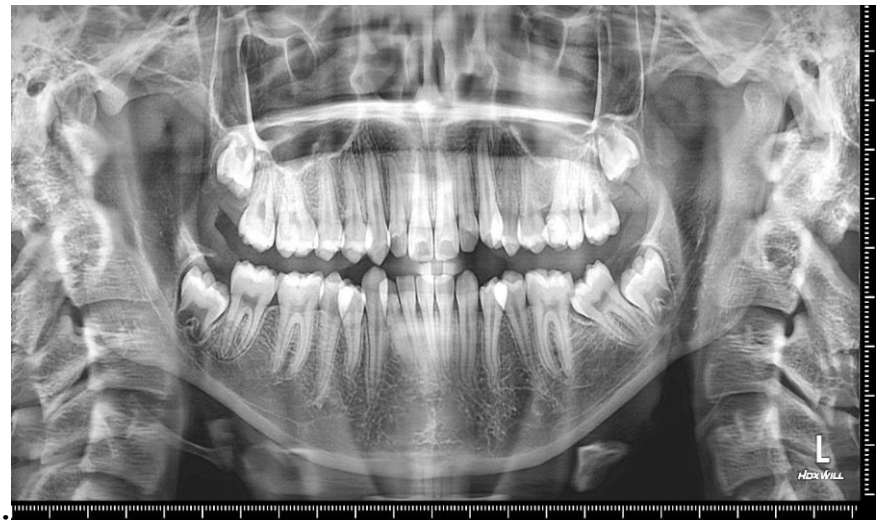
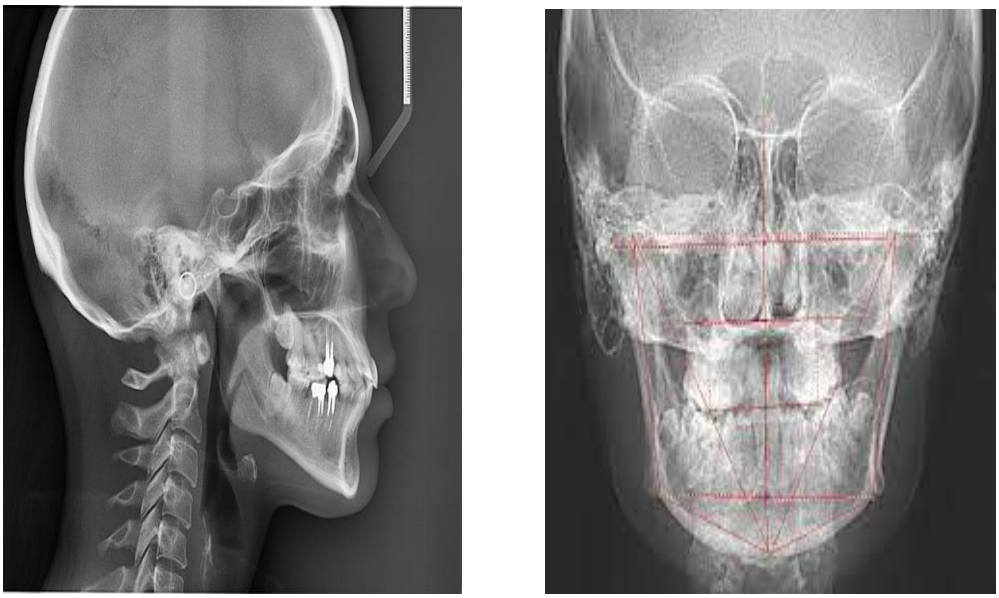


Fig. 2.8. Patient R. 14 years old. X -ray examination



a **b**

Fig. 2.9: The television group in the side (a) and the front (b) projections

In 16% of children with an orthogenic bite, a displacement of the head of the mandibular joint was observed, and in 84% it was

located in a normal central position. In 64.4% of children with a cross bite, the head of the mandibular joint is shifted up and back, only in 35.6% of the joint head is in the central position.

On the orthopantomogram, the location of the milk and constant teeth on the jaw, the position of the roots of the teeth, the effect of the treated teeth, the appearance of the dentition, the position of the temporomandibular joint (Fig. 2.10 and 2.11) were determined.

92% of children of the main group found cases of intersection of dentition. Only 3% of children of the control group found signs of partial curvature of the teeth.

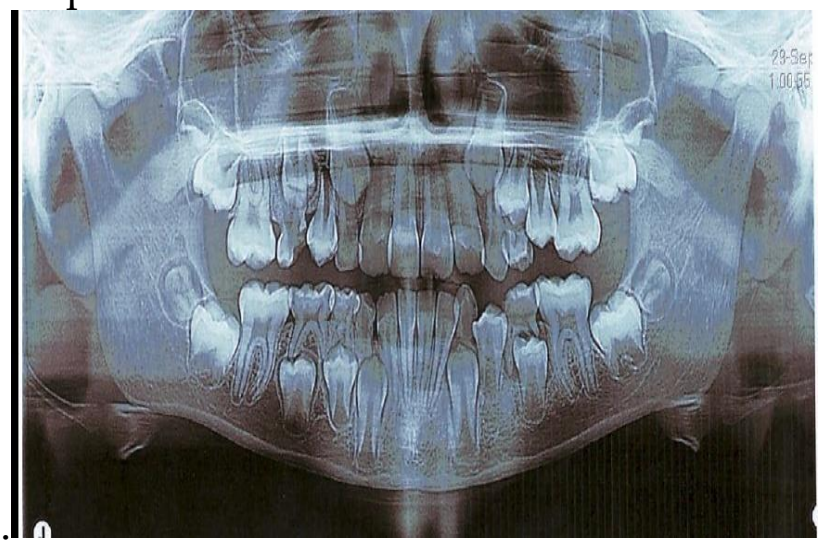


Fig. 2.10. Patient S.A., 10 years

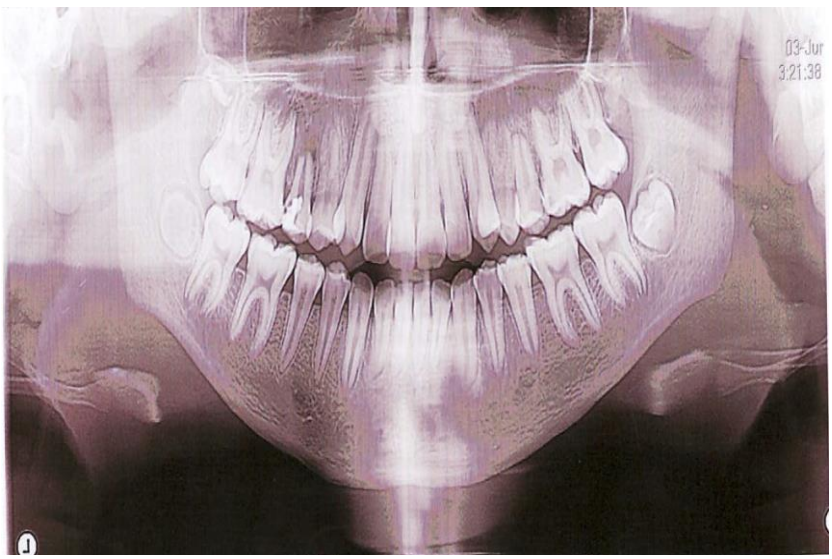


Fig. 2.11. Patient A.G., 14 years

III. ASSESSMENT OF THE PSYCHO -EMOTIONAL STATUS, QUALITY OF LIFE AND EFFECTIVENESS OF TREATMENT AT THE STAGES OF ORTHODONTIC TREATMENT

The clinical and psychological method was the use of psychometric questionnaires to assess the psycho-emotional state of children with a cross bite before, after and 1 year after orthodontic treatment.

The study used the following methods:

The scale of reactive and personal disorders of Spielberg Khanin (adaptation and standardization of Khaninin Yu.L., 1976). The aim of the study is to study the reactive and personal disorders of patients. It is known that the level of reactive or situational anxiety of a person reflects the subjectively experienced emotional reactions of various manifestations in response to arising situations. The degree of anxiety associated with the personality indicates the tendency of the psyche anxiously responding to many life situations. When interpreting the results, the following values of the level of anxiety were used: 20-34 points - low, 35-45 points - medium, more than 46 points - high.

Determination of the level (presence) of the amateurization on the Zung scale (*adapted T.I. Balashova in the department of narcology research named after Bekhtereva, 1988*) is a test of depression self -esteem. The test material contains 20 positive and negative issues, each of which is evaluated on a scale from 1 to 4. This tool allows you to independently evaluate its mental state, and the results are then interpreted by a specialist.

The range of values is represented by four levels: 20-49-norm; 50-59 Mild depression, 60-69 moderate depression; 70 and above - severe depression.

The questionnaire of the test of self -confinence (Self-Attitude Questionnaire) (*Stolin V.V., Panteleev S.r. 1985*) - this tool is based on the structure of self -exhbitors of Stolin V.V. The developed by him is a model of the structure of self -awareness, including an assessment of global self -hypnosis, and this includes self -consciousness, differentiated self -sufficiency, self -esteem, self -consciousness (autosimpathy), self -awareness. -interest and expectation of self -esteem; The level of specific actions in relation to your "I". The questionnaire contains the following scales: S - measures the integral feeling of the subject “yes” or “no” in relation to the “I”. I am self -esteem. II - sympathy for itself III - the expected attitude from others. IV - personal interest. In addition, the questionnaire contains seven scales aimed at measuring the seriousness of the subject of the subject to one or another internal action in relation to the "I": 1 - self -confidence; 2 - the attitude of others; 3 - acceptance of oneself; 4 - aircraft, self -application; 5 - self -accusation; 6 - personal interest; 7 - self -consciousness. Assessment of the scale indicators is based on the following values: less than 50 - the sign is not expressed; 50-74-the symbol is pronounced; Above 74 - the sign is clearly expressed.

The scale of the quality of life of children (HS) SF -36 is visual. A short form-36 is a non-specific questionnaire widely used in HS research in Europe and the USA. With the help of this questionnaire, you can assess the level of the patient’s GS - the level of general well -being and the level of satisfaction of those areas of life that affect his self -awareness [Brazier John E., Roberts J., Deverill M., 2002].

The questionnaire can be used to evaluate QUALITY OF LIFE in any painful condition, and also focuses the patient's attention on problems of a social and psychological nature. A diagnostic questionnaire of socio-spiritual adaptation of a person (Rogers K. and Diamond R.) can be used to study the

characteristics of socio-spiritual adaptation and related aspects of personality. The technique determines the level of adaptation and non -adaptation of a person in the social sphere.

The answers in the technique are differentiated on a 7-bald scale. The authors distinguish the following 6 integral indicators: adaptation; the adoption of others; Internality; self -acceptance; emotional comfort; The desire for leadership. Each of these indicators is calculated according to an individual formula. The interpretation is carried out in accordance with the normative information provided for the individual choice of adolescents.

Rogers K. and Diamond R. Diagnostics of socio - psychological adaptation (*Adaptation of T.V. Snegireva., 1987*) - The purpose of this method is the use of integral indicators “Adaptation”, self -perception, “perception of others”, “emotional Comfort, "the desire for dominance" is to determine the features of the adaptation period.

The scale consists of 100 discussions, 37 of which correspond to the criteria for the socio -psychological adaptation of a person, the following 37 - the criteria for maladaptation and 26 - neutral.

The level of adaptability was determined by the following levels: high level - adaptability indicators above 60%; average level of adaptability from 40% to 60%; low level – flexibility values below 40%.

The SF-36 health survey (the Russian version of the SF-36 questionnaire, approved by the International Center for Study of the Quality of Life in St. Petersburg, 1998) belongs to non-specific questionnaires to assess the quality of life. life. The translation into Russian and testing of the methodology was carried out by the Institute "Clinical and Farmacological Research" (St. Petersburg). The questionnaire consists of 36 points that are grouped in 8 scales: physical functioning (PF), role -playing (RP), body pain (BP), general health condition (GH), vitality (VT),

social functioning (SF), emotional condition (re) and mental health (mH).

Each scale is estimated on a scale from 0 to 100, where 100 means full health (good health). The presented scales form two indicators: physical and mental health. When analyzing the indicators of this questionnaire, the following criteria for the severity of the quality of life are used: 0% - 20% of low quality life; decrease in the quality of life by 21% - 40%; 41% - 60% the average indicator of the quality of life; An increase in the quality of the quality of life by 61% - 80%; 81% - 100% of high quality life.

The questionnaire of the quality of life OHIP -14 - "Profile of the impact on the health of the oral cavity" This questionnaire includes 14 issues relating to the state of dental health that reflect the problems of the life process - 0-14 points - "good" quality of life; Allows you to evaluate the following parameters: functional restriction - impaired chewing function; physical pain; psychological discomfort (discomfort); disability; psychological disability; social incompetence; damage.

According to this questionnaire, the assessment of the quality of life was carried out on the basis of the following gradation points: 15-28 points - a "satisfactory" quality of life; - 29-42 points- "unsatisfactory" quality of life; - 43-56 points- "bad" quality of life.

Complex treatment of cross bite was carried out in stages:

1) The preparatory period includes measures for cleaning the oral cavity and the prevention of caries, myogymnastic exercises, eliminating bad habits, and normalization of breathing through the nose.

2) During the treatment period, the use of an orthodontic apparatus that adjusts the shape of the dentition, adjusting the position of the teeth of the upper and lower jaw, adjusting the width of the dentition, adjusting the occlusal plane. For this,

removable orthodontic devices consisting of various elements were used, devices for expanding dental alveolar arcs.

3) During the retention period, the final correction of the teeth of the upper and lower jaw was carried out, the results obtained were stabilized by achieving tight contact of the fissura phissura using non-removable retainers and removable retention devices.

In case of orthodontic treatment of patients, orthodontic devices were used, which are mainly created on the basis of traditional methods of treatment.

The results of treatment were evaluated by the duration of treatment, the number of visits and the number of children treated with a positive result. The orthodontic effect was evaluated before and after treatment with the help of radiography, biometric measurements of control and diagnostic models, and photometry. The procedure for using the apparatus was determined and the method of using the apparatus was explained to patients, taking into account the mechanism of action of the orthodontic apparatus. The duration of the observation was up to 1 year. Control was carried out using gypsum models.

Periods of complex treatment of patients:

1. Later, a change in the bite is 10-13 years: the use of myofunctional KEP to normalize the ratio of the jaws, as well as removable mechanical orthodontic apparatus and kapp to normalize the occlusal level.

2. Constant bite-14-18 years: the use of non-removable orthodontic devices of mechanical action (braces) to ensure the ratio of jaws, the closure of the antagonist tooths in the normal position and the kappa to normalize the occlusal level (Fig. 3.1).

Before treatment, according to clinical instructions, it was made: recommendations for hygienic care for the oral cavity after installing the device and the terms of dispensary monitoring.

Rice. 3 .1. Patient A., 17 years . An individual cappa corrective level of occlusion is set

In order to evaluate the effectiveness of medical and preventive measures aimed at improving adaptation to orthodontic structures, 110 children aged 10-18 years with cross-bite anomalies were taken for hardware treatment. The examined children of the main group were divided into 2 groups.

Group 1A (87 children with a herecrested bite)-a comprehensive treatment method using omega 3-6-9 was used in the treatment of removable plate apparatus and braces. Based on the studies in the complex treatment of the cross bite, together with orthodontic treatment, taking into account the psychological condition of the Palor children - 5-10 ml 3 times a day before meals for 1 month, as a result, the treatment increased. (Fig. 3.2.)

The orthodontic treatment of children and adolescents of the main group was carried out using removable devices made on the basis of hot polymerization and the Edjuyuist system, and additional teenagers were carried out at a consultation with a psychologist in order to improve the medical and psychological condition.

In order to prevent inflammatory periodontal diseases, Ginginorm was assigned to rinse the throat 15-20 minutes before meals 3 times a day obtained from natural plants, which prevented the development of complications.

1B group (23 children with cross -bite) - basic therapy was used in orthodontic treatment.

Statistical research methods.

Statistical processing of the results was carried out in the package of programs for the personal computer "Statistics" running Windows 7.0, as well as using the Excel-2007 computer program. The distribution parameters of the analyzed symptoms are presented in the form of the average value of the mid - sequency deviation (M ± M). Multiple comparison (Newman-Kules) was used for comparing more than one pair of average values; The criterion of Student was calculated for multiple comparisons. The correlation coefficient was calculated according to the Seplumen. The difference between groups in compared symptoms was considered statistically significant at r <0,05.

A clinical and psychological examination by the psychometric method was carried out in order to study the characteristics of the psycho-emotional state of children with cross-biteful bitefuls of various intensity. Before orthodontic treatment, the Spielberger Khanin questionnaire to assess anxiety showed the following results.

In group 1A - in 22 (25.29%) patients there was a low personality disorder, in 65 (74.71%) - the average personality disorder, in 17 (19.54%) patients and in 70.

In (80.46%) patients, reactive anxiety was expressed in low and moderate values. Strong oh anxiety was not observed. And in group 1b - in 4 (18.18%) patients was average, in 18 (81.82%) patients - a high degree of personality disorder and in 2 (9.09%) patients - average, in 20 (90.91%) patients - high reactive anxiety, expressed in values. (Table 3.1).

Disorders' questionnaire data showed a tendency to increase the severity of the ereecrest bite.

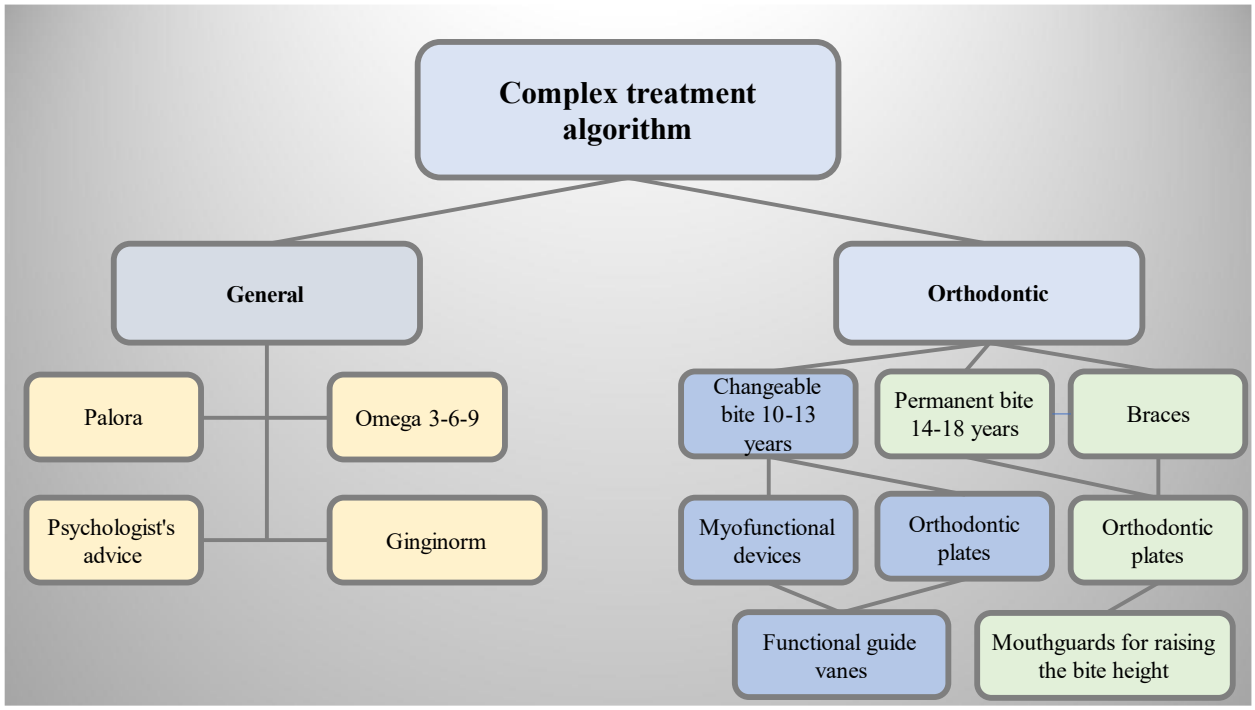


Fig. 3.2. Algorhythm complex treatment of cross bite in children

Table-3.1

Grouping patients with the severity of reactive and personal disorders before treatment

		1A (n = 87) *				1B (n = 23) *			
Personality disorder	Low	22	25,29	4,66	Chi-quadrata = 21,253; P = 0.003	0	0,00	0,00	Hi-quadrata = 8.909; P = 0.003
	Average	65	74,71	4,66		4	18,18	8,22	
	High	0	0,00	0,00		18	81,82	8,22	
P		Pieron's Chi-square = 85.610; P = 0,000							
Reactive anxiety	Low	17	19,54	4,25	Chi-quadrata = 32,287; P = 0.003	0	0,00	0,00	Chi-quadrata = 14.727; P = 0.003
	Average	70	80,46	4,25		2	9,09	6,13	
	High	0	0,00	0,00		20	90,91	6,13	
P		Pieron's Chi-square = 96,930; P = 0,000							

Note: * - Differences between subgroups are statistically significant at p<0.05 using Kruskal-Wallis rank analysis of variance

In our opinion, this symptom is explained by the influence of the aesthetic characteristics of the appearance on the deep layers of the psyche, which are responsible for the perception of reality, which is expressed in a tendency to reduce the threshold of stress resistance, the perception of a wide range of phenomena.

The circle of situations that threaten the integrity of the personality of patients with cross bite, as well as the risk of developing neurotic and psychosomatic diseases.

The analysis of the data obtained on the Tsongga depression scale showed that in patients in group 1a, an expensive state was diagnosed (the average score is 34.0 ± 2.2). Based on the results of the survey in patients of group 1b, mild depression was diagnosed, due to the situation (the average score is 35.2 ± 2.2) (Table 3.2).

Table-3.2

M ± sd/me, points on the depression scale before treatment

Depression level*	1A group (n = 87)		1B group (n = 23)		P
	M	m	M	m	
	34,00	0,36	35,2	1,02	<0,000

Note: *- Differences between subgroups are statistically significant at p<0.05 using Kruskal-Wallis rank analysis of variance

From table 3.2 it is clear that the highest points in the depression scale were in patients of the control group, and their condition was determined by subclinical depression. In addition, a moderate positive correlation of was revealed between the manifestation of a bite violation and the level of depression in both subgroups.

The results described above are M.W. Frejman et al. (2014), shows qualitative consent to the data obtained based on the results of the study, in which, unlike patients with anomalies of the first and second class, there was no clear connection between the disease and depressive conditions.

Assessment of the psycho -emotional state of patients, quality indicators after orthodontic treatment

At the second stage of the study, the dynamics of clinical and psychological indicators after orthodontic treatment was

evaluated. Average points were compared by the personality questionnaire and reactive anxiety of Spielberger-Khanin, the Tsongga depression scale, as well as to questionnaires SEQ (self-enforcement questionnaire) and SPA (socio-psychological adaptation) before and after orthodontic treatment.

Thus, the indicators of personality disorders after orthodontic treatment remained the same limits for all studied subgroups, which confirmed the idea that personality disorder is an integral personality and may depend on other factors not taken into account in this study. To correct its high values, additional work is necessary with a specialist in a psychological or psychotherapeutic profile. As for reactive anxiety, its level was statistically significantly reduced depending on the severity of the cross bite, dropping to medium and low values.

Orthodontic treatment was reflected in points on the Tsonga depression scale (Table 3.3).

The analysis of the results showed a statistically significant decrease in the indicators of the Tsung in groups 1A and 1B ($Z = 8.108$; $p < 0,000$ and $Z = 4.076$; $R < 0,000$, respectively) (Fig. 3.3).

After the treatment of the dynamics of the parameters of the self -attitude questionnaire was the following (Table 3.4). Group 1A shows a statistically significant increase in the frequencies of all the scales of compulsory medical insurance, except for factors 5 and 6 - patients of group 1A did not have “self -bvication” and “personal interest”, as well as “global self -condemnation” factors. , “Personal interest” in patients of the group of groups, “self -accusation”, “self -awareness”.

It follows that the light and moderate level of cross bite is not able to influence the formation of the position of self -accusation.

Apparently, the development of this feature is caused by other factors that have not been studied in this study.

Table-3.3

M ± sd/me subgroups on the Zung scale, in points

Subgroups	M ± sd/me, point				The criterion of the Wilcoxon sign	
	Before treatment		After treatment			
	M	m	M	m	Z	P.
1A-subgroup*	34,00	0,36	22,90	0,33	-8,108	0,000
1B subgroup*	35,20	1,02	30,10	0,77	-4,076	0,000
Mann-Whitney criteria	-1,506		-6,346			
	0,132		0,000			

Note:*- the differences between medians before and after treatment are statistically significant at R <0.05, calculated using the Wilcoxon coefficient

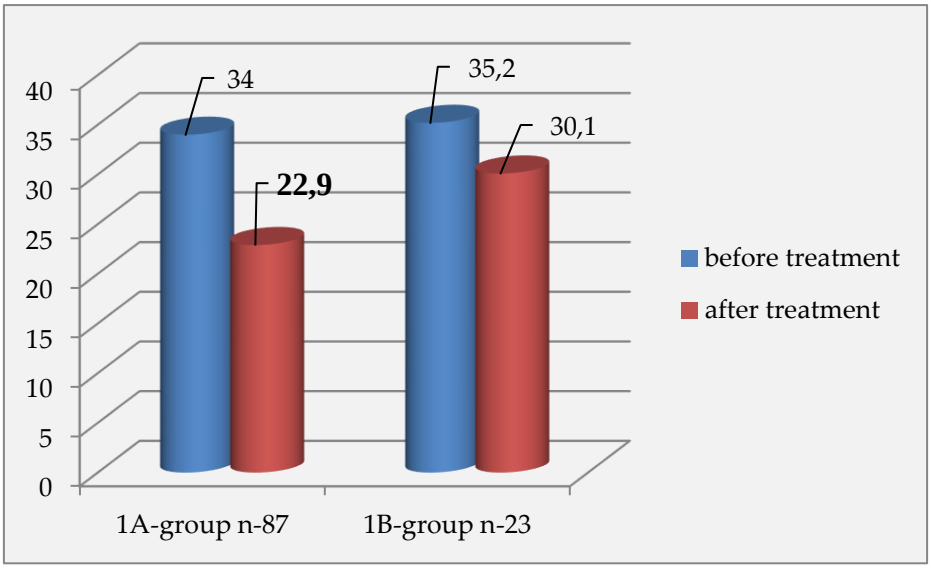


Fig. 3.3. The indicators of the Zongga scale m ± sd/me, in points

Patients of the 1B group noted a reliable increase in the scale: I - "self -esteem", II - "expected from others", 2 - "relations of others", 3 - "self -acceptance", 4 - "self -power" "independence" and 5 - "self -accusation "

Table-3.4

Comparison of the median on the compulsory medical insurance scale before and after orthodontic treatment in subgroups, %

Scales	1A (n = 87)		Z	1B (n = 23)		Z
	To	After		To	After	
Scale-s	91.3*	98.7*	3,16	88	91,2	1,935
Scale-I	86.0*	95.7*	3,049	79.0*	91.3*	3,156
Scale-II	61,1*	86.6*	2,37	58.7*	75.5*	2,342

Scale-III	51.4*	70.3*	3,296	54.7*	74.2*	3,296
Scale-IV	69.3*	91.4*	2,656	91,3	98	1,859
Scale-1	89.3*	100.0*	3,408	92.3*	100.0*	2,934
Scale - 2	57.8*	100.0*	3,331	54.3*	66.7*	2,646
Scale - 3	73.6*	100.0*	3,764	71.7*	88.7*	2,657
Scale - 4	78.7*	90.0*	2,834	79,1*	91.0*	3,18
Scale - 5	42,3	43,4	0,435	42,3	43,3	0,176
Scale - 6	82	82	1,864	66.2*	100.0*	2,636
Scale - 7	85.7*	95.2*	2,205	83,7	83,7	1,461

Note:* - differences between medians before and after treatment are statistically significant at r<0.05, calculated using the Wilcoxon coefficient

Analysis of the dynamics of the median of the questionnaire SPA showed (Table 3.5) that in two subgroups there was a statistically significant improvement on the "Adaptation" scale, the most significant increase in adaptation occurred in group 1a from low frequency to normal frequency. In addition, the values on the "self -perception" scale also statistically changed in a positive direction in two subgroups. The change for the better on the two above scales influenced changes in the "emotional comfort" scale, but statistically significant improvement was observed only in patients of the 1A group. Also, under the influence of orthodontic treatment, statistically significant changes have occurred on the "Relevant" scale in patients of the 1A group.

After the complex treatment we recommended, the adaptation of patients improved from -42.3 to -71.0%, and emotional comfort improved from 50.9 to -79.5% (Fig. 3.4).

Thus, under the influence of orthodontic treatment in all subgroups, there was a decrease in situational anxiety, expressed in eliminating mild depression of situational origin in patients with severe cross bite. The treatment directed the vector of personal changes in the positive direction, which manifested itself

in a change in global self -attitude, self -esteem (respect) of patients of all groups, as well as in increasing their adaptability.

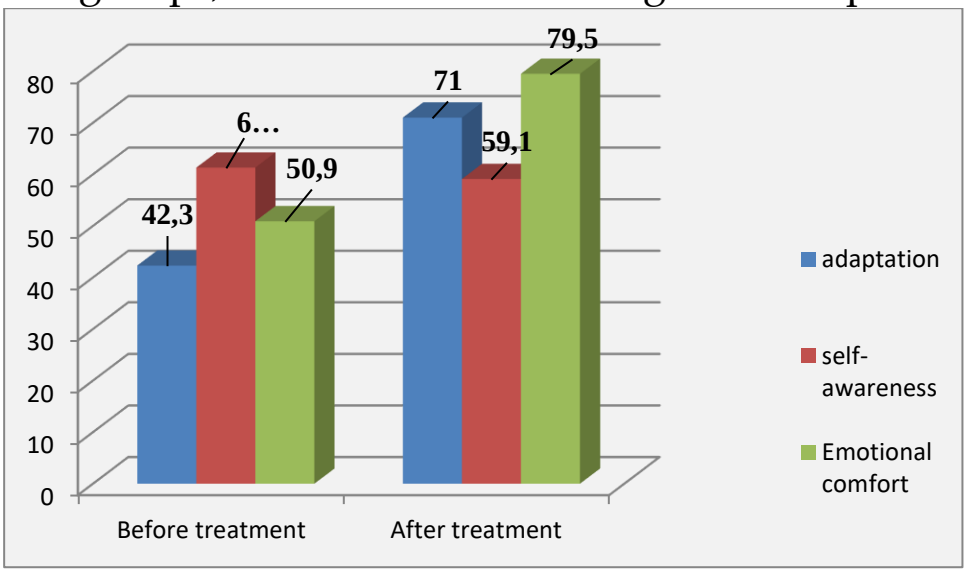


Fig. 3.4. Comparison of the median on the scale of the questionnaire SPA before and after comprehensive treatment, %

Table-3.5

Comparison of the median scale of the questionnaire SPA subgroups before and after orthodontic treatment, %

	1a (n = 87)			1b (n = 23)		
	Before treatment	After treatment		Before treatment	After treatment	
Adaptation	42.3*	71.0*	3,111	42,1*	52.9*	2,632
Self - consciousness	61,3	59,1	1,036	66,1*	69.0*	0,175
The perception of others	52,4	53,5	1,382	52,1	49,1	1,541
Emotional comfort	50,9	79,5	2,153	53,6	55,9	0,863
Internality	45.1*	48.9*	2,023	54,5	53,6	1,753
The desire to dominate	39,1*	52.2*	2,635	45,2	45,7	2,138

Note:*- the differences between medians before and after treatment are statistically significant at p <0.05, calculated using the Wilcoxon coefficient

Patients with mixed symptoms (neurological and somatoform) who "warmly behave well with others", get along well with others, get along well with people, consider themselves

friendly and open to others, have a significantly lower level of “accepting others”. than patients with only somatoform symptoms. "This means that patients with mixed symptoms (neurological and somatoform) are less prone to “self - acceptance” than patients only with somatoform, that is, they have low self -esteem, they often have “doubts that they like it that they like it Someone from the opposite sex; in their personality “there is nothing to express yourself, to show your individuality, your self”; They believe that “deserve contempt”; They often report that “they make a decision, and then refuse it, at the same time hating themselves for such lack of will”.

The dynamics of indicators of the quality of life of children with erased teeth were evaluated according to questionnaires SF-36 and OHIP-14-RU. Analysis of the changes in the SF-36 questionnaire showed the positive dynamics of all life indicators in two subgroups of patients after orthodontic treatment. However, there were some differences in the data between the subgroups.

In group 1A there was a statistically significant improvement in the scales of RP, VT, SF, MH, PH, and MH, which was manifested in increasing life, the emergence of strength and energy, which contributed to improving life performance. Emotional state and social functioning. Patients 1B praised their general health after treatment. Improving the aesthetic features of a smile contributed to the normalization of an emotional state, contributed to the establishment and maintenance of social relations.

The orthodontic treatment of patients of the 1st group is aimed not only at improving the aesthetic qualities of a smile, but also to eliminate the causes of pain. In this regard, the physical condition of such patients has significantly improved due to a decrease in pain and, accordingly, restoration of the quality of mental and physical life.

The analysis of the indicators of the OHIP-14-RU questionnaire also showed a reliable improvement in the general indicators of OHIP in the subgroups of patients. Table 3.7 shows a significant decrease in the general OHIP index to indicators of the "good" quality of life.

Moreover, in each group there was a normalization of various aspects of the dental quality of patients of patients.

So, in group 1a there was a statistically significant decrease in the level of psychological discomfort ($Z = 0.66$; $p < 0.05$), psychological disability ($Z = 2.39$; $p < 0.05$). In this group, the main impact was aimed at correcting aesthetic disorders, the resolution of which led to an improvement in the psychological state.

In group 1B, psychological discomfort indicators ($Z = 4.03$; $p < 0.05$), psychological disability ($Z = 3.70$; $p < 0.05$) and social disability ($Z = 4.16$; $p < 0.05$) showed a statistically significant improvement. Patients of this group experienced greater psychological comfort before starting treatment, after solving problems associated with aesthetics of a smile, as well as discomfort during food, it became easier for them to communicate with surrounding people, to find a common language.

Table-3.6

Comparison of the median on the SF-36 scale in the subgroup before and after orthodontic treatment, %

	1A (n = 87)		Z	P-distance	1B (n = 23)		Z	p-power
	Before treatment	After treatment			Before treatment	After treatment		
Pf	60.0*	95.0*	2,31	0,02	100,00	100,00	1,11	0,27
RP	25.0*	75.0*	2,24	0,03	75.0*	100.0*	2,89	0,00
P.	62,00	74,00	0,66	0,51	100,00	100,00	0,39	0,70

GH	55.0*	85.0*	3,35	0,00	87,00	90,00	0,98	0,33
VT	45,00	50,00	1,11	0,27	60.0*	75.0*	4,26	0,00
SF	50,00	50,00	1,73	0,08	50.0*	100.0*	4,62	0,00
Re	33,30	43,30	0,15	0,88	100,00	100,00	0,96	0,27
MH	40,00	52,00	1,79	0,07	60.0*	80.0*	4,20	0,00
åPh	55.0*	78.0*	2,39	0,02	74.1*	93.8*	4,29	0,00
åMH	27,1*	51.0*	3,41	0,00	43,1*	86.2*	4,70	0,00

The attention of such patients is directed from past problems associated with their teeth and a smile, to external reality, the satisfaction of needs related to other people and activities that they are engaged. In group 1B, the dental quality of life was observed on all scales.

At the same time, the changes on the scales were statistically significant: chewing dysfunction (Z = 0.3; <0.05), physical pain (Z = 0.73; p <0.05), physical incapacity (Z = 0.17; p <0.05), psychological disability (Z = 3.7; p <0.05), social disability (Z = 4.16; p <0.05). It seems that the most important aspect of occlusal disorders in this subgroup of patients was pain during food and at rest. He determined the vector of physical, psychological and social activity in a negative direction. Along with this important component that forms problems associated with the psychological component of health, the attractiveness of a smile worsens.

Treatment of patients of the 1st group made it possible not only to increase the level of dental health, but also to improve the physical and psychological condition. In general, positive changes were observed throughout the sample on individual socio-demographic parameters. An analysis of the characteristics of the psychoemotional state revealed the following changes. After orthodontic treatment and after 1 year, as well as before

treatment, the indicators of subjective discomfort remained within the same limits for all studied subgroups.

Table 3.7

Comparison of the median scale OHIP-14-RU subgroups before and after orthodontic treatment, in points

Disorders of the function	1A (n = 87)		Z	1B (n = 23)		Z
	To	After		To	After	
Violation of chewing function	5.0*	1.0*	2,31	2	1	0,3
Physical pain	6.0*	2.0*	2,24	4	2	0,73
Psychological discomfort	7,0	2,0	0,66	6.0*	2.0*	4,03
Disability	6.0*	2.0*	3,35	3	2	0,17
Psychological disability	8.0*	2.0*	2,39	6.0*	2.0*	3,7
Inability to social work	7.0*	2.0*	3,41	6.0*	1.0*	4,16
Infection	4	1	0,15	2	1	1,59
OHIP	43.0*	13.0*	2,24	29.0*	11.0*	2,56

Note: * - the differences between medians before and after treatment are statistically significant at R <0.05 (secreted by bold font), designed using the Vilcoxon coefficient; n - number of observations

The data obtained confirmed the available information about personal anxiety as a deep and integral feature of the human psyche, which requires additional work with a specialist in a psychological and psychotherapeutic direction to correct its high values. The levels of reactive anxiety before and after treatment in two subgroups are statistically significant (Z = 3.438, P <0.01; Z = 2.713, P <0.001) with the tendency to improve and slightly increase reactive anxiety after treatment. 1 year of treatment, however, this was not statistically significant (Z = 1.325, p = 0.75; z = 1.423, p = 0.57).

The study of the dynamics of the quality of life of patients with a history of the cross bite, consisted in the survey of the proposed patients using the SF-36 questionnaire and further interpretation of the results. When analyzing the indicators of the quality questionnaire SF -36, the following criteria were used, taking into account the severity of the quality of life: 0% - 20% low quality of life: 21% - 40% decrease in the quality of life. life; 41% - 60% average quality of life; improving the quality of life by 61% - 80%; By 81% - 100% higher quality of life. The results of the SF-36 questionnaire are presented in table 3.8.

Table 3.8 shows that after treatment in group 1A, a statistically significant improvement was observed on the scales RP, VT, SF, MH, PH and MH.

Orthodontic intervention in patients of the 1st group was aimed not only at improving the aesthetic aspects of the smile, but also at eliminating the causes of patients of patients. In this regard, it was noted that these patients have significantly improved the working capacity associated with the physical condition (95.0+2.1; $p < 0.001$), the pain and, accordingly, the quality and physical life were reduced.

As for the quality indicators of life 1 year after orthodontic treatment, small fluctuations were observed compared to the indicators received immediately after treatment in group 1B, but such differences were not statistically significant.

Patients 1A have many statistically significant differences in their quality of life questionnaire scores.

In addition, in this subgroup there was a statistically significant difference in indicators in the integral physical component. Interesting information on this topic in Russian literature A.B. Kovalenko. The and after that combined treatment notes a sharp psychological leap for the better, including a

decrease in a high level of anxiety and a significant improvement in the quality of life.

Table-3.8

The dynamics of quality indicators according to the SF-36 questionnaire during observation (IU, %)

	1A-subgroup (n = 87)			1B subgroup (n = 23)		
	to	after	A year later	to	after	A year later
Pf	60	95.0*	95	100	100	100
RP	25	75.0*	100	75	100.0*	100
P.	62	74.0*	80	100	100	100
GH	55	85	85	87	90	95
Vt	45	50	65.0 **	60	75.0*	85
SF	50	50	80.0 **	50	100.0*	100
Re	33,3	43,3	70.5 **	100	100	100
MH	40	52	65.0 **	60	80.0*	85
åPh	55	78.0*	90.0 **	74,1	93.8*	95,6
åMH	27,1	51.0*	70.1 **	43,1	86.2*	95

Note:* - differences between medians before and after treatment r<0.05 (in bold), ** - differences between medians after treatment and 1 year after treatment are statistically significant at r<0.05 (bold), calculated using the Wilcoxon coefficient; PF - physical function, RP - physical role performance, P - pain intensity, GH - general health, VT - vitality, SF - social functioning, RE - emotional role performance, MH - mental health, ✙PH - physical component, ✙MH - mental component

The attractiveness of a smile is an important component of communicative and social comfort. Violation of the aesthetics of this part of the face cannot but affect the adaptation of a person to living conditions. The manifestation of a cross bite has a negative

effect not only on the chewing function, but also on the psychoemotional component of human health. The results of our study showed various manifestations of high personal and situational anxiety, low self -esteem and unsatisfactory self - attitude, unsatisfactory adaptability, as well as a subclinical level of depression in patients with dental abnormalities at the beginning of treatment.

In addition, “patients with a cross -bite of medium and severe degree, originally experiencing physical discomfort associated with unsatisfactory and poor quality of life, have problems not only with eating, but also with rest, as well as difficulties in pronouncing words. All this naturally affects social activity, the level of vital activity and energy, the state of general health, especially its mental component.

Orthodox treatment allows you to positively affect the psycho -emotional state, indirectly changing the aesthetics of a smile. Improving the aesthetic features of a smile, as well as the elimination of a morphological substrate of pain during orthodontic treatment helps to achieve psychological comfort and helps patients focus on establishing and maintaining social relations.

Based on the studies conducted in the complex treatment of cross bite together with orthodontic treatment, taking into account the psychological condition of children, sedatives were used, as a result of which the effectiveness of treatment increased. For the prevention of inflammatory periodontal diseases, a ginginorm is used - a natural plant agent that prevents the development of complications.

The information obtained will improve early diagnosis and prognosis of the disease, which will help children's dentists make up the advisability of treating children with teeth cutters. Given the psychological state of children, when using the tips of a

psychologist, you can reduce the treatment of children and improve the process of getting used to orthodontic devices.

Early detection of cross bite in children, improving examination, joint orthodontic treatment with psychologists can save on expensive treatment in the future. Economic efficiency is designed on the basis of the practical implementation of the proposed methodological recommendation.

When conducting an analysis of economic efficiency, the compared options are more or less effective, but not equivalent, in contrast to minimizing costs. In this context, it is important to assess the feasibility of analysis based on the level of reliability of the data.

As a result of the analysis of the ratio of "cost-efficiency", the ratio of "costs/efficiency" was obtained.

This ratio was calculated according to the following formula.

C/E = (Q2 - Q1): (S2 - S1) x 100, where

C/E = cost/efficiency",

C1 and E2 - the total cost of the first and second intervention, respectively,

C1 and E2 - the effectiveness of the first and second intervention regarding desirable and undesirable results, **100** - calculated coefficient.

Analysis of the economic efficiency of recommendations for use in the clinic showed that the cost of application is as follows:

C/E = (C2 - C1) :(E2 – E1) x100 = (900000-750000) :(90-80) x100 =

150000: 10x100 = 1.500.000 soums.

Thus, the proposed methodological recommendations for the early detection of cross -bite in children and the early start of treatment will determine the working condition of the dentist system and prevent the obvious development of the complications of the disease, as well as save 1,500,000 soums when evaluating. orthodontic prosthetics in patients examined with an anomaly of the bite.

At the initial stages, this allows you to understand the psycho -emotional state of patients addressing an orthodontist, offer possible methods of interaction with the patient, determine the tactics of treatment and, if necessary, conduct joint treatment with additional specialists of the dental clinic. Psychological and psychotherapeutic profile. Studying the dynamics of the quality of life, as well as morphological data complement each other in assessing the effectiveness of orthodontic treatment. Diagnosis of depressive spectrum disorders, the study of self -esteem, anxiety level, as well as an assessment of the external attractiveness of the face and smiles are the main motivational indicators in children, which leave the impression of the level of relations between the doctor and the patient. We recommended by the method of complex treatment of the cross bite were effective by 93.6% (Fig. 3.6). This showed an increase of 25.3% compared to traditional treatment. The awareness of patients about orthodontic devices and their use has increased (Fig. 3.7).

Thus, in children and adolescents with crossed teeth, the morphological and physiological height of the face grows in different directions compared to healthy children. In healthy children, anthropometric facial parameters in the same period of time are almost the same.

Early detection of cross bite in children, improving examination, joint orthodontic treatment with psychologists can save on expensive treatment in the future. Economic efficiency is designed on the basis of the practical implementation of the proposed methodological recommendation.

Thus, the proposed methodological recommendations for the early detection of cross -bite in children and the early start of treatment will determine the working condition of the dentist system and prevent the obvious development of the complications of the disease, as well as save 1,500,000 soums

when evaluating. orthodontic prosthetics in patients examined with bite abnormalities.

Based on the results of the studies, it has been proved that the preparations of the Palora and Omega 3-6-9 in combination with orthodontic procedures are more effective in the treatment of cross-bite in children than traditional methods of orthodontic treatment.

In the treatment of cross bite, the process of getting used to orthodontic devices is reduced and the frequency of use by the patient orthodontic apparatus increases when taking into account the psychological approach, taking into account the psychological state of children. The developed comprehensive treatment algorithm reduced treatment periods and made it possible to increase the effectiveness of treatment.

In our opinion, this symptom is explained by the influence of the aesthetic characteristics of the appearance on the deep layers of the psyche, which are responsible for the perception of reality, which is expressed in a tendency to reduce the threshold of stress resistance, the perception of a wide range of phenomena. The circle of situations that threaten the integrity of the personality of patients with cross bite, as well as the risk of developing neurotic and psychosomatic diseases.

The analysis of the data obtained on the Tsongga depression scale showed that in patients of the main group, depression was diagnosed without depression (average score –39.0 ± 2.2). According to the results of the survey in patients of the control group, mild depression was diagnosed, due to the situation (average score is –57.3 ± 2.5).

The analysis of the results showed a statistically significant decrease in the indicators of the Tsung in groups 1A and 1B. After the treatment, the dynamics of the parameters of the self - confrontation questionnaire looked as follows. Group 1A shows a statistically significant increase in the frequencies of all scales of

compulsory medical insurance, except for factors 5 and 6 - the dynamics of “self -accusation” and “selfish interest” in group 1A patients, and the “global self -renewal” factors, “personal interest” in patients of the group, “self -accusation” "," Self - awareness. " It follows that the light and moderate level of cross bite is not able to influence the formation of the position of self - accusation.

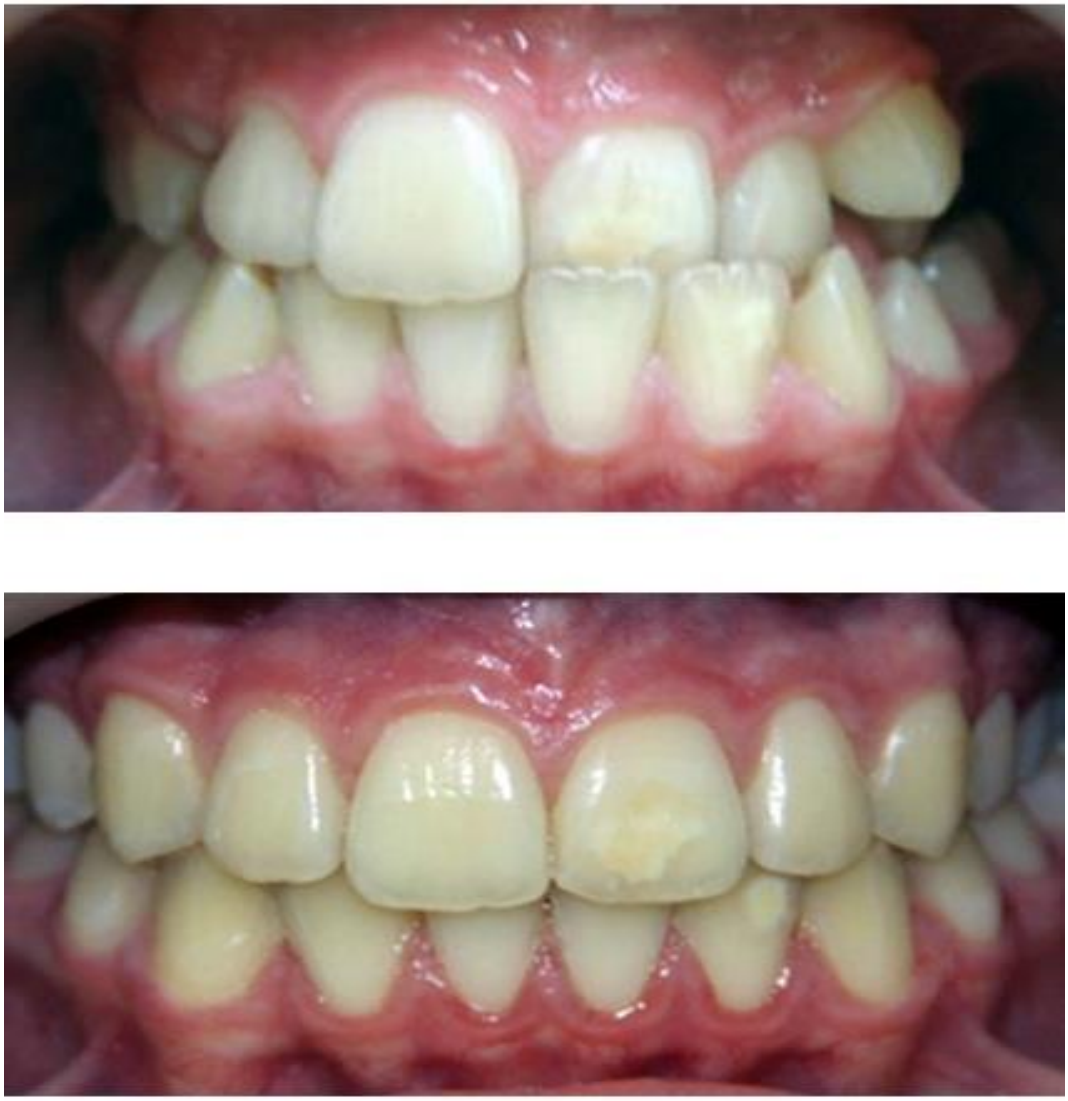


Fig. 3.6. Unilateral crossbite before and after treatment

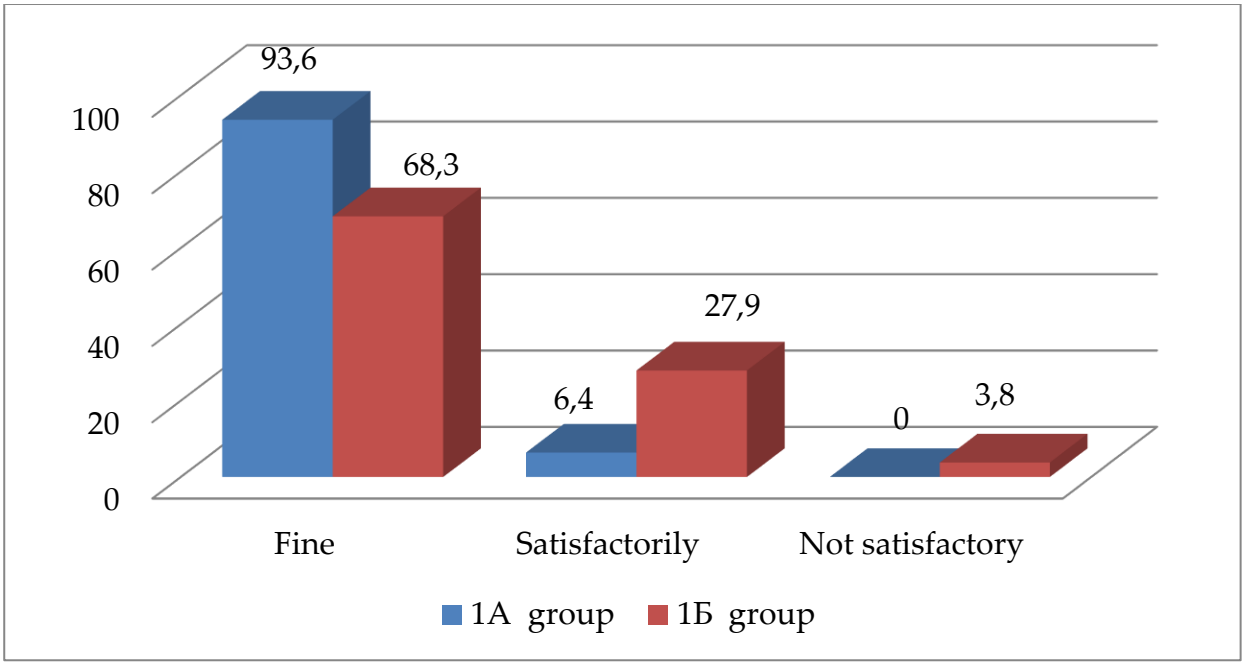


Fig. 3.7. Indicators of the results of complex treatment (%)

After the treatment of the dynamics of the parameters of the self -attitude questionnaire, it looked as follows. Group 1A shows a statistically significant increase in the frequencies of all scales of compulsory medical insurance, except for factors 5 and 6 - the dynamics of “self -accusation” and “selfish interest” in group 1A patients, and the “global self -renewal” factors, “personal interest” in patients of the group, “self -accusation” "," Self - awareness. " It follows that the light and moderate level of cross bite is not able to influence the formation of the position of self - accusation.

Thus, under the influence of orthodontic treatment, a decrease in situational anxiety in all subgroups was noted, expressed in eliminating mild depression of situational origin in patients with severe cross bite. The treatment directed the vector of personal changes in the positive direction, which manifested itself in a change in global self -attitude, self -esteem (respect) of patients of all groups, as well as in increasing their adaptability.

The orthodontic treatment of patients of the 1st group is aimed not only at improving the aesthetic qualities of a smile, but also to eliminate the causes of pain. In this regard, the physical

condition of such patients has significantly improved due to a decrease in pain and, accordingly, restoration of the quality of mental and physical life. Analysis of the dynamics of the indicators of the OHIP-14-RU questionnaire also showed a reliable improvement in the general indicators of OHIP in patient subgroups. The general OHIP index shows a significant decrease in the indicators of the "good" quality of life. Moreover, in each group there was a normalization of various aspects of the dental quality of patients of patients.

In case of orthodontic treatment of patients, orthodontic devices were used, which are mainly created on the basis of traditional methods of treatment.

The results of treatment were evaluated by the duration of treatment, the number of visits and the number of children treated with a positive result.

The orthodontic effect was evaluated before and after treatment with the help of radiography, biometric measurements of control and diagnostic models, and photometry. The procedure for using the device was determined by the attending physician and the time of day was determined, during the day it is advisable to be in a calm position. Observation period is from 1 to 3 years.

In general, positive changes were observed throughout the sample on individual socio-demographic parameters. An analysis of the characteristics of the psychoemotional state revealed the following changes. After orthodontic treatment and after 1 year, as well as before treatment, the indicators of subjective discomfort remained within the same limits for all studied subgroups.

In addition, “patients with a cross -bite of medium and severe degree, originally experiencing physical discomfort associated with unsatisfactory and poor quality of life, have problems not only with eating, but also with rest, as well as difficulties in pronouncing words. All this naturally affects

social activity, the level of vital activity and energy, the state of general health, especially its mental component. Orthodontic treatment allows you to positively affect the psycho -emotional state, indirectly changing the aesthetics of a smile. Improving the aesthetic features of a smile, as well as the elimination of a morphological substrate of pain during orthodontic treatment helps to achieve psychological comfort and helps patients focus on establishing and maintaining social relations.

At the initial stages, this allows you to understand the psycho -emotional state of patients addressing an orthodontist, offer possible methods of interaction with the patient, determine the tactics of treatment and, if necessary, conduct joint treatment with additional specialists of the dental clinic. Psychological and psychotherapeutic profile. The study of the dynamics of the quality of life, as well as morphological data complement each other in assessing the effectiveness of orthodontic treatment.

CONCLUSION

According to the results of the study, a cross bite among children of 14-18 years old amounted to 12%. It was established that in 23% of the examined children during the late shift, there were signs of one -sided cross bite and in 6.4% of the bilateral cross bite. The possibility of assessing normal or pathological growth processes in children according to anthropometric measurements of the face is established. The highest rate of increase in the physiological height of the faces of children with crossed teeth was observed in the main group of children 14-18 years old. The growth of the physiological height of the face was determined at the age of 14-18 with the highest speed in boys and girls. In 100% of cases in the field of second molars in the main group, the corners of the occlusal transverse curves were 9.0 ° and above. The average prevalence of dental caries in children 10-18 years old was 69.8%. At the same time, the prevalence of caries in 10 years was 64.3%, at 13 years old 62.1%, at 15 years old - 45.1%, at 18 years old - 38.6%(R <0.001), the greatest increase in the prevalence of caries in the age of From 10 to 13 years old was observed in children. In the process of early diagnosis and treatment of pathological biteies in children, pathological changes were detected in the early stages using an orthopantomogram and television group research.

Teleradiographic analysis in direct projection made it possible to identify the asymmetry of the face in patients, the early detection of the wrong bite was achieved in 17.8% of children with improper bite.

Comprehensive treatment was reflected in points on the depression scale of the Central Executive Committee. The analysis of the results showed a statistically significant decrease in the Tsung indicator in the main group: from 34 points to treatment decreased to 22.9 points after treatment. The treatment

directed the vector of personal changes in the positive direction, which manifested itself in changing the global attitude towards oneself, self -assessment (respect) of patients, as well as improving their ability to adapt.

In the treatment of cross bite, taking into account the psychological state of children, the process of getting used to orthodontic devices was reduced and the frequency of use of orthodontic apparatus increased. The developed complex treatment algorithm made it possible to reduce treatment periods, the effect of treatment was 93.6% in group 1A and 68.3% in group 1B, where only basic orthodontic therapy was used. Early detection of cross bite in children, improving the examination taking into account the psychological condition of children, conducting orthodontic treatment, together with psychologists, made it possible to reduce the treatment of children and improve the process of getting used to orthodontic devices, saving expensive treatment into the future. In comparison with the effectiveness of traditional methods of orthodontic treatment in the treatment of children with cross-bite, the drugs of the Palora and Omega 3-6-9 are used in complex treatment, taking into account the general treatment and psychological condition of children, the process of addiction. Orthodontic devices are reduced, and the frequency of use by patients of orthodontic devices increases.

In the treatment of gingivitis caused by a cross bite, the use of ginginorm eliminates the inflammatory diseases of the periodontal tissue and prevents the development of the disease into periodontitis.

The method of teleradiography is recommended to be carried out in conjunction with the orthopantomogram during the evening shift, and the examination methods allow you to predict the bite abnormalities in advance.

The use of new diagnostic methods in clinical practice allows a number of screening studies in the Republic of Uzbekistan, and also makes it possible to prevent the disease by early detection of factors that cause anomalies of the dentist system. Early diagnosis of anomalies of the dentist system made it possible to carry out a full treatment of the patient and prevent complications.

The teleradiography method is recommended to be carried out in conjunction with an orthopantomogram on an evening shift, and the examination methods allow you to predict the bite abnormalities in advance. Teleradiography analysis in direct projection makes it possible to early detect the asymmetry of the face in patients.

In the complex treatment of children with dentitions and anomalies of the bite, early bite replacement - 6-9 years old - mihobreis, LM acetrator, later replacement of the bite - 10-13 years - capes to normalize the occlusal level, the use of braces with or without dental removal, A constant bite - 14-18 years - the use of kapp, braces with or without teeth to normalize an occlusal level is highly efficient.

For the first time during the scientific research of the epidemiology of inciters in children during the period of constant bite, the role of risk factors in the occurrence of anomalies of bite was evaluated. Analysis of studies conducted by the methods of orthopantomograms and teleradiography, made it possible for the early detection of cross bite by analyzing the condition of the arches of the dentition of the upper and lower jaws in patients, the ratio of bite and the sequence of teething. During the scientific examination, a medical and psychological approach was used to the treatment of cross bite in children, and the effectiveness of treatment was increased taking into account the socio-psychological state of adolescents. The algorithm of measures has been developed that showed effectiveness for short -term and

distant observations, aimed at comprehensive treatment of cross bite in children.

As a result, taking into account the psychological condition of children in the treatment of children's cross bite, the process of getting used to orthodontic apparatus was reduced and the frequency of use of orthodontic devices increased. The recommended comprehensive treatment algorithm for early detection of cross bite in children and timely treatment made it possible to determine the working condition of the dentist system and prevent the obvious development of complications of the disease.

The reliability of the results of the study is based on the use of a modern theoretical and practical approach, research methods of a high methodological level, which is a sufficient amount of research, early diagnosis, timely diagnosis of deformations of the jaw system observed under the influence of various factors in the tissues of the lingerie region, complementing the clinical, is shown the uniqueness of use dental, medical, medical, psychological and statistical methods, the results and conclusions are justified by the competent authorities.

The combination of psychodiagnostic methods used in this study can be recommended to determine the dynamics of a psycho -emotional state, adaptation, affective condition, level of motivation for treatment, quality of life, as well as to complete understanding of patients in the correction of their appearance, identify the weakest places of self -esteem at the stages of orthodontic treatment.

It is recommended to attract psychic anomalies to treat psychologists in order to eliminate anxiety-depressive symptoms, as well as preserving motivation to undergo a complete course of orthodontic treatment. In the initial stages, this allows you to understand the psycho -emotional state of patients who came to an consultation with an orthodontist, offer possible methods of

interacting with the patient, determine the tactics of treatment and, if necessary, attract additional specialists of a psychological and psychological profile. The study of the dynamics of the quality of life, as well as morphological data complement each other in assessing the effectiveness of orthodontic treatment.

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APPLICATIONS

Application 1

"Test for the identification of anxiety"

(Spielberger's questionnaire)

Situational Anxiety Scale (ST)

Indication. Carefully read each of the following sentences and mark the number in the corresponding field on the right. Do not think about the above questions, since there are no correct or wrong answers. By filling out the questionnaire, mark the answers that most correspond to your current state of mind.

No.	Discussion	No, it's wrong	Maybe so	This is true	Very true
1	I am calm	1	2	3	4
2	Nothing threatens me	1	2	3	4
3	I'm under pressure	1	2	3	4
4	I am internally connected	1	2	3	4
5	I feel freedom	1	2	3	4
6	I'm upset	1	2	3	4
7	I'm worried about possible failures	1	2	3	4
8	I feel calm	1	2	3	4
9	I'm worried	1	2	3	4
10	I feel a sense of inner satisfaction	1	2	3	4
11	I'm sure	1	2	3	4
12	I'm starting to get nervous	1	2	3	4
13	I can't find a place where to place myself	1	2	3	4
14	I was full of energy	1	2	3	4
15	I don't feel limited	1	2	3	4
16	I am satisfied	1	2	3	4
17	I'm restless	1	2	3	4
18	I am very excited and uncomfortable	1	2	3	4
19	I have a good mood	1	2	3	4
20	I like it	1	2	3	4

The scale of personality disorder (PD)

Instructions. Carefully read each of the following sentences and mark the number in the corresponding field on the right. Do not think about the above questions, since there are no correct or wrong answers. By filling out the questionnaire, mark the answers that most correspond to your current state of mind.

o. PP	Discussion	Never	Almost never	Often	Almost always
21	I will be in high spirits	1	2	3	4
22	I will be nervous	1	2	3	4
23	I am easily upset	1	2	3	4
24	I want to be as successful as everyone else	1	2	3	4
25	I suffer from problems and cannot forget them	1	2	3	4
26	I feel energy and desire to work	1	2	3	4
27	I am calm, cold -blooded and assembled	1	2	3	4
28	I'm worried about possible difficulties	1	2	3	4
29	I'm worried about trivial things	1	2	3	4
30	I am very happy	1	2	3	4
1	I take everything to heart	1	2	3	4
2	I lack self -confidence	1	2	3	4
3	I feel vulnerable	1	2	3	4

4	I try to avoid critical situations and difficulties	1	2	3	4
5	I have a blues	1	2	3	4
6	I am satisfied	1	2	3	4
7	All sorts of little things distract me and excite me.	1	2	3	4
8	It happens that I am uncomfortable	1	2	3	4
9	I am a balanced person	1	2	3	4
0	When I think about my work and worries, I feel anxiety.	1	2	3	4

Application 2

Tsung scale for self - esteem of depression

Instructions. The Tsongga scale is widely used in clinical practice and helps to determine the level of depression. By filling out the questionnaire, mark the answers that most correspond to your current state of mind.

Symptoms and sensations	Never or rare	Sometimes	Often	Almost always or always
I have depression	1	2	3	4
I feel better in the morning	4	3	2	1
I cry a lot	1	2	3	4
I sleep badly at night	1	2	3	4
My appetite is no worse than usual	4	3	2	1
I like to be near and communicate with attractive men/women.	4	3	2	1
I am very losing weight	1	2	3	4

I suffer from constipation	1	2	3	4
My heart beats faster than usual	1	2	3	4
I am easily tired for no reason	1	2	3	4
I think, as clear as before	4	3	2	1
I can easily do ordinary things	4	3	2	1
I feel anxiety and can't sit still	1	2	3	4
I am full of bright ideas for the future	4	3	2	1
I am nervous more than before	1	2	3	4
It's easy for me to make decisions	4	3	2	1
I feel that I am useful and need people	4	3	2	1
I live a full and interesting life	1	3	2	1
I feel that other people will be better if I die	1	2	3	4
What always makes me happy, still makes me happy	4	3	2	1

Results on the sum of points: less than 50 - there is no depression, 50-59 - mild (weak) depression, 60-69 - moderate (moderate) depression, 70 or more - severe depression.

Application 3

The test of the questionnaire (Stolin V.V., Panteleev S.R.)

Instructions. You are invited to answer the following 57 statements. If you agree with this statement, put a "+" sign, if you do not agree, put a " -" sign.

The text of the questionnaire

1. I think that most of my friends sympathize with me.
2. My words often do not contradict my actions.
3. I think many see in me something similar.
4. When I try to evaluate myself, I first see my shortcomings.
5. I think that as a person I can be a magnet for others.
6. When I see myself through the eyes of a person who loves me, I am amazed at how far my image is from reality.
7. I am always interested in my "I".

8. I do not consider sin to sometimes regret myself.

9. In my life there are or at least very close people.

10. I still need to earn self -esteem.

11. It was several times when I hated myself very much.

12. I completely believe in my sudden desires.

13. I wanted to invent myself in many ways.

14. My "I" does not seem to be in good attention.

15. I sincerely want everything to be fine in my life.

16. If I treat someone with reprimand, then first of all to myself.

17. I will probably seem to be a good acquaintance with a good person.

18. Most of the time I approve of my plans and actions.

19. My weaknesses cause me something like hatred.

20. If my second I existed, it would be very interesting to communicate with him.

21. I feel that some of my qualities are alien.

22. No one can feel like me.

23. I have enough abilities and strength to implement my plan.

24. I often laugh at myself.

25. The wisdom that a person in life can do is obey his fate.

26. At first glance, a stranger will find a lot of repulsive in me.

27. Unfortunately, the fact that I say something does not mean that I am doing this.

28. Your attitude to yourself can be called friendly;

29. It is natural to be soft with your weaknesses.

30. I cannot be interesting for a person I love.

31. deep down, I want something catastrophic to happen to me.

32. I will hardly sympathize with most of my friends.

33. It may be very pleasant to see himself through the eyes of a person who loves me.

34. Whenever a desire arises, I first ask myself if it is reasonable.

35. Sometimes I think that if some wise person saw me, he would immediately understand how negligible I am.

36. Sometimes I am surprised at myself.

37. We can say that I really appreciate myself.

38. deep down, I really cannot believe that there is a growing.

39. I can not do anything without any help.

40. Sometimes I do not understand myself.

41. I strongly interfere with the lack of energy, will and achievements.

42. I think that others generally value me highly.

43. In my personality there are things that others may not like.

44. Most of my friends do not take me seriously.

45. I often develop a line of irritability.

46. I can say that I have low self -esteem.

47. Even my negative features do not seem to me by strangers.

48. In general, I am satisfied with those who I am.

49. It is almost impossible to really love me.

50. There are no realism in my dreams and plans.

51. If my alter ego existed, it would be the most boring communication partner for me.

52. I think that I can find a common language with any smart and knowledgeable person.

53. What is happening to me is usually clear to me.

54. My advantages are much outweighing my shortcomings.

55. There are hardly many people who will accuse me of dishonesty.

56. When I have problems, I, as a rule, say: "This is also the benefit."

57. I can say that in general I can manage my fate.

Application 4

METHOD OF DIAGNOSTICS OF SOCIO-PSYCHOLOGICAL ADAPTATION OF C. ROGERS AND R. DIAMOND

The instruction. The questionnaire contains statements about a person, his lifestyle: experiences, thoughts, habits, and style of behavior. They can always be associated with our way of life.

After reading or listening to the following statement of the questionnaire, try to evaluate it according to your habits and lifestyle. To express your answer in the form, select one of the seven assessment options numbered in your opinion from “0” to “6”:

-"0" - This does not concern me at all;

-"1" - In most cases this is not characteristic of me;

-"2" - I doubt that this is applicable to me;

-"3" - I do not dare to take it with me;

-"4" - It seems to me, but not really;

-"5" - It looks like me;

-"6" - This is about me.

Mark the answer option you have chosen in the answer sheet in the field corresponding to the serial number of the approval.