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DIAGNOSTİC AND CORRECTİON OF SPEECH DİSORDERS İN CHİLDREN HAVİNG RHİNOLALİA

Specialty: 5805.01-Correctional pedagogy

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ABSTRACT

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GENERAL CHARACTERISTICS OF THE STUDY

Relevance and development degree of the topic. In modern times, the normalization of children' health, their mental and physical environment is a basic requirement of any society. Today, the work done in the world and in our country to educate people with disabilities is in sight, but despite this, there are still many problems in the field of education and rehabilitation of these people. The presence of a person's physical or mental disability doesn't mean that she/he is out of order. Disability is an external sign and people with disabilities remain an integral part of society. In every age, child health, their carefree growth in a positive social environment, both physically and mentally, providing education and medical services in accordance with the requirements of society are development strategies of every state. In the legislative system for the education of children with with limited health in Azerbaijan, it is important to be an integral part of society by these children and paying attention to them, as well as their integration, social adaptation and rehabilitation in society. Ensuring the right of these individuals to education at all levels on an equal basis with others are holding continuous events for them are one of the important and key issues. Normative rules on the organization of special education, home education, integrated and inclusive education in the Law of Azerbaijan Republic on Education (special education) of individuals with limited health contain norms for disabled people to take their place in the society. In order to ensure equal access to education for disabled people, the purpose of "State Program on Development of Inclusive Education for people with disabilities in the Azerbaijan Republic in 2018-2024" is aimed at providing these children with equal education.

A large group of children with disabilities involved in homeschooling are children with congenital pathologies. Congenital pathologies, physical disabilities and abnormal growth of body parts limit their socialization in society. Eliminating these problems and adapting children to the environment is one of the main goals of modern society.

Congenital cleft lip and cleft palate is one of the most common problems among congenital malformations. According to research, cleft lip and cleft palate are the most common and most severe growth defects in the human population. It is possible to follow the birth rate and growth trend of these children.

Medical treatment and pedagogical correction of children with congenital cleft lip and palate requires a systematic, consistent complex intervention of specialists. It is important to perform surgery to restore the anatomical structure of the face and jaw in children with cleft lip and cleft palate. However, surgery doesn't ensure the children have normal speech, simply creates the anatomical-physiological conditions for the formation of correct pronunciation and respiration.

The problems of diagnosis and correction of speech disorders in children with cleft lip and cleft palate after surgery is considered a topical issue of modern speech therapy. Severe speech disorders caused by cleft lip and cleft palate are called rhinolalia. An analysis of the scientific literature on the problem of rhinolalia shows that different aspects of the problem have been developed by researchers at different times. Nevertheless, a number of gaps still arise between the work on the complex formation of the articulation, phonation, and respiratory functions.

As a result of the analysis of foreign literature, methods for the diagnosis and correction of children with rhinolalia were presented in the research conducted by F.A.Raun, Z.G.Nelyubova, A.G.Ipolitova, Z.A.Repina, T.B.Filicheva, Y.F.Arkhipova, K.D.Dicman etc.

However, we found that limited information on corrective work about speech respiration, phoneme perception and phonetic analysis in rhinolalia, which is the result of a pathological compensatory mechanism for the formation of cleft lip and cleft palate in children aged 3-10 years. For this purpose, we examined the treatment methods, methodological approaches and directions of quality speech therapy aimed at restoring speech after surgery in children with rhinolalia and reaffirmed that the topic chosen by us is relevant for the modern period.

Many studies have been conducted in Azerbaijan in the field of

correction of people with disabilities. In the researches conducted by S.A.Gasimov, D.A.Dostuzade, T.H.Agayeva, E.M.Karimova, A.E.Abbasov, S.R.Aslanova and T.M.Verdiyeva, research has been conducted to study, diagnose and correct the pedagogical and psychological characteristics of different categories of children with disabilities. However, no research has been conducted in Azerbaijan in the field of diagnosis and correction of children with rhinolalia.

It should be noted that in the field of medicine, research has been conducted on the surgical elimination of the maxillofacial region. It is true that the role of surgery is great, but the main purpose of surgery in this process is to restore the anatomical structure and function of the palate. This surgery does not ensure normal speech development, but only creates anatomical and physiological conditions for correct pronunciation. As a result of purposeful, consistent and systematic work on diagnosis and correction, it is possible to eliminate complete or partial speech disorders in children with rhinorrhea.

In this regard, a detailed study of manifestations during rhinolaryngology, revealing the complex interaction of respiratory, sound formation mechanisms and articulatory functions, and limited research to provide correction opportunities, determined the choice of research topic and problem formation.

Object and subject the of research. The object of the research is the process of diagnosing and correcting sound pronunciation and breathing of children with congenital cleft lip and cleft palate after surgery between the ages of 3 and 10. And the subject of the research is the study of effective methods, forms and methodical approaches of speech therapy in the elimination of speech disorders in children with rhinolalia.

Purpose and tasks of the research. To form theoretical knowledge about anatomical-physiological mechanisms of rhinolalia, to substantiate by the experimental way of effective correction work system during cleft lip and cleft palate and the development of appropriate tools are the main goals of the study.

In order to achieve the main goal of the research, a number of specific tasks are planned:

1. To determine the conceptual basis of research by conducting medical, pedagogical and psychological analysis of rhinolalia problem in the scientific literature.
2. To determine the etiology and pathogenesis of rhinolalia.
3. To analyze the specific features and pedagogical-psychological bases in the structure of speech disorders in children with rhinolalia.
4. To substantiate the theoretical model of complex diagnostics by modifying diagnostic methods to detect disorders of articulatory motor skills, respiration, sound pronunciation, phoneme perception and phonetic analysis in children with rhinolalia.
5. To clarify the situation of the speech apparatus members during rhinolalia.
6. To distinguish the rules of sound pronunciation during open rhinolalia.
7. To conduct pedagogical observation during speech communication in the process of speech therapy with children having rhinolalia.
8. To compare speech therapy before and after surgery.
9. To conduct experimental research on the topic.
10. To analyze and summarize the theoretical and practical conclusions obtained.

Research methods. The methodological basis of the research is the theory and concepts of special pedagogy and psychology, information on the psychomotor development of children with cleft lip and cleft palate.

Different methods used to solve the tasks ahead:

- theoretical analysis: sources related to the problem have been researched, analyzed and generalized;

-examination: medical, psychological, pedagogical examination of children with cleft lip and palate was carried out;

- complex logopedic examination: a speech therapy examination was performed after surgery to properly set up the corrective correction system;

- analysis of activity products: the results of tasks with children with cleft lip and cleft palate were analyzed;

- teaching experiment: it was held at the "Goyarchin" psychological and speech development center in Ganja;

- dynamic observation: performance of tasks presented to children with cleft lip and palate was observed.

The main provisions for defense.

1. It is the pathological risk factors that lead to the formation of congenital cleft lip and cleft palate.

2. Speech disorders during rhinolalia are the result of morphological and functional pathologies of the maxillofacial zone, which may be associated with the symptomatology of pathological speech given to an additional person (with secondary pathologies).

3. The justification of the differential approach in the choice of corrective measures depends on the nature of the pathological manifestations in children with rhinolalia.

4. The success of correctional work with children with rhinolalia and complete restoration of speech depends on the successful passage of surgery and the early onset of logopedic work before and after surgery.

Scientific novelty of the research. Pedagogical and psychological features of children with cleft lip and cleft palate are revealed in the field of speech therapy in Azerbaijan, the structure of their severe speech disorders determined, substantiated the use of differentiated methods in the process of diagnosis and correction after surgical operation. Speech therapy methods are modified according to the features of our native language, the main directions and methods of speech therapy developed to eliminate the pathological habits of speech during rhinolalia and its reliability proven experimentally. Diagnosis and correction of speech disorders in children with rhinolalia are first studied at the level of a doctoral dissertation and scientific, pedagogical and psychological bases for speech restoration in children with rhinolalia developed.

Theoretical and practical significance of the research:

The theoretical significance of the study lies in the fact that the content of the characteristics of sound pronunciation, speech

respiration and phonematic perception of children with rhinolalia and the resulting speech disorders are scientifically substantiated by us, and the idea of the structure of speech disorders associated with various pathologies of children with congenital lip and palate slits has been expanded. Depending on the age of the child, pathological manifestations and the success of the operation, speech therapy techniques aimed at restoring speech were modified.

The practical significance of the research is that the tested methods can be used in the development of scientific seminars and methodological aids that highlight the research results of postoperative diagnostic and correctional work of children with rhinorrhea. The results of the research can be used by bachelor's and master's degree students in the field of speech therapy and are important for practical speech therapists who organize the rehabilitation and correction of children with rhinorrhea in our country. The use of general pedagogical and methodological principles of speech therapy in speech disorders and their correction ensures the effectiveness and reliability of research results. The research work requires the application of various adequate methods that complement each other during the experiment, carry out the learning phase with the dynamic observation of children and allow for qualitative processing of the data obtained during the experiment.

Approbation and application of the research. The results of the research were discussed at a number of national and international scientific-practical conferences and seminars at the Azerbaijan State Pedagogical University, the Institute of Education of the Republic of Azerbaijan and abroad. The main content of the dissertation is reflected in 25 scientific articles, 6 abstracts.

Bidder's personal contribution: The author's contributions identified and corrected in the dissertation include the principles of diagnostic examination, stages of correctional work, directions of the speech therapy system before and after surgery during rhinolalia.

The dissertation was completed at the **Department of Special Education of the Azerbaijan State Pedagogical University.**

Structure and volume of the dissertation. The dissertation consists of an introduction, five chapters, twenty-three paragraphs, a conclusion and a bibliography.

Introduction - 6, Chapter I - 70, Chapter II - 46, Chapter III - 39, Chapter IV - 61, Chapter V - 37, result - 4, list of used literature - 14 pages, total dissertation work 463 264 (530 397) consists of a symbol.

MAIN CONTENT OF THE RESEARCH

The research was conducted in 3 stages.

In the first stage, both the medical and pedagogical-psychological state of the problem was analyzed.

In the second stage, a speech therapy examination was performed within the complex examination and the features of speech movement and development of children with rhinorrhea were identified.

Based on the diagnoses found in the third stages, the principles, directions and stages of correction work were determined.

Chapter I of the dissertation entitled "The history, essence and content of the study of Rhinolalia problem", consists of 4 paragraphs. Different approaches on the problem are analyzed in the paragraphs "History of rhinolalia study and problem in the literature" of the chapter. This problem has been studied comparatively from different perspectives in different countries and nations, and even in different provinces. The earliest medical research documents note the birth history of children with congenital cleft lip and the relation with religion, superstition, invention and charlatanism.

Inscriptions found in ancient Greece, Rome, and China provide a detailed analysis of the earliest evidence of cleft lip and palate. Medical encyclopedists of Hippocrates, known as De Medisina (BC. 460-375), Cornelius Celsus (25 BC- 50 AD), the Arabian physician Albukasis, in 1854 Jan Iperman, in 1952 G.Mirault, C.V.Tennison, in 1959 Peter Randall and in the late 1950s, Ralph Millard presented their approaches to the problem and the methods they tried to overcome. The first researcher on cleft lip in ancient Europe history

was Claudius Galen (131-206 AD).

N.I.Pirogov (1844), N.V.Voronsovsky (1875), P.Subbotin (1894), M.I.Paykin (1936) in their works suggested the importance of operative measures. The approaches of research scholars such as G.Gutzmann (1924), G.Arnold (1959), M.M.Vankevich (1926), V.A.Karetnikova (1927), M.E.Khvatsev (1931-1959), F.A.Raun (1931), Z.G.Nelyubova (1938) who presented new methods in paediatrics presented in this paragraphs.

A.A. Limberg noted that, first of all, the surgeon should have a realistic idea of his duty in the treatment of cleft lip deformity and eliminating the defect. The task of surgical treatment is to completely restore the shape and size of the organs deformed without damaging their normal development. The impaired and insufficient body function (features of speech function) spontaneously restored only in rare and accidental cases.

Foreign experts suggest a gradual medical and pedagogical study of cleft lip and its elimination, in this process, they developed two new directions in pedagogical methods of eliminating speech disorders during open nasal speech.

The development history of rhinolalia studies shows that expert speech therapists and physicians tried to form and strengthen the palate-pharyngeal ligament by proposing appropriate methods to eliminate speech disorders during open rhinolalia.

Chapter I, the second paragraphs titled "Medical characteristics of rhinolalia and methodological basis of risk factors providing the formation of cleft lip and cleft palate" is about the clinical characteristics of the problem.

The causes of rhinolalia are presented in this subsection, and it is noted that cleft lip and palate can occur at any stage of pregnancy as a result of pathogenic factors, including hereditary and genetic factors. The etiological causes of rhinolalia allow distinguishing its clinical forms.[1] There are 3 forms of rhinolalia defined by the

[1] Volkova, GA Methods of psychological and pedagogical examination of children with speech disorders. Differential

incorrect interaction of the nasal cavity with the mouth and esophagus:

- open rhinolalia;
- closed rhinolalia;
- mixed rhinolalia.According to the classification prepared by a group of scientists, the clinical and anatomical classification of the upper lip and cleft palate carried out as follows.

Congenital cleft in the upper lip.

1. Congenital occult cleft of the upper lip (unilateral or bilateral);

2. Congenital incomplete cleft of the upper lip:

a) without deformation of the nasal skin-cartilage (unilateral or bilateral);

b) with deformation of the nasal skin-cartilage (unilateral or bilateral);

3. Congenital complete cleft of the upper lip (unilateral or bilateral), there is always a deformation of the nasal skin cartilage.

Congenital cleft palate.

1. Congenital cleft soft palate:

a)occult;

b)incomplete;

c)complete.

2. Congenital cleft of the soft and hard palate:

a)occult;

b)incomplete;

c)complete.

3. Congenital cleft of soft, hard palate and alveolar ridge - unilateral or bilateral.

4. Congenital cleft of alveolar ridge and anterior part of the hard palate:

a) incomplete - unilateral and bilateral;

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diagnosis issues G. A. Volkova St. Petersburg: Childhood-Press, 2003.-168 p.

b) complete - unilateral and bilateral.

Taking into account the localization of cleft and its length, N.M.Mikhelson represented the next classification of cleft palate:

1.Incomplete:

a)uvula;

b) middle cleft of uvula and soft palate;

c)occult cleft;

d) uvula, soft and hard palate - unilateral.

2.Complete:

a) soft and hard palate, alveolar ridge - unilateral clefts;

b) soft and hard palate, alveolar ridge and lip - unilateral and bilateral.

All unilateral clefts may be right-sided or left-sided. For use in clinical practice, L.Y. Frolova presented the next classification of congenital cleft lip and palate, meeting the clinic requirements and corresponding to the world classification.

According to the classification of L.Y. Frolova, it is divided as follows:[2]

1. Single slit in the upper lip.

2. Single slit in the palate.

3. Open cleft on both sides

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[2]Supiev, T.K., Mamedov, Hell. A., Negametzyanov, N.G. Congenital cleft of the upper lip and palate (etiology, pathogenesis, issues of medical and social rehabilitation), monograph, 2013, 496 p.

[3] Supiev, TK Negametzyanov NG, Nigai GA, Utepov DK- Optimization of complex rehabilitation of children with congenital cleft lip and palate using information technologies / Mater. II All-

1. Single slit in the upper lip
2. Single slit in the palate
3. Open cleft on both sides (upper lip and palate)
4. Atypical facial cleft skin (upper lip and palate).
5. Atypical facial cleft.

In this paragraphs, the problem factors and their methodological bases studied. Factors affecting these factors and the results analyzed.

Thus, the majority of researchers came to the general conclusion that cleft lip and cleft palate is a multifactorial pathological process with a very different population and family frequency (up to 95%).

The third paragraphs titled "Pedagogical characteristics and symptom complex of speech disorders structure in children with rhinolalia" studied the influence of issues such as nutrition of the child during congenital cleft palate and cleft lip, its physiological and speech respiration on the formation of the child's speech.[4]

Congenital cleft palate is an unfavourable condition that prevents the physical development of child. The larger the defect, the more the child's body is exposed to developmental disorders. It is noted that breastfeeding is impossible in the anamnesis of children born with a severe cleft palate (complete or incomplete cleft).

At the same time, a cleft palate worsens the physiological respiratory conditions of the child. In a normal child, the inspired air flow passes through the nasal cavity and esophagus behind the palate and when warmed enough, air enters the internal respiratory tract. Hot air doesn't irritate the mucous membranes of the respiratory tract

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Russia Scientific. practical conf. "Congenital and hereditary pathology of the head of the face and neck in children Moscow: M HMSU, topical issues of complex

[4] Levina, RE. Fundamentals of the theory and practice of speech therapy / RE. Levin. Nauka, 2017.-368 p.

and esophagus and protects the child from colds. Such cases don't occur in children with congenital cleft.

This paragraphs studied the issue for disorder of the timbre and sound pronunciation and the anatomical structure of the speech apparatus during rhinolalia.

Among the disorders of articulatory motor skills of a child with rhinolalia are:

1. The combination of the tongue root with the back of oral cavity, called hypertrophy of the tongue root and pathological condition of the tongue.

In this case, the tongue stabilizes in the next position and moves back completely, the root and the wall raised. In this condition, the tip of the tongue is usually poorly developed, often paretic, and doesn't participate in articulation. As a result, it is possible to perform only the least differentiated, the most elementary actions.

2. Anomalies in the structure and mobility of the lips.

In children with unilateral open and bilateral open cleft palate, there is a postoperative scar and lack of sensation in it, which leads to residual deformity of the upper lip.

3. Disorders of the muscles performing the soft palate movement.

This is the function of all the muscles providing the soft palate to rise and form the division of the nasal and oral cavities. This function is severely limited not only during speaking, but also during chewing.

4. Changes in the interaction of all peripheral end muscles of the speech movement analyzer.

Interaction disorder between the articulatory and facial muscles is characteristic, so it manifested by the pathological activity of the facial muscles in the process of articulation. During the phonation process, the child tries to get air into the nose by stretching the nasal wings and sometimes the whole face. Along with the movement of the nasal wings, in some patients, the forehead muscles also contract.

According to I.I.Yermakova, in children with congenital cleft lip and palate, hypernasalism is present only from all sound characteristics until about the age of seven.

The speech of all children with cleft palate can be divided into three groups according to the severe speech sound disorders and the degree of nasal congestion.

1) in nasal sounding speech, consonants form with proper articulation. Such a disorder is called open rhinophania;

2) children with distorted articulation of consonant sounds with noticeable nasal sounding speech (the majority of children);

3) children with noticeable nasal sounding speech and with no complete articulation of consonants.

Errors in the grammatical structure of speech are observed:

- wrong combination of words according to the quantity and case, errors in the using the declension of plural form;
- incorrect sentence structure.

I Chapter, the fourth paragraphs titled "Features of psychological and psychomotor development of children with rhinolalia", researched all the psychological processes of a child with rhinolalia, and studied their effect on the speech process.

In this subsection, opinions based on the researches of L.S.Vygotsky, A.N.Leontiev and S.L.Rubinstein were analyzed.[5]

Clinical and physiological, psychological and pedagogical studies, and observations by speech experts show that children with these pathologies attract attention with the characteristics and originality of psychological processes, notice, perception, memory, thinking (I.G. Vasilenko, 1990; Mastyukova, 1980, 1985; Usanova O.N, 1990, 1995, etc.).

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[5] Inshakova, OB. Album for speech therapist / OB. Inshakova.-2nd ed., Rev. And add. -Moscow Humanities. Ed. Center VLADOS, - 2014. 29 s

This paragraphs studied that children with congenital maxillofacial pathology are more prone to emotional instability and excitement about their relationships with adults and peers.

Noted that the development of children with congenital cleft lip and cleft palate occurs in special physiological and psychological conditions, which also reflected in specific psychomotor and speech disorders. An analysis of the literature in this direction shows that the difficult physiological and social conditions in which children with congenital cleft lip and palate develop psychomotor and speech create their interdependence.

Chapter II of the study is devoted to the research "The main directions of complex diagnosis of children with rhinolalia." The first paragraphs provides considerations on “Directions of complex diagnosis of children with rhinolalia”.

A comprehensive study of clinical and psychological-pedagogical data is important to determine the specific features of speech disorders, the correct organization of complex effect and ways to improve correctional work with children having rhinolalia.
The scientist proposing the correctional training notes that the successful resolution of the tasks depends on the correctness and timeliness of the speech disorder, its severity and the beginning of the correction tasks.

Familiarity with various research methods, medical documents; pedagogical observation of children in the conditions of free communication and special training; conversations with doctors, parents, children; objective methods of research; nasopharyngoscopy, radiography are used.

It is advisable to rely on several examination principles in the complex diagnosis of children with rhinolalia. First of all, rhinolalia caused by congenital cleft lip and cleft palate on the principle of complexity is considered a complex speech disorder and its elimination require a complex medical-psychological-pedagogical intervention. Along with speech therapists, surgeons, orthodontists, pediatricians, otorhinolaryngologist, neurologists, geneticists and psychologists are involved in the study of such children. This study is useful because the causes of anatomical defects leading to the

functional problems of speech apparatus studied timely (adversely affects the child's development, causing respiratory, feeding, hearing and speech disorders).

In the complex diagnosis of children with rhinolalia, it is advisable to rely on several examination principles. The second paragraphs of chapter II studied “Examination methods of speech therapy”.

The chapter includes a diagnostic examination of 5 children with rhinolalia during a speech therapy examination. The children involved in the research are a contingent involved in rehabilitation at the "Goyarchin" Psychological and Speech Development Center in Ganja. Exercises submitted to the children for checking the movement of various members of the articulatory apparatus. The conclusions of these studies were recorded and tabulated at the end of each stage.

The 5 children examined are defined with different diagnoses of rhinolalia.

1st child Rasulov Anar (5-year-old): right-sided upper lip cleft without general cartilage deformation.

2nd child Nasibzade Deniz (6-year-old 3 months): slight submucous cleft.

3rd child Karimova Goychak (7-year-old 4 months): deformations caused by scars.

4th child Huseynov Kamal (6-year-old 7 months): hard and soft cleft palate.

5th child Hasanova Maryam (5-year-old 10 months): right cleft of the upper lip with deformation of nasal bone cartilage.

Speech therapy examination is considered expedient to be carried out in the following stages.

In the quiet state, begins with the observation of mimic muscles:

- nasolabial fold open, their symmetry;
- mouth open or closed;
- saliva flow case or vice versa;
- the feature of lip lines and their compression tightness;

- the presence or absence of obligatory movements of the facial muscles (hyperkinesis) is noted.

The following diagnostic methods are used to examine the structure and movement of the articulatory apparatus.

1st method: All tasks should be performed with multiple repetitions of the required action. The study of lip movement function according to verbal instructions is carried out after the execution of the task as instructed.

The content of the task:

a) to press lips together;

b) to circle lips, as when pronouncing "O" sound - to keep the position;

c) to extend lips as pronouncing the "U" sound and to keep the position;

d) straighten "hose" (to extend and close the lips);

e) to pull the lips like a "smile" (teeth are not visible) and to keep the position;

f) to raise the upper lip upwards, the upper teeth are visible;

g) to lower the lower lip, the lower teeth are visible;

h) to lift the upper lip, lower the lower lip at the same time;

i) multiple repetition of b-b-b, p-p-p lip sounds.

Table 1.

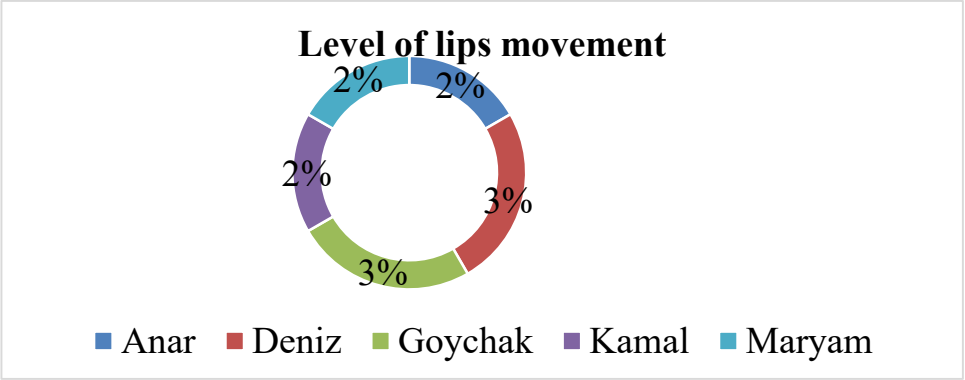
	Anar	Deniz	Goychak	Kamal	Maryam
Press lips	4	4	4	3	3
Lips in "O" position	2	3	4	3	3
Lips in "U" position	3	4	4	3	4
Hose	2	3	3	3	3
Smile	4	3	4	3	3
Raise the upper lip	2	3	3	3	2
To lower the lower lip	3	3	3	3	3
Upper and lower lip at the same time	2	3	3	2	2
b-b-b, p-p-p sounds	3	3	4	2	3

Conclusion. It should be noted that as a result of the examination of these actions in children, the following features noted in the performance of tasks:

- Each of the children doesn't fulfill the factors considered or is incomplete;
- The range of motion in each child is small. The movements are weak and unsustainable;
- Particularly, in Anar and Maryam, involuntary facial expressions are observed when the lips extended and moved up and down;
- Except for Goychek, each of the children - Anar and Maryam - has excessive muscle tension, and weakening of movement observed in Deniz and Kamal;
- Kamal and Maryam show tremors, salivation, hyperkinesis;
- In connection with the cleft lip, passive dynamics of the right side of the lip in Anar and Maryam, and the presence of each right and left side of the lips in Kamal and Deniz are limited;
- Anar and Maryam have one-sided lip closure.

Additionally, we want to note that some children have failure to act. During the examination, indicators of the level of lips movement in children reflected in the diagram.

Diagram 1.



2nd method: The study of jaw mobility function is performed first on instructions and then on verbal instructions.

The content of the task:

a) to open and close mouth as wide as pronouncing "A" sound;

b) to move the lower jaw to the right;

c) to move to the left;

d) to move the lower jaw forward;

Table 2.

	Anar	Deniz	Goychak	Kamal	Maryam
To open and close mouth wide	4	4	4	4	4
Movement of lower jaw to the right	4	3	4	3	4
Movement of lower jaw to the left	3	3	4	3	3
Forward movement of lower jaw	4	3	4	3	4

Conclusion: It should be noted that the following results obtained in the performance of these actions by children with rhinolalia:

- doesn't perform the exercises properly or is incomplete;
- insufficient jaw movement is observed;
- joint actions are available;
- tremor, lack of salivation observed;
- failure to take action manifested.

The diagram shows the level of lower jaw movement observed in children during the examination.

3rd method: The study of the tongue mobility function (application of the volume and quality of the tongue movement) is conducted on the instructional examination and verbal instructions.

The content of the task:

a) to place the wide tongue on the lower lip and keep by counting from 1 to 5;

b) to place the wide tongue on the upper lip and keep by counting from 1 to 5;

c) to move the tip of the tongue in turn from the right corner of the mouth to the left corner, touching to the lip;

d) stick out the tongue in the form of "spade", "scalpel";

e) first swell the right cheek with tongue and then the left;

f) to keep the tip of the tongue by lifting towards the upper teeth and counting from 1 to 5, then release it towards the lower teeth;

g) to close eyes and put hands forward, and put the tip of tongue on lip;

h) to move the tongue back and forth.

Table 3.

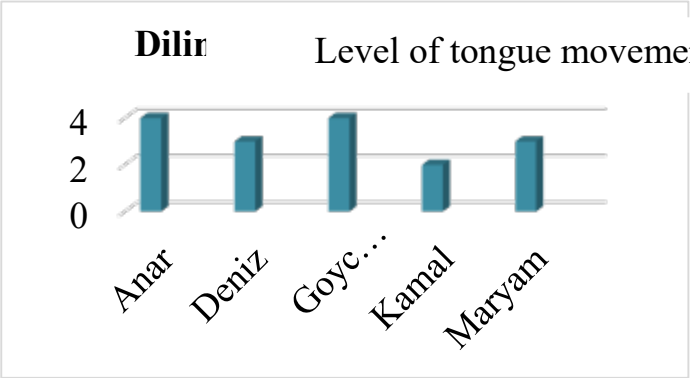
	Anar	Deniz	Goychak	Kamal	Maryam
To put a wide tongue on the lower lip	4	4	4	4	4
To put a wide tongue on the upper lip	3	3	4	3	3
Tongue tip upper lip-right-left	3	3	3	3	3
Spade	4	4	4	4	4
To inflate cheeks with tongue	3	4	4	3	3
Lift the tip of the tongue to the upper teeth	4	4	4	4	4
The tip of the tongue on the lip	3	3	4	4	3
Back and forth movement of the tongue	4	2	4	2	4

Conclusion:

- doesn't perform the exercises properly;
- insufficient range of tongue movement is observed;
- joint movements occur in the muscles;
- the tongue moves awkwardly, with the whole mass, slowly, inaccurately;
- tongue deviation is available, tongue can't maintain a certain state;
- weakness of movements; tremor of the tongue, hyperkinesis observed;
- lack of salivation observed;
- unable to move.

Indicators of the level of tongue movement in children during the examination shown in the diagram.

Diagram 2.



4th method**:** Study of the mobility function of the soft palate.

The content of the task:

a) to open mouth wide and pronounce the "A" sound clearly (usually a soft palate rises at this time);

b) to touch the palate gently with a spoon, probe or tube-wrapped paper (normal vomiting reflex should occur);

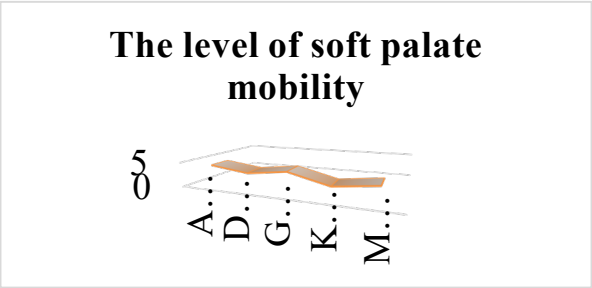
c) to inflate the cheeks with the tongue removed from the teeth and blow out loud as if extinguishing the candles.

Table 4.

	Anar	Deniz	Goychak	Kamal	Maryam
Pronouncing "A" sound	4	2	4	2	4
Touch the soft palate with a foreign object	5	2	4	1	4
To inflate the cheeks with the tongue and blow out	4	3	3	1	3

Conclusion:
- doesn't perform properly;
- movement capacity is limited;
- little movement of the palate veil observed;
- hyperkinesis, salivation recorded;
- unable to move.

The indicators of the level of soft palate mobility in children during the examination shown in the diagram.



5th method: “Study of the continuity and strength of respiration”.

The content of the task:

a) to play any wind instrument (lip accordion, pipe, flute, etc.);
b) to blow out feathers, a sheet of paper, etc.

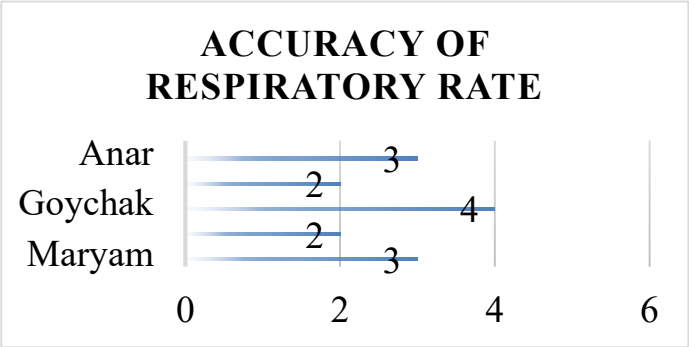
Table 5.

	Anar	Deniz	Goychak	Kamal	Maryam
To play a wind instrument for kids	3	2	3	1	3
To blow out feathers, a sheet of paper, etc.	3	2	4	2	3

Conclusion:
- the strength and continuity of breathing observed;
- shortness of breath (depending on the age of the person examined) observed.

Indicators for measuring the level of correct breathing in and out during the examination shown in the diagram.

Diagram 4.



The results for implementation of children's tasks according to the presented methods summarized.

According to the examination results of the structure and movement of the articulatory apparatus, we divided 5 children into 3 groups on the characteristics of children in a grouped manner.

All attempts presented in the paraqraphs titled "Examination of the dynamic organization of the articulatory apparatus movements" carried out first on instructions and then on verbal instructions with multiple repetitions of the set of actions performed.

1st method: To track the dynamics of articulation members.

The content of the task:

a) to show teeth;

b) to stick out tongue and then open mouth wide.

Table 6.

	Anar	Deniz	Goychak	Kamal	Maryam
to show teeth	3	4	4	4	3
to stick out tongue and then open mouth wide	4	3	4	3	4

We obtained the following results while implementing the tasks.

It should be measured by diagnostic criteria.

Conclusion:

- doesn't perform the exercises properly;
- during replacing one action with another, the search for the articulation position manifests itself as "stuck" in one movement;
- there is no differentiation of movements;
- disorder of movement flow is observed;
- tension of the tongue, lack of quiet position, tongue movement is not taken;
- there is no transition from one articulatory state to another, from one phoneme to another, and from one sound sequence to another.

2nd method: Dynamic study of the tongue muscles.

The content of the task:

a) to open the mouth wide and touch lower teeth (incisors) with the tip of the tongue;

b) then to raise the tip of the tongue to the upper teeth (incisors) and place it on the lower lip.

Table 7.

	Anar	Deniz	Goychak	Kamal	Maryam
To open your mouth, touch the tongue tip to the lower teeth	4	4	4	4	4
Tongue tip to the upper teeth - on the lower lip	4	3	4	3	4

Conclusion:

- doesn't perform the exercise properly;
- the downward movement of the tongue tip is normal;
- the upward movement of the tongue tip is weak.

3rd method: To activate the tongue muscles.

The content of the task:

a) to put a wide tongue on the lip;

b) to straighten the cup by bending the tongue tip;

c) to carry the cup in mouth in that position.

Table 8.

	Anar	Deniz	Goychak	Kamal	Maryam
To put a wide tongue on the lip	4	3	4	3	4
Cup	3	2	3	2	3
To carry the cup in your mouth	2	2	2	2	2

Conclusion:

- doesn't perform the exercise properly or is incomplete;
- tongue muscles are tense;
- inability to move the tongue forward and backward by keeping the tongue in a cup position.

4th method: Activation of lip movements.

The content of the task:

a) to open mouth as wide as in the "A" sound;
b) to pull lips like a smile;
c) to extend like a pipe;
d) to open mouth wide;
e) then close it half.

Table 9.

	Anar	Deniz	Goychak	Kamal	Maryam
to open mouth as wide as "A"	4	3	4	2	4
to pull lips like a smile	3	4	4	3	3
to extend like a pipe	3	4	4	3	3
to open mouth wide and close half	4	3	4	3	3

Conclusion:

- does not perform the task properly;
- lip movements are not accurate;
- directs mouth movements accurately, but within a limited range.

5th method: To repeat the sequence of sounds and syllables several times (the sequence of sounds or syllables changes).

The content of the task:

a) A-I-U; U-I-A;

b) KA-PA-TA;

c) PA-KA-TA;

d) PLA-PLU-PLO;

e) RAL-LAR-TAR-TAL;

g) SKLA-VZMA-ZDRA.

Table 10.

	Anar	Deniz	Goychak	Kamal	Maryam
A-I-U; U-I-A	4	4	4	3	4
KA-PA-TA	4	2	4	2	3
PA-KA-TA	4	2	4	2	3
PLA-PLU-PLO	3	3	4	2	3
RAL-LAR-TAR-TAL	4	2	3	2	4
SKLA-VZMA-ZDRA	4	2	3	2	3

Conclusion:

- the movements of the articulatory apparatus are passive;
- the capacity of movement is incomplete;
- the replacement of movements is weak;
- the sequence is not expected by repeating the sound sequence;
- during the repetition of syllable sequence, the sequence is broken.

Conclusions: the movements of the articulatory apparatus are active, inert, passive; the capacity of movement is complete, incomplete; substitution of actions is available or not; there is a sequence from one action to another or not; hyperkinesis, salivation, tremor are observed; motor voltage; movement activity, not to brake.

Table 11.

Criteria	Anar	Deniz	Goychak	Kamal	Maryam
Activity of the articulatory apparatus	Obser-ved	Avai-lable	Avai-lable	Incom-plete	Partially performs

mobility					
Replacing the mobility of the articulatory apparatus	Obser-ved	Obser-ved	Obser-ved	Incom-plete	ncom-plete
The articulatory apparatus has a transition from one movement to another or not	Partially per-forms	Obser-ved	Obser-ved	Incom-plete	Partially performs
Hyperkinesis, tremors are present or absent in the mobility of the articulatory apparatus	Obser-ved slightly	Not avai-lable	Not avai-lable	Available	Available
Movement replacement in the articulatory apparatus is available or not	Avai-lable	Avai-lable	Avai-lable	Partially observed	Partially observed
The articulatory apparatus has or not hyperkinesis, hyper-, and hypotomic.	Obser-ved slightly	Obser-ved slightly	Obse-rved slightly	Available	Available
Lack of salivation is observed	Not obser-ved	Not obse-rved	Not obser-ved	Saliva-tion is available	Saliva-tion is available

The paragraphs titled "Examination of the movement of facial muscles" studied the methods of examining the movement of facial muscles, methods for detecting damage to cranial nerves and consequently, the methods allowing the detection and determination of muscle amygdala types.

The paragraphs titled "Examination of the sound pronunciation state" studied two aspects of the examination of sound pronunciation.

1. Examination of sound pronunciation and articulation[6]

- it implies the determination of the characteristics of speech sounds formation and the activity of articulatory organs in the process of pronunciation.

2. Phonetic and phonemic examination:

- it aims to determine how a child distinguishes a system of speech sounds (phonemes) in different phonetic conditions.

- both aspects are interrelated.

The study of words begins with a serious study of the individual pronunciation of sounds, and then the sounds are checked in syllables, words, and sentence speech. During the examination of each sound group, it is necessary to note how child's voice pronounced individually, indicating the feature of disorder.

The problem of studying phonemic perception and phonetic analysis skills has also been a research subject in the paragraphs of Chapter II.

In the process of evolution, human voice speech is formed for hearing and under direct auditory control, that is why, hearing and speech are closely related functions. There are three auditory sections during speech correction: listening to the speech and voice of another by child; that is, to reflect the speech pattern of an adult; listen to own personal speech and voice.

Directing the child to compare the presenter's correct speech with his or her distorted speech accelerates the acquisition of normal pronunciation. Systematic training of hearing, especially phonemic hearing, forms speech control.

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[6] Hüseynova, N.T., Ağayeva, T.H., Speech Therapy. Baku, 2018, 350 p.

The following tasks are used to determine the ability of children with rhinolalia to perceive various difficult rhythmic structures:

- to tap up to the number of syllables in words with different syllable structure;
- to find out which of the pictures presented corresponds to the rhythmic picture given by the speech therapist.

Chapter III is about "The main directions of correction in rhinolalia". The paragraphs titled "Basic principles and directions of speech therapy correction in open rhinolalia" studied the main principles of correction process and analyzed the work done in this direction.

The most important starting point is to determine the principles and directions of corrective action in the speech therapy and speech therapy activities of speech disorders in children during the treatment of speech disorders. In congenital open rhinolalia, speech therapy in the preoperative period in children is based on corrective principles, and these principles implemented in stages.

The organization of speech therapy is determined by the relevant periods. Before describing the preparation period, it should be noted that each period is based on certain main objectives. During this period, the main purpose of the training is to form a proper speech breathing in parallel with mastering the articulatory apparatus. The main purpose of the trainings of this period is to form a proper speech breathing in parallel with mastering the articulatory apparatus. This period can be conditionally divided into two stages:

A. Formation of speech respiration during differentiation of breathing in and breathing out through the mouth and nose. At this stage, diaphragmatic breathing (subcostal) is considered the most productive for the formation of correct speech.

1st stage. At the beginning of the training, it is important to determine the physiological type of breathing by placing the palm of the hand on the child's upper back. If the child subcostal breathing, the speech therapist adjusts his breathing to child's breathing rhythm and begins to work. If the child has clavicle or chest breathing, then it is necessary to form subcostal breathing by imitation. For this, put

the child's palm on his/her side and check the child's breathing with own palm. The child feels the costal movement of speech therapist, then imitates it and adjusts to the subcostal breathing.

A.G. Ippolitova doesn't consider it necessary to perform a special task for the development of breathing, such as blowing cotton, often used in speech therapy practice, inflating a soft rubber toy, so not all of these types of breathing are related to speech. [7][8]

After learning the breathing in and breathing out process, the child's attention is immediately drawn to the position of the articulatory organs: in this case, the tip of the tongue should be held in the lower incisors during breathing through the mouth, the mouth opens as if yawning, and the tongue root omit. If the movement of the tongue tip to the lower incisors doesn't lower the root of the tongue sufficiently, the tongue may be sucked temporarily between the teeth or the tongue root can be squeezed with a spoon (the latter applies in the latest case).

2nd stage. At this stage, the pronunciation of vowels has a high effect on speech accuracy. For this purpose, voice pronunciation starts with special gymnastics, so in this process, the structure of the pronunciation members for each vowel sound is carefully followed. During the articulation of vowels, the position of the lips changes due to the interaction of the muscles and it naturally leads to the correct position of the tongue in the pronunciation of each sound.

Thus, special gymnastics of articulatory organs is used in the application of speech therapy (only important actions for speech sounds are practiced); moreover, a number of additional tasks reviewed to ensure the development of articulation practice.

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[7] Inshakova, OB. Album for speech therapist / O.B. Inshakova. - 2nd ed., Rev. And additional - Moscow: Humanities. Publishing Center VLADOS, -2014. C38

[8] Ippolitova, A.G. Open rhinolalia: textbook. manual for students def. Edited by O.N. Usanova / M Enlightenment,1983, 95 p.

The next paragraphs of Chapter is devoted to the studies on the main directions and stages of speech therapy before surgery in open rhinolalia.

Speech therapy - correctional work in open rhinolalia is conducted by many methods. These methodological-therapeutic methods used in the trainings were developed by many foreign specialists. The names of I.I. Yermakova, T.N. Voronsov, A.G. Ippolitova, E.F. Raun, G.V. Chirkina may be mentioned especially among these specialists, and their methodical works considered more expedient. The description of the methodical work prepared by the researchers can be presented as follows[9] .

The stages of the logopedic system of work carried out before the surgery and the rules of its implementation were presented in this sub-chapter. In speech therapy, the tasks are mainly performed on the formation of speech breathing and implemented by studying the speech breathing and tension of the palate veil, lowering of the tongue root and lowering the lower jaw as much as possible.

The paragraphs titled "The main directions and stages of speech therapy after surgery in open rhinolalia" also analyzed a number of stages and sections of postoperative speech therapy during the open rhinolalia.

1) activation of the palate veil;

2) development of diaphragmatic breathing and differentiated breathing through the mouth and nose;

3) studying sounds (vowels and consonants);

4) correct automated pronunciation in speech.

Work on sound pronunciation before the operation parallel operation with the system of work on the lexical-grammatical side of speech and air flow was emphasized in this paragraphs

[9] Inshakova, OB. Album for speech therapist / OB. Inshakova-2nd ed., Rev. And add. - Moscow: Humanities. Publishing Center VLADOS, -2014. P.37

The next paragraphs of Chapter III dedicated to the studies on the directions for the organization of complex rehabilitation of children with congenital cleft lip and cleft palate.

The tasks of the rehabilitation center for children with congenital facial pathology are as follows:

1. Registration of children born with a facial cleft in the closed area.

2. Organization of complex treatment of these contingent patients from birth.

3. Organization for transportation of the surgical team to the maternity hospital or surgery centre for the implementation of cheiloplasty in newborns.

4. Determination on the indications of a specialized preschool institution, school, sanatorium, hospital for children.

5. Conducting sanitary-educational work with parents.

In congenital pathology of the maxillofacial region, complex rehabilitation combining medical-restorative treatment and psychological-pedagogical correction of children, allows children with disabilities to effectively cope with tasks aimed at improving their quality of life and increasing their level of psychosomatic abilities.

The most important aspect of rehabilitation is to provide such patients with modern conceptual care. Such assistance has a number of specific organizational, medical, technical and social aspects. Early complex medical and social rehabilitation is based on the time of surgical intervention, its location, the structure of special care centers, the effectiveness of care conclusions.

Chapter IV is referred to as The content of experimental correction methods during rhinolalia. The first paragraphs of that Chapter studies “Speech therapy methods on the prosodic aspect of speech in open rhinolalia".

Several methodical works are used in correctional processes of speech therapy during rhinolalia, and mainly these methods can be found in Y.F.Arkhipova's methodology called the study of the prosodic speech field.

Y.F. Arkhipova worked on the prosodic speech aspect in many directions. These directions are as follows:

1. Working direction on speech perception
2. Working direction on intonation perception
3. Working direction on the perception of logical emphasis
4. Working direction on the voice pitch modulation
5. Working direction on the perception of timbre.

The paragraphs titled "Methods of correction process in the direction of the formation of speech breathing" acquainted with corrective work methods. The problem studied by practical methods.

The next paragraphs applied the problem "Speech therapy methods on phoneme perception of speech in open rhinolalia" by practical methods.

Paragraphs titled "Speech therapy methods on the activation of articulation and facial motor skills during open rhinolalia" is about the study of speech therapy in different ways. It is mainly based on the methods of scientists such as L.V. Lopatina, G.V. Dedyukhina, Y.F. Arkhipova (L.V. Lopatina, G.V. Dedyukhina, Y.F. Arkhipova).

Chapter IV, the last paragraphs titled "Corrective working methods on the diaphragmatic breathing and palatal-pharyngeal ring in open rhinolalia" analyzed the corrective working results using many tasks and methods.

Prevention of speech disorders in congenital clefts is possible by medical and methodological means. The purpose of pedagogical work is to draw the child's attention to articulation, to eliminate the defective position of the tongue in the oral cavity by special tasks and to restore mouth breathing.

During these exercises, breathing should be through the mouth, prolonged, and pull the soft palate upward. Tasks are performed several times at intervals to reactivate the palatopharyngeus muscle.

Chapter V of the research is referred to as “Experimental study and results of speech development in the correction of rhinolalia". paragraphs of that Chapter titled "Stages of the correction process in children with rhinolalia and analysis of the correction results of the prosodic speech aspect" conditioned the main stages

and directions of the work providing the correction of voice pronunciation in children with facial and jaw pathology.

The experimental correction part of the research is based on the speech therapy correction of rhinolalia in five directions. Therefore, speech therapy conducted in the direction of correction of the prosodic speech aspect, phoneme perception, articulatory motor skills, diaphragmatic speech breathing and palatopharyngeal junction.

To develop the prosodic aspect of speech, the following positive dynamics obtained in the correctional work in five directions:

1. Correction of speech perception.

Among the children, Kamal, Maryam and Deniz, the ability to imitate speech was very weak. First, children developed the ability to imitate speech. None of the children could freely express sounds with signs. As a result of the continuous and intensive organization of experimental tasks for the correction of speech perception, the skills of analyzing and applying the sounds heard by children were formed. In particular, Goychak successfully completed the tasks.

2. Correction of intonation perception

Corrective work in this direction aims at forming the child's ability to distinguish different intonations in impressive speech. In this connection, the studies on uttering declarative, interrogative and exclamatory sentences were conducted with each child individually. Each of the children successfully completed the tasks. Maryam learned this skill later than other children, as she had difficulty differentiating the intonation of declarative and exclamatory sentences. Though each of the children learned the differentiation of intonation, Kamal and Maryams breath couldn't reach the intonation due to respiratory disorders during imitation.

3. Correction of perception of logical stress

As a result of the correction training, each of the children gained the ability to differentiate and apply logical emphasis in word combinations, sentences, poems and stories.

4. Working direction on the voice pitch modulation

According to the shape of the tone of voice, all children easily mastered the association process in a short time.

5. Correction of timbre perception

Although the determination of nasality during voice pronunciation in children is the most difficult stage for children in the correction of prosodic aspect of speech, Anar and Goychak learned the skill in a short time, but Deniz partly, then Kamal and Deniz continued to have difficulty in differentiating the timbre. As the training continued, Deniz and Maryam learned the skills, but Kamal still had difficulties in application, despite the formation of differentiation.

The second paragraphs titled "Analysis of the correction results of speech breathing and phoneme perception with children having rhinolalia" devoted to the analysis of the research results.

The following results were obtained in six directions on the correction of phoneme perception.

The first two aspects of phoneme perception conducted in the direction of recognition of non-speech sounds and differentiation of pitch, strength and timbre of voice. As a result, each of the children coped with the tasks correctly and showed positive results.

3. Differentiation of words close in sound composition.

As a result of this training, each of the children had difficulty in phoneme perception due to incorrect pronunciation. As a result of continuous training, though Anar and Goychak gained faster development dynamics, and Kamal and Maryam differentiated many sounds, they had serious difficulty in differentiating "m-n", "d-t", "k-g" sounds.

4. Differentiation of syllables.

Kamal and Maryam, children who had difficulty in differentiating words according to their sound composition, continued to show difficulties in the tasks at this stage.

5. Differentiation of phonemes

At this stage, Kamal and Maryam, along with the other three children, Anar, Deniz and Goychak, also achieved successful results. The children could associate the sound pronounced by the teacher with appropriate card and picture.

6. Elementary sound analysis skills.

During this training, Deniz and Kamal repeat the sound combinations pronounced by the teacher, but couldn't determine the number of sounds correctly because missed a sound not pronouncing by them. Kamal had difficulty defining and selecting palatal sounds, especially when completing so-called missed sounds.

The paragraphs titled "Analysis of the research results on the activation of articulation and facial motor skills during rhinolalia" provided sequentially the analysis of the studies on articulation and facial motor skills. The final results obtained were analyzed.

As mentioned earlier, speech therapy on the development of articulation and facial motor skills carried out in five directions. During the compilation of the methods used in every direction of the study, referred to the sources and methods of L.V. Lopatina, G.V. Dedyukhina, Y.F. Arkhipova.

As a result of the correctional experiment, every five children involved in the experiment to develop articulation and facial motor skills improved significantly the articulatory tone and mobility. The tone of the tongue, lips, jaw and facial muscles was regulated according to the severity of children's pathology, then mobility, the accuracy of movements, maintenance, the transition of articulatory movements developed. The third direction of experimental correction was speech therapy on the development of articulation and facial motor skills. This work was carried out in five main directions.

1. In the first direction of speech therapy, corrective work was conducted on oral-kinaesthetic practice.
As a result, each of the children could determine the kinesthetic state of the articulation apparatus during the pronunciation of sounds. However, Anar and Maryam had difficulty in making lip movements, and Kamal had difficulty with palate and lip movements.

2. In the second direction, the children imitated the initial articulatory movements together with the teacher. Kamal, Maryam, and Anar had difficulty in performing lip and palate movements. Good results obtained about Deniz and Goychak.

3. The third stage is the performance of more complex forms of coordinated initial articulatory movements. Children who

experienced difficulty in the first stage, had difficulty performing the coordinated actions, even if they could completely implement their initial skills. However, complex exercises gave impetus to the complete mastery of simple movements not fully formed before.

4. As a result of corrective work on the development of facial muscles, each child could fully use facial expressions.

5. The final stage was to regulate the muscle tone of the lips, tongue and lower jaw. Kamal and Maryam had difficulty adjusting lip movement, while the children could regulate the tongue and jaw tone in a short time.

The paragraphs titled "Analysis of the research results of the diaphragmatic breathing and palatal-pharyngeal ring" showed the results of correctional work with children in several areas of the respiratory and palatal-pharyngeal region. Tasks were performed to stimulate the increase in elasticity and plasticity of soft palate tissues, as well as to activate the posterior wall of the esophagus, and to ensure adequate contact between the soft palate and the upper esophageal sphincters. It was concluded that for the formation of the correct pronunciation in children, first of all, it is necessary to provide articulatory-mimic muscles, mobility and proper breathing.

At the stage of diaphragm speech respiration and correction of the palatine-larnyx joint, work was carried out on the formation of the correct respiratory act in children. Kamal, Maryam, and Deniz had severe disorders of respiratory action, which were particularly noticeable. As a result of the training, the following developmental dynamics achieved in children:

- breathing in through the nose formed;
- breathing out through the mouth formed;
- the proper functioning of the respiratory system regulated;
- respiratory kinesthetic movement of articulation obtained;

Thus, taking into account conducting of the experimental correction and rhinolalia in five main directions and achieving positive results in children, noted that complex correctional work with children allows to completely eliminate the observed speech disorders.

CONCLUSION

The study devotes to the problem of diagnosis and correction of speech disorders in children with congenital cleft lip and cleft palate. Increased tendency of children born with congenital cleft lip and cleft palate, the presence of speech pathologies in these children, the need for a more accurate examination to make a correct diagnosis, and choosing the proper correction directions to eliminate them stipulates the importance of the research study.

Methods for studying the state of speech development of children with rhinolalia were chosen and substantiated in accordance with the goals and objectives of the dissertation. Specific features of speech disorders in children with rhinolalia were analyzed, and based on the obtained indicators, a modified system of diagnostic examination and correction of rhinolalia presented.

During the research, a theoretical analysis of domestic and foreign scientific literature on the problem was conducted, and a comprehensive examination of speech disorders detected during rhinolalia - their study in the medical, pedagogical and psychological directions presented. The analyzed scientific literature showed that there is a need for more specific research aimed at activating voice pronunciation, diaphragmatic breathing, phoneme perception, phonetic analysis skills and facial muscles of children aged 3-10 years who underwent surgery.

During the experimental study of rhinolalia, information was obtained on the state of children's pronunciation, respiration, articulatory motor skills and the prosodic aspect of speech. In the structure of speech disorders of children participating in the experiment, specific disorders due to congenital cleft lip and cleft palate and muscle tone were recorded.

The classical methods used in the diagnosis and correction of disorders detected as a result of the experimental study of these children were modified according to the characteristics of our native language. The study reflected the system of differential speech therapy for children with rhinolalia. The results of the study and the dynamics of mastering the skills of correct speech restoration

confirmed the compatibility of the use of special methods in the speech therapy process with speech pathology. Normalization of respiratory function, reduction of nasal congestion, soft palate activation, weakening of the pathological manifestation of articulatory motor skills and positive dynamics of the prosodic aspect of speech were observed in children with rhinolalia.

Diagnostic examination and modified speech therapy system for children with rhinolalia and complex research allow to form the following conclusions:

1. It confirmed that the nature of speech disorders in congenital cleft lip and cleft palate depends on the age category of child.
2. As a result of diagnostic examination, congenital cleft lip and cleft palate diagnosed in children participating in the experiment:
   - right upper lip cleft without general cartilage deformation (Anar, 5 years old);
   - mild submucous cleft (Deniz, 6 years old, 3 months);
   - deformations due to scars (Goychak, 7 years old, 4 months);
   - hard and soft cleft palate (Kamal, 6 years old, 7 months);
   - right upper lip cleft with deformity of the nasal bone cartilage (Maryam, 5 years old, 10 months)
3. According to the examination results of the structure and movement of the articulatory apparatus during speech therapy, 5 children with rhinolalia were divided into 3 groups on the characteristic indicators grouped.
4. Experimental diagnostics determined the articulation mobility, the act of correct breathing, distortion level of phoneme perception and sound pronunciation.
5. Differential methods of correctional work were modified and developed towards eliminating the signs of negative symptoms to obtain effective results of restoring the speech process in rhinolalia.
6. Five directions of speech therapy were identified during postoperative correction in children with rhinolalia:

- the first direction: correctional work on the development of the prosodic aspect of speech;
- the second direction: correctional work on the development of phoneme perception and phonetic analysis skills;

- the third direction: correctional work on the development of articulation and facial motor skills;
- the fourth direction: correctional work on the formation of diaphragmatic speech breathing;
- the fifth direction: correctional work on the formation of correct breathing act during the correction of palatopharyngeal junction.

7. Positive dynamics was obtained during the correction of speech, intonation, logical emphasis, timbre perception and pitch sound modulation in children with rhinolalia who participated in the experiment to improve the prosodic aspect of speech.

8. Recognition of non-speech sounds in children with rhinolalia, differentiation of sound pitch and volume provided the correct implementation of the tasks presented. Correctional work on the differentiation of syllables and phonemes according to the sound composition and the formation of simple sound analysis skills in children confirmed the positive dynamics of the formation of phoneme perception and phonetic analysis skills.

9. During the activation of the initial articulatory movements in children with rhinolalia, carried out the difficulty of actions performed, determination of kinesthetic condition in the correction of oral praxis, activation of facial muscles, normalization of articulation, facial motor skills and muscle tone as a whole.

10. Normalization of respiratory activities during correction in children with rhinolalia is an important factor for speech restoration and the tasks performed in this direction regulate the activity of the respiratory system.

Thus, as a result of the study, the hypothesis about the presence of intra-abdominal pathologies in the formation of congenital cleft lip and cleft palate and the resulting severe speech disorders was confirmed. As a result of the experimental study, noted that the severity of pathological condition of child's cognitive processes, features of psychomotor development and speech disorders are related to his/her age, and increasing the effectiveness of developmental work in children with rhinolalia.

During the study, positive results were obtained in the correction of rhinolalia in five main directions, and the performance of tasks presented to children. It can be noted that as a result of complex postoperative correction, it is possible to completely correct and eliminate the speech disorders observed in children with rhinolalia. The work towards correction completely restores the speech of children with rhinolalia and ensures their social adaptation to society.

The following articles and theses were published, reflecting the content, basic scientific ideas and conclusions of the applicant's dissertation:

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