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MEDICAL STUDY OF SPEECH DISORDERS

Naila Huseynova,

*Doctor on Pedagogical Sciences, Associate Professor,
Azerbaijan State Pedagogical University (Baku, Azerbaijan)
ORCID ID: 0000-0002-9959-6996
nailyahuseyn72@gmail.com*

Abstract. Speech is one of the most important mental functions of a person. Speech communication not only creates social relations between people, but also develops higher forms of cognitive activity. Speech and thinking are inextricably linked. Speech is also a very complex phenomenon and is a set of several processes. Almost all systems of the body: muscles, bones, various and numerous organs, especially the central nervous system, take an active part in its formation. More serious damage to the muscles occurs as a result of damage to the parts of the peripheral parts of the nervous system that supply the muscles of the face, tongue, thorax with nerve seeds. Disruption of this causes severe speech disorders such as dysarthria and anarthria. In the study of speech disorders, it is necessary to consider the role of neural mechanisms that perform the activity and help to plan the activity.

Key words: speech activity, speech disorders, speech therapy, dysarthria, nervous system.

Introduction. Disruption of speech to one degree or another causes certain difficulties in both mental and psychological development of the child. Most of the time, gross speech disorders manifested in children appear due to anatomical and physiological deficiencies of the speech apparatus. One such defect is congenital cleft lip and palate. Congenital clefts of the lip and palate not only create a deformed appearance of the child, but also hinder its normal development and cause severe speech disorders.

Formulation of the problem. It is known that speech therapy is closely related to neurophysiology, neuropsychology and clinical neurology fields of medical science. Thus, the speech defects studied by speech therapy appear against the background of one or another disorders of the nervous system, which is the substrate material of thinking, consciousness and speech. Failure to study the condition of the nervous system, on the one hand, makes it difficult for the speech therapist to understand the nature of neurological disorders, their impact on the formation and development of speech, and on the other hand, its neglect makes it difficult to eliminate various speech defects.

Research objectives. The close cooperation of doctors and speech therapists in the elimination of speech defects laid the foundation for the clinical classification of speech anomalies. Creators of the clinical classification, M.Y. Khvatset, F.A. Rau, O.V. Pravdina, S.S. Lyapidevskiy and others classified speech defects based on the causes of the defect (etiology) and pathological indicators (pathogenesis). (Koichi, 2011, p.248-253) Researchers have different ideas about the role played by separate areas of the brain in speech disorders, some scientists (Broca, Wernicke) put forward the idea that speech disorders are localized only in one part of the brain, while others (P. Pavlov, B.M. Gekht) criticized these ideas. B. M. Gekht showed that the indicated areas of the brain are the places where numerous connections between speech activity and its various areas take place, and therefore their damage leads to gross speech defects (Koichi, 2011, p. 249)

Discussion. Speech is a social tool in child education. The main conditions for proper speech development in a child are as follows:

a) being the basis for receiving information, that is, the presence of acoustic, visual and synesthetic receptors;

b) to analyze received information and to have a well-developed substrate for health, that is, to have a sufficient level of intelligence and a certain morphological and functional development of memory – nervous system;

c) the presence of a motor apparatus that is important for articulation.

It is clear that the above conditions can be ensured only during the normal development of the entire brain and individual parts of the nervous system. However, available clinical materials and experiments in neurophysiology show that damage to some parts of the brain causes more pronounced speech defects, while damage to other areas does not cause any speech defects. Everyone knows well that damage to the occipital, occipital, and frontal parts of the head causes certain speech defects. Researchers have different ideas about the role played by separate areas of the brain in speech disorders, some scientists (Broca, Wernicke) put forward the idea that speech disorders are localized only in one part of the brain, while others (P. Pavlov, B.M. Gekht) criticized these ideas (Koichi, 2011, p. 249).

Thus, the localization of the speech disorder symptom should not be confused with the localization of the substrate (responsible for the formation of speech activity and activity). All this also applies to the organization of movement activity, which creates a coordinated activity of the articulation muscles (Aghayeva & Aliyeva, 1999, p. 101).

The large hemispheres are divided into forehead, occipital, occipital, and occipital regions, and each region has different wrinkles and symptoms. Symptoms of damage to the cortex of the cerebral hemispheres depend on which part of it is damaged. Speech disorders most often occur when the third frontal folds of the posterior parts of the dominant hemispheres (motor aphasia, motor alalia), folds of the upper occipital lobe (sensory aphasia, sensory alalia), the occipital lobe and the occipital lobe are damaged. Damage to the extracorporeal folds of the left hemisphere leads to the breakdown of complex movement habits. This condition is called apraxia in speech therapy. In apraxia, automatic movements are forgotten. For example: in the case of apraxia of the tongue, the patient cannot put his/her tongue in his/her mouth, in addition, the upper and lower movements of the tongue are limited, as a result, the speech activity is impaired (Huseynova & Rustamova, 2007, p. 3, 45).

Subcortical nodes together with other members of the nervous system form the extrapyramidal system. The main task of this system is its correction in the process of preparing and performing an act of action.

The extrapyramidal system is closely connected with the sensory derivatives of the visual glomeruli, and is involved in the implementation of emotional-motor reactions (for example, facial movements). The extrapyramidal system is involved in the change of muscle tone. It changes the location of the center of gravity, relieves certain muscles from work, changes the tonic tension of the antagonistic muscles in the process of movement. Violation of this system leads to gross defects of muscle activity: involuntary, violent movements – hyperkinesia.

It should be noted that the defects of speech activity caused by damage to the extrapyramidal system are very characteristic and diverse. For example: the presence of hyperkinesia in the articulatory muscle distorts the speech and makes it unintelligible. During athetosis, the involuntary opening of the mouth and completely sticking out the tongue deprives the child of speech.

During chorea, speech disorders take on a different character. Thus, as a result of periodic violent movements of the diaphragm and intercortical muscles, regular breathing occurs, which in turn disrupts the smoothness of speech, and involuntary screams and moans are observed during speech (Huseynova, 2014, p. 37). Analogous spasms are manifested in the muscles of the larynx and the tongue and cause distorted pronunciation of sounds.

The brain and brain stem also play a big role in the creation and development of speech. In the brain stem, there are nuclei and transmitters that connect a large number of brain parts and connect it to the spinal cord. The groups of cells in the brain stem form the beginnings of the cranial nerves,

which carry out movement and sensory activity in relation to the various branches of the head. The cranial nerves are: optic nerve, trigeminal, trigeminal, indirect, facial, azan, glossopharyngeal, sublingual, accessory and vestibular nerves. The role of these nerves in the occurrence of speech defects is determined depending on the importance of their internal control, especially the movement of articulation muscles (Ingram, 1972, p. 405. Ex: the trigeminal nerve supplies the muscles of mastication with nerve and nerve tissue. As a result of damage to this nerve, the lower jaw droops and the inability to close the mouth makes proper articulation even more difficult. The facial nerve innervates most of the facial muscles of the corresponding side of the face. When this function is impaired, the patient is unable to close his/her eyes, raise eyebrows, inflate cheeks and pipe lips. The motor part of the tongue-lip nerve innervates the soft palate and the upper part of the pharynx. Damage to the nerve causes paralysis of those muscles. Azan nerve innervates all organs of the chest and abdominal cavity, muscles of the larynx, pharynx and palate (Ingram, 1972, p. 406). The sublingual nerve innervates the muscles of the tongue, making it move upwards, forwards and sideways. As a result of damage to all the above-mentioned nerves, the movement of the articulation apparatus and the process of sounding are disturbed. That is why it is necessary to pay attention to the issues of speech disorders related to nervous system disorders.

It should be noted that a certain number of children suffering from a speech disorder have one or another disease of the nervous system. Nervous system diseases are divided into two parts, organ and functional. Organic diseases occur during more or less structural changes in the tissues of the nervous system. Functional nerve diseases are based on neurodynamic disorders.

According to their origin, the **diseases of the nervous system** are divided into infectious diseases, nervous system damage, hereditary-degenerative diseases, metabolic diseases, tumors and vascular diseases of the brain. Speech disorders in children often occur as a result of infectious diseases, traumas of the nervous system, intoxication and hereditary-degenerative diseases. Infectious diseases infect children through bacteria (bacteria, germs, infection) or viruses. Neuroinfectious diseases include meningitis, encephalitis, meningoencephalitis, poliomyelitis, polyradiculo-neuritis and others. The most severe and frequently observed injuries are head injuries. These injuries occur in the womb of the child and during childbirth (birth trauma, extraction of the child with forceps, etc.). Nervous system injuries are one of the main causes of speech disorders in children.

Functional disorders of the nervous system are not of structural origin. In modern neuro-physiology, neurotic disorders are mostly associated with extinction of nerve impulses. There are 2 dominant factors in the etiology of neurotic disorders: exogenous and endogenous factors. Neurotic disorders are more likely to occur as a result of a combination of these two factors (Lewis, Watterson & Houghton 2003, p. 50).

It should be noted that often neuroses are observed in children whose families already have mental patients. There are 3 main types of neuroses: neurasthenia, hysteria, psychosthenia. It should be noted that the true form of these types is not observed in children. However, a detailed examination of children with neurosis shows that these children may have symptoms similar to various forms of neurosis developed in adults. For example, the dominant place in the clinical picture of some children is early fatigue, light-headedness, sadness (weakness) of active attention, sleep disturbance, and lack of memory. These symptoms are similar to symptoms of neurasthenia. In other children, excitability, meticulousness, lack of self-confidence, doubts about their own actions are observed. Such children also have cowardice, excessive crying (psychosthenic form of neurosis). In hysterical type neuroses, emotional behavior, self-incitement, psychological incitement, etc. are manifested.

Sometimes hysterical mutism (rejection of speech, silence due to the absence of changes in any part of the nervous system) is observed in such patients. Although patients with mutism do not speak, their writing habits are intact. Sometimes hysterical aphonia (absence of voice) is also observed in patients with hysterical type (Sadiyev, 2006, p. 200). Seizures sometimes occur in hysterical type

patients under the influence of a psycho-damaging factor. Seizures are characterized by an abundance of directional movements (laughing, crying, gnashing of teeth).

Usually, at this time, the patient's understanding is not impaired, reflexes and sensitivity are preserved. Using these, hysterical fits can sometimes be prevented by strong emotional influence or unusual irritation. Spraying cold water on the patient's face is accompanied by dysfunctions – excessive sweating, fluctuations in arterial pressure, pulse variability. In some cases, the dysfunction manifests itself in the violation of the activity of any organ: heart, gastrointestinal tract, etc.

It should be noted that the motor characteristics of children with neurosis also attract attention. Thus, high motility, restlessness, rapid execution of separate acts of movement are noted in patients. Sometimes this is accompanied by fatigue. One of the formations of neurosis is coordinator neurosis, which is a violation of the coordination of actions, the habits of performing a certain type of activity (writing, playing the piano, etc.). At this time, other types of activity usually remain unchanged. So, a patient who cannot write with a pen can play the piano or vice versa. A special type of neurosis is stuttering. Usually, in a very large number of children who stutter, this disease occurs against the background of a developing neurosis, and only in a very few children stuttering can occur simultaneously with other types of neurosis. Children who stutter are usually hyperactive. The actions of these children are sharp, often insufficiently coordinated, irritable.

In such children, lack of attention, lack of memory, and other mental disorders are noted. The dynamics of the indicated symptoms are the same as the dynamics of speech impairment. During the reduction of stuttering, other autonomic, somatic and emotional neurotic processes are also reduced and, conversely, causes the increase of symptoms indicating the increase of stuttering (Ingram, 1972, p. 408). Treatment of neurological disorders causing speech defects is very important for the normalization of speech activity. It goes without saying that this treatment should be carried out under the appointment and supervision of a specialist, a psycho-neurologist.

The following measures are used in the treatment of neurological disorders.

a) to affect the main processes that cause the malfunction or damage of the nervous system (etiological treatment);

b) influencing the mechanism of development of the disease process (pathogenic treatment);

c) affecting individual symptoms of the disease (symptomatic treatment).

In the etiological treatment, which is the least common in speech therapy activity, even if children have been treated before, in the speech therapy work process, they still undergo a certain course of treatment against bacteria, against chronic nervous system diseases, and for the restoration of metabolism. Pathogenetic therapy of diseases of the nervous system that cause speech disorders is used more often. The main goal of this treatment is to limit the activity of the mechanisms that lead to the development of pathological processes and to create positive opportunities for the restoration of damaged functions. Diseases of the nervous system that cause the development of pathological processes, mainly disorders of liquor dynamics, infectious inflammatory diseases and injuries. In this regard, in order to prevent the effects of the mentioned factors on the nervous system, periodical dehydration therapy (reducing the pressure of the spinal fluid) and nutritional tissue therapy, which helps to heal fresh wounds and scars, are carried out. The use of psychotropic drugs for the elimination of nervous system diseases is also of little importance (Lewis, Watterson & Houghton, 2003, p. 51). As a result of the conducted experiments, it was determined that treatment with psychotropic drugs reduces the recovery time of speech activity during aphasia. Thus, as a result of such treatment, speech activity of aphasic patients is restored to some extent.

Psychological-pedagogical study of speech defects allows to prevent them. During dynamic aphasia, although the patient does not have difficulty repeating words, naming objects, and understanding speech, the ability to speak in sentences is impaired. There are two forms of dynamic aphasia: one of them is a violation of the programming of thought, and the other is a violation of the mechanism of its grammatical-syntactic organization.

Efferent motor aphasia is characterized by a violation of the grammatical structure of the expression with retention of separate words in the speech, and in addition, a violation of its motor scheme; while the patients can pronounce separate sounds, they cannot combine them in a certain sequence. Thus, the sequence of speech formation is disturbed here.

Afferent motor aphasia consists of a violation of the degree of clarity of speech articulation. The patient cannot find the appropriate sound he needs and constantly refers to the sound with close articulation. This is where the part of choosing the sounds breaks down.

Semantic aphasia manifests itself in difficulties in finding words and in the violation of the semantic (logical-grammatical) relationship between words. For example, while the patient understands the words "father" and "brother", s/he cannot understand what the phrase "father's brother" is. In such cases, there is a violation of the semantic systematicity of words and selection of words according to their meaning (Shazia, 2019, p. 21).

Sensory aphasia, first of all, manifests itself in the violation of phonemic hearing during speech perception, or rather, in the violation of the interaction between the sound composition and meaning of the word. In this type of aphasia, sound analysis of words is disturbed.

It should be noted that there are several types of speech activity. Among them, the most basic types of speech are: monologic and dialogic speech, internal speech, written speech.

Monologic speech is a relatively wider type of speech. A monologue is a regular and consistent presentation of one's thoughts and opinions. This speech is an active type of free speech. In order to carry out a monologue speech, the speaker must usually have any content and be able to freely construct his/her statements based on it.

Monologue is continuous, coherent, coherent and logical. In order for this kind of speech to be fluent, the speaker must clearly understand what he is going to say, have a rich vocabulary, master the emotional features of speech, and the laws of language.

Dialogic speech is a process of communication between two or more people. This type of speech has several features:

1. Dialogical speech requires a direct reaction, that is, the interlocutor expresses his/her attitude to what is being said. This aspect affects the direction of the speaker to express his opinion and directs him in a certain direction.

2. Dialogue takes place in the conditions of emotional-expressive communication of speaking persons.

3. Dialogue is related to certain circumstances or objects. In this sense, it is situational. As soon as the object changes during the conversation, the direction of the dialogue changes. Aids are used more often during dialogue. For example, tone of voice, mime, pantomime, gesture, etc.

Inner speech (egocentric speech) is a special type of speech activity. It acts as a planning phase of practical and theoretical activities or as a phase of implementation of the plan in a number of specially complex theoretical activities. In this sense, this speech is a speech aimed at the person himself. With its help, a person regulates and controls his/her practical activity. Something differs from egocentric external speech and mutes itself as a partially internalized (inwardly directed) product of it.

Approbation of research results. The main provisions of the article are reflected in the author's theses submitted to scientific conferences in Azerbaijan and abroad, as well as in scientific articles published in various journals in Azerbaijan and abroad.

Conclusions. Internal speech is characterized by brokenness and fragmentation. It is possible to study the inner speech by recording the movements of the articulation members (lips, tongue, etc.). So, internal (egocentric) speech is a kind of transition stage from external speech to internal speech. Written speech manifests itself as a type of monologic speech. All the features of monologue speech are also characteristic of him, but these features are more noticeable in him. Written speech is more detailed than oral monologue speech. This is due to the fact that there is no feedback with the interloc-

utor in written speech. The most important aspect of written speech is that it is a more arbitrary type of speech. Written speech is verbal speech carried out with the help of texts and differs from oral speech not only by its graphic nature, but also by its own grammatical and stylistic features.

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