

METHODS OF FORMATION OF SPEECH HEARING AFTER SURGERY IN CHILDREN WITH COCHLEAR IMPLANTS

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Annotation: In this article, information on ways to develop speech hearing after surgery in children with cochlear implants is given. Information on the experimental work of scientists who conducted research on the education of children with hearing impairment of preschool age is presented. Educators working with children with cochlear implants have revealed the essence and tasks of correctional-pedagogical work on the child's speech. In the process of auditory-speech rehabilitation, the effect of correctional-pedagogical assistance with children with cochlear implants on the development of individual abilities of children has been revealed. Effective factors for the development of hearing perception in children with cochlear implants are highlighted.

Key words: cochlear implant, deafness, hearing impaired child, hearing, auditory perception, method, pronunciation, surgical practice, effective factors.

In Uzbekistan, the task of improving the content of preschool education as the initial link of continuous education, introducing innovative technologies into this educational practice is one of the urgent issues of pedagogy. In particular, in the effective organization of education of children of preschool age with limited opportunities, the optimization of the principles of individual-oriented education in the content of the correctional-pedagogical process is of great importance. There are children with cochlear implants among children with disabilities, and the issue of determining effective ways of teaching, educating, and rehabilitating them during preschool education has become a research topic of preschool special pedagogy. In the above-mentioned paragraph of our research work, the research work carried out by a number of scientists on the pedagogical and psychological features of working with children with cochlear implants was described.

Healthy children of preschool age are interested in repeatedly asking questions and learning the names of objects and events that they are interested in during the performance of actions related to certain activities. Expressing their opinion and desire, they strive towards their goal (in some cases, even through stubbornness). Most of the children with cochlear implants are passive, timid, insecure and feel various complexes due to the environment in their families. Today, the optimization of pre-school and school education is the demand of the time, based on

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the fact that children with cochlear implants are required to study in a general education school, it is necessary to form hearing-speech skills in these children through deaf-pedagogical work in the post-surgery period. As long as children with cochlear implants are ready for school education as individuals with social skills and communication skills, they will successfully master the subjects taught at school.

Mental development of children with cochlear implants is important in preparing them for auditory and speech activities. Because any action is pre-estimated, its plan is drawn up through thinking, and the result - the goal is achieved. Therefore, preparing children with cochlear implants for speech activity is in harmony with the task of their intellectual development.

By mastering speech, the child also learns concepts such as objects, symbols, actions and attitudes. In this, he not only acquires knowledge, but also learns to think, because thinking is to speak inside or out loud, and to speak is to think.

After acquiring speech, a child with a cochlear implant begins to interact with the world around him, and his worldview expands. Now he interacts not only with the object, but also with the object that he has not seen at all or does not exist in his personal experience at the moment (travels to fairy tales, listens to how the people in the stories lived and reflects).

A child with a cochlear implant uses speech to express his thoughts and feelings, that is, to influence the people around him. It is important that the speech is expressive, emotional and connected.

It is advisable for pedagogues working with children with cochlear implants to direct the corrective and pedagogical work on the child's speech to the following tasks:

1. **Working on vocabulary:** naming pictures, showing the requested subject, various didactic games.
2. **Development of dialogic speech:** question-answer, conversation, role-playing, fairy tales.
3. **Forming the grammatical structure of speech:** continue the sentence, karaoke, reciting a poem.
4. **Monologue speech:** talking about himself and his family, telling about the cartoon he saw.
5. **Formation of speech culture:** teaching to talk with peers, adults, pedagogues, parents, relatives, role-playing games ("at a guest", "in transport").

Correctional-pedagogical tasks carried out with children with cochlear implants are presented in the picture below.

The main ways for children with cochlear implants to acquire knowledge, skills, skills and competences during preschool education at the following stages are as follows:

Stage 1: learns through communication with adults and peers during everyday life.

2nd stage: in the purposefully organized pedagogical process: in the preschool education organization; in family training under the supervision of a specialist; in individual and frontal training in surdo centers.

Auditory-speech rehabilitation of children with cochlear implants is effective based on the types of activities typical for preschool children (labor, constructive, visual, etc.). For example, in the process of drawing, a child with a cochlear implant should be able to see the results of actions in advance, determine the stages of work and their organization methods, and of course, it is desirable to actively participate in such types of work as question-and-answer, speaking, description. So, mental activity manifests itself (task) through communication.

In speech activity, attention is paid to enriching children's sensory experience. Speech activity based on manual labor has unlimited possibilities for developing imagination, creativity and resourcefulness.

Based on the analysis of foreign and national experiences presented above, the experiences of conducting special systematic work with children with cochlear implants were analyzed.

A child with a cochlear implant learns to hear, engages in speech communication, no matter how insufficiently, the child does not develop life skills, attitude to others, self-awareness, expression, self-confidence. therefore, the child cannot be considered ready for the next level of education. Only when the child learns to effectively apply the acquired skills and abilities in real life situations, will he feel comfortable and free in social relations, and ultimately will become an active person.

If auditory and speech skills are formed in children with cochlear implants of preschool age, practice gives the opportunity to achieve the following results:

- the motivation to learn increases in a child with a cochlear implant;
- due to the increase in vocabulary, a child with a cochlear implant develops visual and figurative speech, logical thinking;
- the ability of the child to express his opinion freely and independently in accordance with the speech environment is intensively formed;
- the child's need to adapt to social life and actively participate in various relationships increases;
- an opportunity is created for a child with a cochlear implant to express himself, self-evaluate, control his own actions, and acquire the skills of self-service;
- children with cochlear implants are mentally, morally, physically, spiritually ready for school education. The content of deaf-pedagogical work conducted with children with cochlear implants requires the development of the play environment on the basis of medical-hygienic, correctional-pedagogical, valid and reliable, alternative critical processing of the products of their activity;

The listed possibilities of auditory-speech rehabilitation of children with cochlear implants in practice and its effect on raising a generation suitable for modern, rapidly changing, developing society can clearly describe the relevance of this problem.

Prosthetics of hearing from the early stages, timely correction of impaired hearing functions, and deaf and hard-of-hearing children lay the groundwork for the active formation of hearing perception. As a result, children develop speech activity and intellectual activity based on it. Adults who have used cochlear implants in practice note that with the help of this device, sound

and speech sound relatively natural, expand the ability to find different sound sources, and reduce human fatigue during intense listening.

When children with hearing impairment are 2-3 years old, if sound amplification devices are ineffective, a different type of hearing aid is needed. A cochlear implant is surgically installed in a child as a means of effectively restoring such hearing. The sooner the child is operated on, the earlier the problems in his speech development are eliminated.

Cochlear implantation enables hearing-impaired children to hear and distinguish all surrounding sounds, to hear speech and their own speech. It serves as a means of ensuring social adaptation by bringing YA into the world of listeners. When a cochlear implant is installed, the child will be able to hear and distinguish all speech and non-speech sounds. However, children with cochlear implants will not achieve the expected results if rehabilitation is not carried out before and after the operation. That is, children do not feel the external world through the sense of hearing, as a result, they do not distinguish when hearing the speech of others. Children with cochlear implants should be provided with targeted deaf-pedagogical support for a certain period of time.

The effectiveness of deaf-pedagogical support depends on the direct participation of parents in this process. For this, there is a need to establish regular speech communication with a child with a cochlear implant in natural conditions in the family, especially during play. Otherwise, the deaf pedagogue's work will lose its effectiveness. This situation describes the need to systematically carry out the mechanism of working with a child with a cochlear implant.

It is known that after cochlear implantation, it is appropriate to divide hearing and speech rehabilitation work with children into the following periods:

1. adaptation period. This period lasts from 1 to 3 months, depending on the general condition of the child. In this case, the implant adapts to the child's body and, conversely, to the child's foreign object in the body. In practice, adverse effects of the child's body adaptation to the implant can also be observed. In such situations, based on the joint conclusions of surgeons, pediatricians, and therapists, medical recovery procedures include the following:

1. Psychological preparation of mother and child for correctional-pedagogical process.
2. Preparing the child for the activation of the speech processor (conditional movement reaction to sounds, explaining the presence or absence of sound, limiting the loudness of the sound). In addition, at this stage, the work of the pre-operative period continues (consultation for parents, individual training with a deaf pedagogue and a psychologist, recommendations for adjusting hearing aids, implementation of hearing and speech rehabilitation at home, in the family environment). creating a personal plan to increase).

As the important work of this stage, the types of work connecting the process of turning on and turning on the speech processor are performed. That is, teaching to distinguish between non-speech and speech sounds will continue under expert supervision.

2. start period. In the initial period, the electrode part of the cochlear implantation is activated by a specialist of the audiological center in a centralized manner with the help of a special device. This process includes dynamic control of the child's perception and reaction to

the external world. In the first period of the start phase, the general adjustment level is determined for all children. After a certain period, depending on the dynamic changes in the child, appropriate adjustment levels are selected. The dynamics of the setting are defined in a bottom-up manner.

The content of the work of the surdopedagogue consists of the following:

1) work is carried out on speech and voice. In this, reacting to different voices, attracting attention, arousing interest in surrounding voices, hearing and distinguishing between non-speech and speech sounds, searching for and identifying the source of sound;

2) generalization of auditory images, images (spoon, knife, pot, pot - voices in the kitchen; voices of parents, brothers, sisters - voices of family members; voices of cows, dogs, chickens, sheep - voices of domestic animals) ;

3) teaching parents to develop the child's hearing ability in the context of domestic communication.

1. Speech development work involves the development of voice and sound pronunciation:

2. - development of speech breath;

3. -achieving the duration of exhalation;

4. - redirection of air flow.

5. Working on sound:

6. - calling out the sound;

7. - sound control by hearing;

8. - listening to control the hardness, pitch, timbre of the voice.

9. In addition, a child with a cochlear implant is treated with logopedic massage, articulation gymnastics, and training to listen and control his speech.

The main period includes types of work in three major directions:

1. Development of speech discrimination.

2. To develop appeals and listening comprehension.

3. Listening, understanding of connected speech, development of comprehension of texts.

It was determined that the following factors influence the installation of a cochlear implant in order to restore hearing in children with hearing impairment:

Absence of serious problems in the general physiological state of the child: anemia, complications of acute respiratory disease, allergy to drugs.

In the case of the hearing aid: preservation of auditory nerve fibers, auricle, absence of retrocochlear pathology, non-smoothing of the mucous membrane of the ear.

Related to the activity of the brain: the absence of injuries, infectious diseases, organic disorders in the skull.

In the psychological state of the child: the absence of serious problems in communicating with relatives, adults, specialists.

Attention to the child in the family: understanding the importance of the process before surgery, surgery, and after surgery.

Factors affecting effective organization of correctional and pedagogical work after cochlear implant installation:

1. The existence of an educational and educational environment in the family.

Provision of a corner for training, toys, didactic tools, warm attitude of parents and relatives towards the child, adherence to articulation studies in speech appeals, prevention of unpleasant sounds, support of every movement of the child in time - support, to be patient during his adjustment to the cochlear implant, to prepare himself and others to be careful with the external part of the cochlear implant on the child's head.

2. Organization of specialist activities. This process includes:

targeted search, finding a specialist;
 conclusion of a fixed-term contract;
 making a plan together with a specialist;
 getting advice from an expert on training topics;
 timely adjustment of the cochlear implant;
 record the dynamic changes in the child.

1. Effective communication. Creating various speech situations, organizing targeted questions and answers, helping to communicate with peers and adults.

2. Priority of cooperation. Establishing the cooperation of a psychologist, therapist, psychiatrist, preschool education organization, pedagogue of the deaf and the family.

In the scientific researches of the well-known pedagogic scientists U. Fayziyeva, F. Kadirova, D. Nazarova and others, it was researched on a scientific and practical basis that low or loss of hearing directly affects the insufficient formation of speech in a child. From this we can base the following conclusion:

1. A deaf child does not understand the speech addressed to him because he cannot hear.
2. A deaf child can understand the speech of himself and others through special corrective approaches or hearing restoration devices.
3. Correctional-pedagogical work carried out with children who are deaf after the formation of speech and who have a cochlear implant is fundamentally different from deaf-pedagogical work carried out with children who have a cochlear implant without the formation of speech.
4. Depending on the occurrence of deafness and the duration of the cochlear implant installation, a specific content of post-surgical work is developed.

The main direction of the corrective-pedagogical and developmental work carried out after cochlear implantation is to teach deaf children to communicate, which has a positive effect on speech development.

In our opinion, as the final result of the cochlear implant, we can see that the life activity of implanted children has increased, their social and household adaptation has increased, their hearing has improved, and their oral speech has formed as the main means of acquiring knowledge and communicating with hearing people.

Rehabilitation of children after cochlear implantation is a long, planned process. In this regard, the first 2-year period is of particular importance. It is during this period that

otolaryngologists provide medical, psychological and pedagogical assistance to each child. In this process, the planned connection and adjustment of the speech processor, pedagogical examination, corrective and developmental training, and the advice of experts in various fields are required.

In conclusion, it can be said that today cochlear implantation is recognized as an effective tool in pedagogical rehabilitation of children with hearing impairment.

A.N. Belokon N.A. Dyches, A.B. According to Pashkov, the success of activities after cochlear implant installation depends on the following medical, psychological, pedagogical and social factors:

- the course of the surgical procedure;
- adjust the speech processor according to the child's hearing capabilities;
- taking into account the individual characteristics of the implanted child;
- parents' awareness of information on working with children with cochlear implants;

It should be noted that the system of pedagogical work conducted with children with cochlear implants requires the participation of a number of specialists, pedagogues of the deaf, speech therapists, psychologists, teachers, educators.

After installing a cochlear implant in children of preschool and school age, hearing and speech skills improve, the experience of communicating with oral speech is enriched, and it helps to adapt among peers with normal hearing.

Pedagogical conditions necessary for education and upbringing of children after cochlear implantation are as follows:

- correctional-pedagogical and methodical work system of specialists;
- the presence of a full-fledged speech environment;
- parenting activities at home.

Correctional-pedagogical work with children with cochlear implants is organized in the following ways.

1. Hiring deaf pedagogues or other specialists by parents. This type of education is carried out in the family where the child with a cochlear implant lives or at the place of residence of a specialist.

2. Education carried out in special state and non-state pre-school educational organizations. In this type of education, a child with a cochlear implant is trained face-to-face and individually.

3. Individual and face-to-face training in surdological centers.

No matter what type of education a child with a cochlear implant is engaged in, the most important pedagogical condition is a systematic approach conducted by a specialist.

In Uzbekistan, various approaches to working with children with cochlear implants have been put into practice based on the experiences of L. Mominova, U. Fayziyeva, R. Rustamova.

Common and different aspects of national experiences were also observed. In Fayziyeva's experience, it is a priority to strictly prohibit the use of dactyl and gestural speech when working with children with cochlear implants.

R. Rustamova pays attention to the use of all types of approaches that allow the child to develop vocabulary. However, after hearing the sound and word and understanding the meaning, he recommends to exclude conditional signs from consumption.

The group of practitioners led by L.Mo'minova recommends using speech communication that is psychologically comfortable for the child when working with children with cochlear implants. That is, they consider the procedure of first entering into communication, and then achieving the correct pronunciation of sounds and words to be effective.

U.Y. Fayzieva states that the following should be paid attention to when organizing correctional-pedagogical work with children with cochlear implants:

1. Regardless of the 3 types of education listed above with children with cochlear implants, the child must be under the special supervision of a specialist.

2. A child with a cochlear implant goes through all the stages of development typical for this period, like healthy children. Therefore, the content of the work with the child should be in accordance with the state requirements for the content of preschool education. That is, a child with a cochlear implant must be ready for school education with the necessary speech reserve and life skills.

3. In order to prepare children with a cochlear implant for school education verbally, mentally, physically, and spiritually, the correctional work of a specialist (individualized education), a preschool education organization, and a hearing center should complement each other in terms of content. That is, no matter what type of education a child is involved in, he should have knowledge, skills, skills, and competencies that are appropriate for his age, individual characteristics, and hearing capabilities, but that are closer to the state requirements for preschool education.

It is known that during preschool education, a child with a cochlear implant tries to understand the relationships in space and time by witnessing them. On this basis, the motive of speech activity increases in them, their abilities grow. Basically, starting from this period, the communication of a child with a cochlear implant increases.

One of the characteristics of a healthy preschooler is his curiosity, "why?", "what for?" is that he often turns to adults with such questions. Children with cochlear implants do not show activity in such situations. A child with a cochlear implant tends to perform various gestures and other actions to express himself. It is necessary for the pedagogue or parents to direct this situation correctly, i.e. to demand that the child's desire for independent appeal be transferred to verbal expression.

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