JOURNAL OF MULTIDISCIPLINARY SCIENCES AND INNOVATIONS
VOLUME 5, ISSUE 05
MONTHLY JOURNALS
ISSN NUMBER: 2751-4390
IMPACT FACTOR: 9,08

PEDAGOGICAL AND CORRECTIVE BASIS OF SPEECH DEVELOPMENT IN CHILDREN WITH COCHLEAR IMPLANTS

Abdulazizova Saboat Shukurovna
Teacher at Specialized Boarding School No. 17 for Deaf and Hard of Hearing Children with Special Educational Needs, Karshi City, Kashkadarya Region
https://doi.org/10.5281/zenodo.20406305

Abstract

This article discusses the theoretical and practical aspects of speech development in children with cochlear implants. The study analyzes the restoration of auditory perception, the formation of speech activity, and the development of communicative competence in children with profound hearing impairments. Particular attention is paid to cypdopedagogical approaches, speech therapy correction, development of phonemic hearing, vocabulary enrichment, and oral speech formation during the rehabilitation period after implantation. The results indicate that early diagnosis, family cooperation, individualized correctional programs, and systematic pedagogical support are essential factors in improving children's speech development.

Keywords: cochlear implantation, hearing impairment, speech development, surdopedagogy, rehabilitation, phonemic hearing, communicative competence, speech therapy correction.

Аннотация

В данной статье рассматриваются теоретические и практические аспекты развития речи у детей с кохлеарной имплантацией. Анализируются вопросы восстановления слухового восприятия, формирования речевой деятельности и развития коммуникативных навыков у детей с глубокими нарушениями слуха. Особое внимание уделяется сурдопедагогическим подходам, логопедической коррекции, развитию фонематического слуха, расширению словарного запаса и формированию устной речи в послеоперационный период реабилитации. Результаты исследования показывают, что ранняя диагностика, сотрудничество с семьёй, индивидуальные коррекционные программы и систематическая педагогическая помощь играют важную роль в речевом развитии ребёнка.

Ключевые слова: кохлеарная имплантация, нарушение слуха, развитие речи, сурдопедагогика, реабилитация, фонематический слух, коммуникативная компетенция, логопедическая коррекция.

Introduction

Today, adapting children with hearing impairments to social life, expanding their communicative capabilities, and creating conditions for full-fledged education are one of the important tasks of modern deaf pedagogy. Deep disorders in the auditory analyzer negatively affect the child's speech development. As a result, the child cannot adequately perceive surrounding sounds, and the process of understanding spoken speech and forming independent speech becomes difficult.

As a result of the development of science and technology, cochlear implantation has been introduced into practice as one of the effective methods of providing assistance to children with

severe hearing impairments. A cochlear implant is an electronic device that partially replaces the functioning of the inner ear, transmitting sound signals to the auditory nerves via electrical impulses. With the help of this technology, children's hearing capabilities are significantly improved and important conditions are created for the development of speech. The success of cochlear implantation is not determined only by the operation. Postoperative pedagogical and speech therapy rehabilitation processes are of decisive importance in the child's further speech development. Therefore, the issue of developing speech in children with cochlear implants is one of the current areas of study in the fields of deaf pedagogy, speech therapy, and psychology.

The effect of cochlear implantation on children's speech

Hearing is one of the main factors in the natural formation of human speech. The child perceives sounds in the environment through hearing, distinguishes them and gradually acquires speech based on imitation. Hearing impairment disrupts this process. Especially congenital or early hearing impairments cause a sharp lag in speech development.

Cochlear implantation improves the child's ability to perceive sounds by restoring hearing capabilities. With the help of the implant, the child begins to hear the sounds of speech around him, the ability to distinguish phonemes appears, and communicative activity is activated. However, the child's hearing of sounds does not mean that he will automatically begin to speak. The formation of speech requires long-term corrective and pedagogical work. In children with cochlear implantation, a reaction to sounds is initially formed. The child begins to distinguish sounds such as music, human voices, everyday noises. Later, phonemic hearing develops, that is, the ability to perceive differences between sounds is formed. This creates the basis for understanding spoken speech and developing independent pronunciation. Experts say that the earlier the implantation is performed, the more effective the child's speech development will be. Especially in children implanted before the age of 2-3, the ability to acquire speech is wider due to the high plasticity of the central nervous system. In children with cochlear implantation, a reaction to sounds is initially formed.

The child begins to distinguish sounds such as music, human voices, and everyday noises. Later, phonemic hearing develops, that is, the ability to perceive differences between sounds is formed. This creates the basis for understanding spoken speech and developing independent pronunciation. Experts say that the earlier the implantation is carried out, the more effective the child's speech development will be. Especially in children implanted before the age of 2-3, the possibility of acquiring speech is wider due to the high plasticity of the central nervous system. At the same time, cochlear implantation has a significant impact not only on the child's auditory activity, but also on the general mental development. Through the restoration of hearing, the child perceives the surrounding events more actively, begins to understand the connections between objects and phenomena more quickly. This has a positive effect on the development of cognitive processes such as thinking, memory, attention and imagination. In the post-implantation period, speech activity in children gradually increases. At first, they pronounce individual sounds and simple syllables, but later they switch to using short words and simple sentences. In the later stages of speech development, the skills of constructing grammatically correct sentences, expressing one's thoughts independently, and using coherent speech are formed. Especially with regular speech therapy sessions, children's pronunciation becomes much smoother and the level of intelligibility of speech increases. The emergence of auditory control in children with cochlear implants is also important. Through auditory control, the child hears his pronunciation and tries to correct it. As a result, the incidence of incorrect pronunciation of sounds gradually decreases. This process plays an important role, especially in the formation of sonorous and gliding sounds. Because in children with undeveloped auditory control, articulation

errors can persist for a long time. In addition, the ability to understand speech also develops in implanted children.

At first, they understand simple instructions, and then they learn to perform more complex verbal tasks. This is an important factor for successful participation in the educational process. As the level of speech understanding increases, the child's vocabulary expands, the ability to assimilate new concepts increases, and the communication process becomes more active. The effectiveness of cochlear implantation largely depends on the proper organization of rehabilitation work. If the child regularly undergoes surdopedagogical and speech therapy classes, the results will be more effective. In particular, listening exercises, phonemic differentiation work, articulation gymnastics, and exercises for the development of coherent speech are of particular importance. At the same time, the active participation of parents also plays a major role in the child's speech development. Enriching the child's speech environment at home, constantly talking with him, and creating speech situations during daily activities accelerate positive results. The process of social adaptation in children with cochlear implants is also much easier. Through the development of speech, they communicate more actively with their peers, participate in team games, and enter into social relationships. This increases the child's self-confidence and helps stabilize his psychological state. As a result, the child successfully adapts to an inclusive educational environment and has the opportunity to take an active place in society.

Pedagogical foundations of speech development

Speech development in children with cochlear implants requires special pedagogical approaches. Correctional work with such children should be based on individual characteristics. The level of hearing, age characteristics, mental development, and speech experience before implantation of each child are taken into account.

The main areas of speech development are:

- development of auditory perception;
- formation of phonemic hearing;
- work on pronunciation;
- expansion of vocabulary;
- development of grammatical structure;
- formation of coherent speech;
- development of communicative activity.

In the process of developing auditory perception, the child is taught to hear and distinguish different sounds. During the sessions, musical sounds, sounds of nature, household noises, and speech sounds are worked with. Initially, strong and clear sounds are used, and later complex phonemic differentiation exercises are used. The development of phonemic hearing is an important stage in the formation of speech. The child learns to distinguish between similar sounds such as "s–sh", "b–p", and "d–t". This is of great importance in forming correct pronunciation and understanding speech.

The importance of speech therapy

Speech therapy is central to children with cochlear implants. Because even though hearing is restored, the child learns to pronounce sounds correctly through special exercises.

Speech therapy is carried out in the following stages:

1. Development of the articulatory apparatus.
2. Formation of speech breathing.
3. Insertion and consolidation of sounds.
4. Work on words and sentences.
5. Development of coherent speech.

Articulatory exercises help develop the muscles of the tongue, lips and jaw. The development of speech breathing is important for smooth and accurate pronunciation. In the process of inserting sounds, the speech therapist uses visual, tactile and auditory control. Children with cochlear implants have difficulties pronouncing some sounds. It can be especially difficult to pronounce gliding and sonorous sounds correctly. Therefore, speech therapy correction should be carried out systematically and regularly.

The role of family and social environment

The family plays a very important role in the child's speech development. Parents should continue speech exercises at home in collaboration with specialists. Constant communication with the child, reading fairy tales, organizing conversations based on pictures, and creating speech situations during daily activities have a positive effect on speech development. Creating a favorable psychological environment in the family is also an important factor. When a child feels free, he actively engages in communication and learns new words faster. Parents' encouragement of the child's successes increases motivation. It is also important to involve children with cochlear implants in communication with their peers. An inclusive educational environment helps to develop the child's communicative competence. Through active participation in the community, the child acquires new speech experiences.

Problems in the rehabilitation process

The rehabilitation process in children with cochlear implants is a complex and long-term process. In some cases, the child's adaptation to using the implant is slow. Some children are hypersensitive to sounds and may be disturbed by noise.

The following factors may contribute to delayed speech development:

- ✓ late implantation;
- ✓ lack of regular training;
- ✓ weak family support;
- ✓ additional neurological or psychological problems;
- ✓ improper organization of pedagogical approaches.

Therefore, the cooperation of a deaf-mute teacher, speech therapist, psychologist, audiologist and parents is important in the rehabilitation process. Only an integrated approach allows you to achieve effective results.

Modern methods and technologies

Today, innovative pedagogical technologies are widely used in working with children with cochlear implants. Multimedia tools, interactive games, audio-visual programs and special mobile applications serve as effective tools for activating speech development. The use of visual materials attracts children's attention and makes it easier to remember new words. Audio exercises help develop auditory differentiation. Training organized through game technologies increases motivation in children and enhances speech activity.

Also, individual educational programs should be developed, tailored to the needs of the child. Since each child's development rate is different, classes are organized based on a differentiated approach.

Conclusion

Cochlear implantation is one of the modern and effective means of assistance for children with profound hearing loss. This technology creates important conditions for restoring hearing abilities in children, developing speech and communicative activity. However, implantation alone is not enough. Systematic surdopedagogical and speech therapy rehabilitation after surgery is a decisive factor in the successful speech development of a child. In the process of speech development, the formation of auditory perception, the development of phonemic hearing, work on pronunciation, expansion of vocabulary and the development of coherent speech are

important areas. The cooperation of family, teachers and specialists increases the effectiveness of correctional work. Early diagnosis and early implantation allow achieving high results in speech development in children. Therefore, the organization of complex and scientifically based pedagogical work with children with cochlear implantation is one of the urgent issues.

References

1. Mo‘minova L.R. Surdopedagogika asoslari. – Toshkent, 2021.
2. Ayupova M.Y. Logopediya. – Toshkent: O‘qituvchi, 2020.
3. Pulatova X.M. Eshitishida nuqsoni bo‘lgan bolalar nutqini rivojlantirish metodikasi. – Toshkent, 2022.
4. Nishonova Z.T. Maxsus pedagogika. – Toshkent, 2019.
5. Bogdanova T.G. Surdopedagogika. – Moskva, 2018.
6. Леонгард Э.И. Формирование речи у детей с нарушением слуха. – Москва, 2017.
7. Boothroyd A. Auditory Development of Children with Cochlear Implants. – New York, 2019.
8. Flexer C. Hearing in Children. – California, 2020.
9. 9.Kurbanova Z.J Surdopedagogika ilm fan nashriyoti Qarshi 2025