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**CAUSES, TYPES AND FORMS OF LOGONEUROSIS
AS THE MAIN DETERMINANTS TO THE COURSE
OF PHYSICAL REHABILITATION OF CHILDREN**

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The purpose of our research is to show causes, types and forms of logoneurosis as the main determinants to the course of physical rehabilitation of children.

Research methods. The research methods were the method of observation and the empirical study of patients. The place of organizing the empirical stage of our research was the psychiatric hospital № 1 in Kyiv. This stage lasted during 2022. With the help of clinical, pathopsychological and anamnestic methods were diagnosed 112 children in the age 1-12 years old with logoneurosis in anamnesis.

The results of the research. So, we identify several groups of children who are most likely to develop stuttering:

1. Children who are characterized by increased anxiety. Often, they are very attached to their mother or another close person, they react sharply to any change in their behavior or mood. Such children often experience insomnia, impaired appetite, tearfulness and irritability when the environment changes (absence of the mother, adaptation in the children's team).

2. Children with early speech development. This group of children begins to speak very early (before 1 year old). By the age of 1,5-year-old, they already speak by use of phrases. In the period of 2-3 years old, they may have multiple iterations.

3. Children who have a delay in the development of their speech. Usually, they begin to speak the first words not earlier than 1,3-1,5 years old. Phrases become available to them only by 3,5 years old. Often these children speak indistinctly.

4. Children with a genetic predisposition.

5. Toddlers who are raised in bilingual families.

Conclusions. In order for the treatment of logoneurosis to be as effective as it is possible, it is important to start it as early as it is possible, when the first signs of pathology appear. So, problem symptoms of logoneurosis are:

1. The child suddenly stops talking. This silence can last up to several days. After that, speech resumes, but stuttering is already clearly audible. If stuttering correction is started during the period of silence, there is a high probability that the defect will be avoided altogether.

2. At the beginning of each phrase, the child repeats the first syllable many times.

3. It is very difficult for a child to start a conversation.

4. The child makes long pauses, stopping in the middle of a word.

5. Extra vowels appear before some words.

Key words: logoneurosis, causes of logoneurosis, types of logoneurosis, forms of logoneurosis, course of physical rehabilitation of children.

Михальчук Н.О., Харченко Є.М., Івашкевич Е.З., Івашкевич Е.Е., Яцюрик А.О. Причини, типи та форми логоневрозу як базові детермінанти фізичної реабілітації

Мета нашого дослідження – виокремити причини, типи і форми логоневрозу як базові детермінанти фізичної реабілітації в дитячому віці.

Методи дослідження. Методами дослідження були метод спостереження та метод емпіричного дослідження хворих. Місцем організації емпіричного етапу нашого дослідження стала психіатрична лікарня № 1 м. Києва. Експеримент тривав протягом 2022 р. За допомогою клініко-патопсихологічних та анамнестичних методів було обстежено 112 дітей віком 1-12 років з логоневрозом в анамнезі.

Результати дослідження. Виділено кілька груп дітей, у яких ймовірність розвитку заїкуватості є найвищою:

1. Діти, котрим властива підвищена тривожність. Найчастіше вони дуже прив'язані до матері або іншої близької людини, гостро реагують на будь-яку зміну їхньої поведінки чи настрою. У таких дітей часто трапляється безсоння, порушення апетиту, плаксивість та дратівливість за умов зміни обстановки (відсутність матері, адаптація до дитячого колективу).

2. Діти з раннім розвитком мовлення. Ця група дітей починає говорити дуже рано (до 1 року). До 1,5 років вони вже висловлюють фрази. У період 2-3 років можуть з'явитися множинні ітерації.

3. Діти, які мають затримку у розвитку мовлення. Зазвичай перші слова вони починають говорити не раніше 1,3-1,5 років. Фрази для них стають доступними лише до 3,5 років. Найчастіше такі діти говорять невиразно.

4. Діти з генетичною схильністю.

5. Малята, які виховуються у двомовних сім'ях.

Висновки. Щоб лікування логоневрозу було максимально ефективним, важливо розпочати його якомога раніше, з появою перших ознак патології. Симптомами логоневрозу є такі проблеми:

1. Дитина раптово перестає говорити. Таке мовчання може тривати кілька днів. Після цього мова відновлюється, але вже виразно чути заїкання. Якщо корекція заїкуватості буде розпочата в період мовчання, великою є ймовірність того, що дефекту вдасться зовсім уникнути.

2. На початку кожної фрази дитина багаторазово повторює перший склад.

3. Дитині дуже складно розпочати розмову.

4. Дитина робить тривалі паузи, зупинившись на середині слова.

5. Перед деякими словами з'являються зайві голосні звуки.

Ключові слова: логоневроз, причини логоневрозу, види логоневрозу, форми логоневрозу, курс фізичної реабілітації дітей.

Introduction. A lot of researchers (Mykhalchuk, Pelekh, Kharchenko, Ivashkevych, Ivashkevych, Prymachok, Hupavtseva & Zukow, 2020) have considered logoneurosis as a functional disorder in the field of speech, convulsive neurosis. Some others (Onufrieva, Chaikovska, Kobets, Pavelkiv & Mel-

nichuk, 2020) defined logoneurosis as purely mental suffering, which was expressed by convulsive movements in the speech apparatus, as psychosis.

Logoneurosis as a spasmodic coordination of neurosis arising from the irritating weakness of speech centers (the component of coordination).

This component was clearly formulated in the issues of scientists (Tabachnikov, Mishyiev, Drevitskaya, Kharchenko, Osukhovskaya, Mykhalchuk, Salden & Aymedov, 2021), who wrote that logoneurosis was a sudden violation of the continuity of articulation, caused by a convulsion that occurred in one of the departments of the speech apparatus as a physiological whole. Proponents of this theory initially emphasized the innate irritability of the apparatus that controlled the component of coordination (Kharchenko & Kurytsa, 2021). Later, the researchers explained logoneurosis in the light of neuroticism. They thought that logoneurosis was a convulsive spasm (Tabachnikov, Mishyiev, Kharchenko, Osukhovskaya, Mykhalchuk, Zdoryk, Komplienko & Salden, 2021).

Logoneurosis is an associative disorder of a psychological nature of the person. This direction was put forward by some scientists (Khwaja, 2012). The other psychological approach to understanding the mechanisms of logoneurosis (Kharchenko & Vashchenko, 2021) has been further developed.

Logoneurosis is a subconscious manifestation that is developed on the basis of mental trauma, various conflicts of a man with the environment (Hayden, Farrar & Peiris, 2014). Proponents of this theory were scientists (Onufriieva & Ivashkevych Ed., 2021), who believed that stuttering, on the one hand, showed the desire of the individual to avoid any possibility of confrontation with others, and on the other hand – to break the sympathy of others through such demonstrative suffering.

Stuttering, or logoneurosis of children, is a speech disorder in which its smoothness and integrity are impaired. According to statistics, up to 4% of children face this problem. Stuttering can not only cause the development of complexes of a baby, but also provoke a violation of its development. Fortunately, this pathology lends itself well to correction, especially when treatment is started at an early age (Brodsky, Oquendo, Ellis, Haas, Malone & Mann, 2001). Therefore, if you experience the slightest signs of stuttering, it is important to consult a doctor. As usually, treatment in a clinic will help a child to identify the problem and choose effective methods of correction (Grunebaum, Oquendo, Burke, Ellis, Echavarria, Brodsky, Malone & Mann, 2003).

The **purpose** of our research is to show causes, types and forms of logoneurosis as the main determinants to the course of physical rehabilitation of children.

Methods of the research. The place of organizing the empirical stage of our research was the

psychiatric hospital № 1 in Kyiv. This stage lasted during 2022. With the help of clinical, pathopsychological and anamnestic methods 112 children in the age 1-12 years old with logoneurosis in anamnesis. The research method was empirical study of patients.

The examination of children who stutter was carried out comprehensively (a speech therapist, a neurologist, a psychologist) with the involvement of other specialists: a pediatrician, a therapist, a psychiatrist, an ophthalmologist, an otolaryngologist and others.

Results and their discussion. *The causes of logoneurosis* can be congenital and acquired. The following factors can provoke the congenital development of this defect:

- genetic predisposition;
- fetal hypoxia, infectious processes and other pathologies that occurred at the stage of intrauterine development;
- individual characteristics, which include increased excitability of the nervous system, etc.;
- birth trauma or other problems during the birth process.

Stuttering can be acquired by such leading factors, as:

- psychological trauma that can provoke a lack of attention on the part of adults, the loss of parents or loved people, experienced stress, accidents, etc.;
- physical injuries (ranging from minor bruising to serious concussions);
- certain diseases (meningitis, etc.);
- physiological processes (impaired development of the brain in the early childhood) (Corbitt, Malone, Haas & Mann, 1996).

Sometimes children are diagnosed with “*false stuttering*”. It cannot be called a disease, since the reason is that the baby copies adults. “False stuttering” can be observed in families where there is already a person with logoneurosis or the child often comes into contact with people who have this disorder. Thus, the baby adopts their manner of speech and begins to imitate.

There are **two main forms of stuttering**:

1. *Neurotic one.* The reason for the development of this type of logoneurosis can be a mental trauma, fear, stress. Sometimes this type of stuttering develops, when children are raised in a bilingual family or have significant study loads.

We can notice the pathology already at the age of 2-4 years. The neurotic form is not associated with genetics, impaired intrauterine development or complicated childbirth. A feature of this type of stuttering is that speech impairment is associated

with certain conditions. For example, a child begins to stutter during a speech or when excessive attention is drawn to him/her.

The child may experience spasms. It can be articulatory or respiratory. In the first case, the baby's lip may noticeably twitch, the tongue interferes with pronouncing words, etc. In the second case, it is difficult for him/her to start a speech, he/she may experience a lack of air.

2. *Neurosis-like form*. This form of pathology appears due to a hereditary factor or becomes the result of complications that the mother of the child suffered during pregnancy or at the stage of childbirth. Neurosis-like disorder is detected at the age of 3-4 years old. It develops constantly in any life situation (Lin, Chen & Hsu, 2019).

In addition, there are *such types of stuttering*:

1. *A clonic type*. It is distinguished by repeated repetition of the same syllable, a sound or a word. As a result, the child can no longer continue his/her speech.

2. *A tonic type*. Its characteristic feature is the stretching of vowel sounds or too long pauses in words.

3. *A combined type*. This type combines manifestations of other forms of stuttering.

According to the time of occurrence, *stuttering is divided into the following kinds*:

– *Stable or habitual one*. It occurs in a child's age constantly.

– *Unstable kind*. It takes a place after a stressful situation or against the background of psycho-emotional overstrain.

– *Cyclic kind*. It is a period of stuttering are it is replaced by times when the child can speak calmly (Hardeman, Medina & Kozhimannil, 2016).

Into the content of speech classes with children who stutter, Speech Therapists include singing and rhythmic speech. This type of exercises is used to improve and to develop the voice, breathing and articulation, as well as to once again draw the child's attention to the opportunity to speak freely. The "singing" language is not used, as a rule, in classes, but it left a reliance on vowel sounds at the beginning of a phrase in cases where it is difficult for a child to start speaking with a consonant sound (Kharchenko & Komarnitska, 2021).

Those who stutter feel a certain relief when children accompany their speech with certain rhythmic movements. For example, well known words:

Saw, saw

They drank a lot.

We are building a house

For animals, – the children pronounce these phrases, holding hands and imitating the movements of the woodpeckers.

However, our oral speech is multimetric, that is why we use quite different rhythms in our speech. Therefore, the speech therapist's task is to consistently explain the child's fluency skills from rhythmic and multimetric, that is the child's speech process will take on the character of ordinary, natural speech.

Thus, the fluency and rhythmicity of people's speech of those ones who stutter is brought up in the following sequence: singing; singing with pauses; rhythmic speech (reading poems aloud, then prose) accompanied by pauses; rhythmic speech (reading poems aloud, then prose) without pauses; reliance on loud sounds; multimetric speech.

We have already mentioned above that depending on the child's emotional state, his/her speech changes significantly. In moments of depressed mood or, on the contrary, increased excitement, the child's speech deteriorates significantly compared to that one which it has in the moments of mental balance and positive mood, but not strong enough, exciting emotions.

The task of teaching correct speech is, first of all, to train the ability to speak correctly in the case of various emotional acute states of the child. A speech therapist must teach a child who stutters to control himself/herself, to present free speech regardless of mood, emotional excitement or depression.

The emotional state of a person can be seriously affected by the surrounding environment, people and the nature of the individual's activities. The influence of the listed factors on the emotional state of those ones who stutter is reflected in the quality of their speech.

A child, for example, usually feels calmer and more confident at home environment, sometimes in the usual conditions of a kindergarten, with relatives. In these situations, the child's speech will be much better. But in an unfamiliar environment, the child, as a rule, becomes embarrassed, feels insecure, wary, and at the same time, he/she feels particularly acutely his/her inferiority, and his/her speech becomes much worse.

The same happens with the surrounding people. Close, delicate, benevolent people act somewhat soothingly. A person suffering from logoneurosis is not ashamed of them, feels at ease with them, being confident, but isolated, and speaking in this atmosphere will be much better than with those ones whom the child is afraid of, does not know, is ashamed of.

That is why it is important to provide for the selection of not only the speech exercises themselves, but

also different situations in which the lessons should be held in the language classes of the speech therapist. Depending on the situation, the sequence of speech exercises can take the following form: training correct speech in a well-known, familiar environment; in the unfamiliar surrounding; in strange situations.

Depending on the social environment: in solitude (children usually speak absolutely freely here); with relatives and friends; with educators; with unfamiliar people; with strangers. And, finally, the activity of a child who stutters can also affect the quality of his/her speech depending on: a) the form of the activity (didactic or moving games, drawing, sculpting, etc.); b) from the degree of complexity (elementary actions, set of actions); c) from the child's attitude to speech in time (description of what is, what was or will be).

During manual activities classes with preschoolers who stutters, we came to the conclusion that child's speech is better when he/she directly accompanies their actions with words. In such a way, children simultaneously say what each of them is doing at the moment. For example: "I cut a strip of paper"; "I was jumping a plasticine ball", etc. At the same time, of course, the simpler the action, the easier it is for the child to describe it.

It is much more difficult for a child who stutters to talk about his/her future actions, especially if they are quite complex. Here we need to imagine in advance the whole process of expressing our own thoughts. In this case, the child is deprived of the opportunity to rely on visual and tactile analyzers, as he/she does it when describing. All this complicates his/her speech, contributes to increasing the number and strengthening of stuttering.

That is why in the process of selecting speech exercises, depending on the child's activity, the following sequence of their complication should be provided (Table 1).

As we can see from the analyzed material, as well as the factors on which the appearance or disappearance of speech stuttering of children who stutters, depends to a certain extent, there are quite a lot of them. Which of them are the main ones? What should a speech therapist take as a basis? At the same time, what is the degree of independence of children's speech? What is the degree of preparedness? What is the complexity of speech structure, presentation schemes, etc.? What is speech volume? What is fluency and rhythmicity of speech? What is the environment and social environment of this child? What types of activities does the child participate in?

All of these factors are important for re-education of the language of children who stutter. An underestimation of one of them will interfere with the success or strength of the correct speech skills developed by the child, which can unexpectedly provoke stuttering after the seemingly successful completion of language classes. Therefore, the speech therapist must apply all his/her skills and knowledge so that nothing prevents the successful conduct of classes and does not cause a relapse.

The existence of such a variety of factors affecting the state of speech of a child who stutters allows the speech therapist to combine different types of speech exercises in such a way as to always anticipate the possibility of speech spasms and avoid them. There is also an opportunity to practice correct speech and fix the attention of a stuttering child on it. And in the case of disruptions, the speech therapist should help the child rely on familiar and easy for his/her language stereotypes, so that the person who stutters could once again overcome speech difficulties.

So, we identify *several groups of children who are most likely to develop stuttering*:

1. Children who are characterized by increased anxiety. Often, they are very attached to their mother or another close person, they react sharply to any

Table 1

Types of the activities (from calm to lively and emotionally saturated)	Complexity of the activity	The attitude to the activity, to the process of the child's own speech at this or that time
Didactic games (lotto, dominoes) Lessons in sculpting, drawing, making application General educational classes (learning Math, Native Language, Activities) Moving games Creative and role-playing games, staging Rehearsals for matinees or concerts Participation in matinees, concerts	From elementary, simple movements and actions to complex activities, situations, movements and actions	Present Past Future

change in their behavior or mood. Such children often experience insomnia, impaired appetite, tearfulness and irritability when the environment changes (absence of the mother, adaptation in the children's team).

2. Children with early speech development. This group of children begins to speak very early (before 1 year old). By the age of 1,5-year-old, they already speak by use of phrases. In the period of 2-3 years old, they may have multiple iterations.

3. Children who have a delay in the development of their speech. Usually, they begin to speak the first words not earlier than 1,3-1,5 years old. Phrases become available to them only by 3,5 years old. Often these children speak indistinctly.

4. Children with a genetic predisposition.

5. Toddlers who are raised in bilingual families.

Depending on the cause of stuttering, doctors of different specializations can deal with its treatment. The first person, to whom the parents should contact when they notice a problem of their child, is a *pediatrician*. After the examination, the doctor will be able to determine whose consultation is required – a neurologist or a psychotherapist.

To clarify the diagnosis and determine how to treat stuttering, additional methods such as electroencephalography, CT, MRI, and X-ray examination of the skull can be prescribed. Pathology, which is associated with physiological causes (disturbances in the brain), is treated by a *psychoneurologist*. The doctor will be able to determine such violations on the results of the electroencephalogram. If stuttering takes a place when children have a psychological cause, therapy is prescribed by a *psychotherapist*. Correction of the violation is carried out by a speech therapist.

Speech therapy stuttering should be treated as soon as it is noticed. In addition to training with a specialist, parents should also help the child. It is important to create a comfortable environment for him/her, to avoid stressful situations. You need to talk to the child smoothly, without haste. Working with stuttering should be complex. It is important not only to form the correct speech, but also to solve the psychological problems of the child.

If the problem is *neurotic by its nature*, a speech therapist may recommend a course of massage. It will be especially effective for preschool children. The specialist gently massages the shoulders, the neck, upper back and chest, the face. During the session, the doctor acts on the muscles that regulate the child's speech apparatus. This massage is performed daily. The course is designed for 2-3 weeks.

Also, a specialist can use acupressure. It helps to get rid of excessive nervous excitability and affects the speech apparatus. It needs to be done for a long time. Every day for several years it is necessary to massage certain points, which the specialist will show.

Stretching helps to cope with stuttering, with the aim at normalizing muscle contraction, providing exercises for breathing and eyes. This complex has a beneficial effect on the mental and physical development of the child. He/she learns correct diaphragmatic breathing, thanks to which it is possible to consciously regulate his/her rhythm. Special exercises have the aim at strengthening the press. Provided that, such charging is carried out regularly, it is possible to adjust the function of speech.

There is a whole range of *such exercises*. Some of them are performed at rest, others – during active movement. Later, along with breathing exercises, the doctor uses verbal techniques. To make it easier for the child to adapt to treatment, the complexity of the exercises is increased gradually.

The use of medications is advisable when stuttering is the result of *trauma or stress*. In such situations, the doctor prescribes vitamin-mineral complexes, restorative drugs, antispasmodics. Phyto-preparations demonstrate a good effect. If a child is diagnosed with brain damage, antispasmodic drugs, tranquilizers in the minimum dosage are used. Additionally, children are advised to engage in the types of activities that develop a sense of rhythm, help to improve speech breathing. It can be singing, dancing, aerobics.

If the first visit to a specialist who will determine how to get rid of stuttering is carried out immediately, if there are suspicions of violations in the baby's speech, the prognosis is favorable. In about 70-80% of all cases, the child completely gets rid of the speech defect. In this case, the age of the child plays an important role. It is best to correct violations of children in the age from 3 to 5 years old. In a case of those children who already go to school, it is much more difficult to treat logoneurosis. Even less likely to completely get rid of speech disorders of children elder than 9-11 years old.

It is possible to avoid the development of stuttering if certain preventive measures are taken. Primary prevention is based on the elimination of any factors that can lead to impaired speech. First of all, a woman during pregnancy should lead an active and healthy lifestyle, treat any concomitant diseases in a timely manner. Attention should be paid to the prevention of birth injuries, as well as injuries in the first years of a baby's life.

Secondary prevention has the aim at working with children who are at risk and have even a slight predisposition to the development of logoneurosis. Periodically, they are recommended to be examined by a neurologist. If any deviations are detected, it is necessary to contact a psychologist, a speech therapist and undergo treatment.

The family plays a huge role in *the prevention of stuttering*:

1. It is important that the house has a calm, favorable environment. Everyone should be kind to the baby. He should not become a witness to quarrels and conflicts between adults. Parents should pay attention to the wishes and needs of a small family member. When talking to a small child, you should not intentionally distort words. It is important that they are pronounced clearly and expressively.

2. If there is a genetic predisposition or if there are already cases of stuttering in the family, it is recommended to limit the communication of this person with the child. Also, you can't try to make a baby genius from the cradle. All activities must be age appropriate for the child. During games, it is necessary to pay attention to the mood, character traits of the baby, because what is ideal for one child may be dangerous for another.

3. If the child has any speech disorders, he/she is recommended to visit a special speech therapy kindergarten. Alternatively, the child should have regular sessions with a qualified speech therapist. It is important to correct all speech disorders at preschool age. Otherwise, over time, they will develop into a real problem: the child will begin to stutter more, there will be difficulties with learning and mastering the school curriculum. Such children develop complexes, it is difficult for them to find mutual understanding with other children. A child with stuttering is afraid to communicate with peers and speak in public.

4. It is important to develop a certain daily routine of a child from an early age. It is desirable that other family members also adhere to it. It is necessary to protect the child from physical and psycho-emotional stress. All children are prohibited from watching crime films, horror films or other scary stories. Moreover, it is not recommended to even watch cartoons that can upset the child.

5. If the family speaks several languages, it is recommended to teach the child one of them first. And only after 4 years to start learning the second language.

Tertiary prevention is to prevent the development of diseases or their complications. Any disease of a

child must be treated in a timely manner to minimize the risk of undesirable consequences.

Treatment of the disorder must necessarily be accompanied by *a comfortable psychological environment* at home. It is recommended to avoid visiting noisy companies or places with a large crowd of people with your child. This is especially true for those babies who show aggression or are hyperactive from an early age. Sometimes stuttering goes away even without the help of specialists and medication, if you use techniques with the aim of developing speech and setting the correct diction.

If a child has a well-defined stuttering, it is important to immediately begin to correct it. The course of treatment depends on the type of disorder and the cause of its development. In some cases, it may take several years of correction before the child can speak normally. Therapy includes breathing and physical gymnastics, massage, physiotherapy, medication. Parents must strictly follow all the instructions of the attending physician. After the end of the course of therapy, the child should regularly undergo preventive examination by specialists. This will avoid relapse and save the result.

In order not to harm the child, it is necessary to abandon attempts to artificially stimulate the development of the baby's speech, not to focus on violations that have already appeared. Loving a child is necessary even when he/she has any shortcomings. This will allow him/her to feel secure and confident, and this will help in solving any problems, including speech disorders.

Conclusions. In order for the treatment of logoneurosis to be as effective as it is possible, it is important to start it as early as it is possible, when the first signs of pathology appear. So, *problem symptoms of logoneurosis* are:

1. The child suddenly stops talking. This silence can last up to several days. After that, speech resumes, but stuttering is already clearly audible. If stuttering correction is started during the period of silence, there is a high probability that the defect will be avoided altogether.

2. At the beginning of each phrase, the child repeats the first syllable many times.

3. It is very difficult for a child to start a conversation.

4. The child makes long pauses, stopping in the middle of a word.

5. Extra vowels appear before some words.

Logoneurosis is manifested by the following *symptoms*:

– a long pause is made between sounds in a word (machine...ine);

– as a result of a spasm of the vocal apparatus, stumbling or repeated repetition of the initial sound or syllable (d-d-d-dog, pic-pic-pic-picture) takes a place;

– sleep disturbance, digestion, the appearance of enuresis, nervous tics;

– nervousness, aggressiveness, tearfulness due to the fact that it is not possible to pronounce a word;

– difficulties in communication and regular attempts to retire, which are associated with fear of ridicule from peers or other people.

Having noticed at least one of the listed symptoms in a child's speech, it is important to seek help from a specialist as soon as it is possible. After examining and determining the cause of the speech defect, the doctor will tell us how to cure stuttering.

Depending on *the characteristics of stuttering*, the doctor can diagnose one of *four stages of the pathology*:

1. At the initial stage, hesitation appears periodically. This usually happens when the child is worried or very upset. Due to the fact that this happens

periodically, parents may not attach importance to the problem. As a result, logoneurosis begins to progress.

2. At the second stage, the child begins to stutter even in a calm state.

3. At the third stage, speech impairment is already clearly visible. Obsessive movements of the head, gesticulation can join the speech defect. To avoid another stuttering, the child may try to replace complex syllables with simple ones, he/she uses interjections. Vocabulary becomes severely limited.

4. The fourth stage is characterized by logophobia. The child becomes afraid to speak, complexes appear, he/she always tries to be himself/herself, refuses to communicate with peers and even with family members.

The sooner therapy is started, the higher the chance for a complete cure is. It is optimal if the treatment of stuttering of children's speech will be started at preschool age. After completing the course of correction, the child's speech is restored, he/she fully develops and learns.

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