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## Retarded speech development – terminology issues

### SUMMARY

Retarded speech development has been investigated by a number of specialists, representatives of various scientific disciplines – medicine, pedagogics, psychology, linguistics and logopedics. However, no consensus on theoretical foundations and terminology seems to have been obtained. So far, the definition, limits of the disorder, its causes and criteria for identifying have not been clarified. This is why this phenomenon calls for a careful examination and harmonised classification.

This paper presents various definitions of retarded speech development reported in the literature, attention is drawn to the causes and major clinical forms of retarded speech development. The term *specific language impairment* which has gained in popularity among researchers in recent years is explained in more detail.

**Keywords:** retarded speech development, specific language impairment, differences of terminology in speech therapy.

Retarded speech development has been investigated by a number of specialists, representatives of various scientific disciplines – medicine, pedagogics, psychology, linguistics and logopedics. However, no consensus on theoretical foundations and terminology seems to have been obtained. So far, the definition, limits of the disorder, its causes and criteria for identifying have not been clarified. This is why this phenomenon calls for a careful examination and harmonised classification.

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## DEFINITIONS OF RETARDED SPEECH DEVELOPMENT

These days, views on the principles and therapy methods of children with retarded speech development are less controversial than those on defining and diagnostic criteria of retarded speech development. Disagreements between authors and inconsistencies within the speech disorders classification system are clearly visible here. A multitude of causes behind retarded speech development lead to differences in terminology and, as a consequence, to some degree of discretionary with respect to its use. The ambiguity of the term is demonstrated by the fact that in the literature available retarded speech development functions as the name of the diagnosis, disorder condition, development disorder symptom, but also as a set of symptoms (Jastrzębowska 1999, 314). Various authors define the term differently depending on the criterion adopted.

It can be assumed that retarded speech development (synonym: speech development delay) is present in a situation where in all or in some respects the speech development process does not proceed in compliance with the norms adopted for an individual age group (Jastrzębowska, Pelc-Pękala 1999, 670).

However, the expression “norm” in speech development differs widely and raises a number of issues. The usual definition of development norm embraces those achievements in respect to individual functions which can be observed in the majority of children of the same age (Jastrzębowska 1999, 311). Each human is characterised by individual features which is the reason why individual speech development periods differ from case to case. As specific time limits for language acquisition by the child have not been defined, also the very term “retarded” is imprecise. Ewa Dilling-Ostrowska (1982) believes that retarded speech development takes place when the child does not articulate words at the age of 18 months and does not form sentences at the age of 30 months. Antoni Pruszewicz (1992) sets this limit at the age of 15 months to 3 years. Jadwiga Szumska (1982) writes about a few months’ delay as compared with the age, up to a complete inability to express oneself or recognise speech, while Tomasz Zaleski (2002) believes a delay greater than 6 months is a symptom of pathology. In turn, Zofia Kordyl (1968) writes that when the child starts speaking at the age of 3 years old while at the age of 4 years old his speech continues to be hardly understandable, *alalia prolongata* can be diagnosed. Urszula Zofia Parol (1989) makes a general remark that a child should start speech therapy if he does not use complete sentences or sentence equivalents at the age of 3. Marina Zalewska (1998), in turn, believes that speech development delay relates to children aged 2–5 who do not speak at all or their speech development is significantly restricted.

For diagnostic purposes it is necessary to identify the level of speech delay. It requires pointing to a critical moment in a child’s development, beyond which one can talk about language acquisition delay.

The severity of the delay is identified on the basis of tests, observation and interview. Different levels of speech delay have been identified in a book by Halina Spionek (1981). According to the author, a mild level of speech delay can be diagnosed if a 2 years old child's speech is on the level of a child aged 18 months or if a 7–8 years old child's speech development is characteristic of a child aged 5–6. One can talk about a severe level of speech delay when a greater time deviation in the appearance of successive speech development stages takes place.

According to the indicators developed by H. Spionek it should be assumed that a severe level of speech delay takes place when a child:

- at the age of 12 months is on the level of a 6 months old child (babbling only);
- at the age of 2 years old is on the level of a 1 year old child (produces a few words);
- at the age of 3 years old is on the level of a 1.5 years old child (uses sentence equivalents only, and his vocabulary is on the level of a 1.5 years old child);
- at the age of 4 years old is on the level of a 2 years old child (primarily, in relation to active vocabulary – about 300 words, uses only simple sentences);
- at the age of 5 years old is on the level of a 2.5 years old child (continues to use simple sentences, his vocabulary is on the level of a 2.5 years old child);
- at the age of 6 years old is on the level of a 3 years old child (complex sentences appear, the child uses about 1000-1500 words);
- at the age of 7 years old is on the level of a 3.5 years old child.

According to H. Spionek (1981) among the symptoms of retarded speech development there are: late babbling, late first words, poor active and passive vocabulary, missing parts of speech, late simple and complex sentences, persistence of incorrect grammatical structures, incorrect pronunciation of sounds.

Some authors also propose categorisation into speech dysfunctions and speech disturbances. „If the deviations from development norm are minor we talk about disturbances in speech development, if they are more severe we talk about dysfunctions in speech development. A dysfunction indicates a pathological character of the irregularities observed, while a disturbance indicates an alternation in speech development (such as mismatching) resulting from individual development speed and dynamics” (Wiśniewska 2002).

Speech development delay may accompany both dysfunctions as well as disturbances in speech development.

In specialist literature retarded speech development is treated as an isolated disorder and considered a separate disease unit, or is seen only as a symptom or dysfunction accompanying other pathologies.

According to Grażyna Jastrzębowska (1999, 316) "speech development delay (synonyms: retarded speech development, alalia prolongata, speech impairment,

delayed speech development, delay in acquisition of skills and communicative competences, retarded language development) is a general term used to describe a phenomenon occurring in children, consisting in a slower growth of expression and/or perception abilities compared to their peers, which makes the dynamics of their development different from normal. This phenomenon can be caused by various factors". Therefore, according to this author, the term should not be treated as a separate disease unit.

Within the general speech disorders classification system developed by J. Szumska (1982), speech development delays should be treated as a symptom, phenomenon accompanying various diseases.

A similar opinion is presented in medical literature. Andrzej Obrębowski (2007, 540) quotes the following definition: "Retarded speech development is not a disease unit, but a symptom indicating that in terms of time and content a child's development deviates from the norm adopted for a particular population".

In *International Statistical Classification of Diseases and Related Health Problems ICD-10* (2008) speech development delay is not classified as a separate category or disease unit either. It is stressed, however, that speech development delay is an important symptom and indispensable element of speech and language development dysfunctions and other development dysfunctions. Yet, in ICD-10 specific speech and language development dysfunctions are distinguished.

The problem is seen in a similar way by the authors of DSM-IV Classification. In the description of combined receptive-expressive speech disorders, expressive disorders and phonological disorders it is stressed that the evolving nature of these dysfunctions is characterised by a slow development of language communication, whereas speech can occur late and evolve slowly through successive stages of its development (Jastrzębowska 1999, 314). The opinion presented in DSM-V is basically not different. Meanwhile, what has been revised is the category relating to communication disorders embracing the category relating to language disorders into which specific language development disorders have been included (<http://www.dsm5.org>).

A slightly different opinion is presented by Anna Paluch, Elżbieta Drewniak-Wołosz and Lucyna Mikosza in *Afa-Skala* (2008, 10). The authors believe that the term "retarded speech development" is very useful and can constitute an initial diagnosis of some kind. It is used when a lack of speech development or difficult to diagnose pathogenesis in children is observed. The identification of speech development delay should lead to commencing speech therapy and further deepening of the diagnosis.

A. Pruszewicz and E. Dilling-Ostrowska distinguish retarded speech development as a separate disease unit. A. Pruszewicz (1992) believes that retarded speech development is a specific condition of disorder which can occur due to

various causes (peripheral nervous system malfunctions, sight and hearing impairments, central nervous system malfunctions, mental retardation, lack of motivation to speak, family factors, deaf-mutism, acoustic agnosia, metabolic disorders). She also distinguishes a basic retarded speech development when none of the above causes has been diagnosed. The classification of speech disorders developed by Pruszewicz has been criticised by Stanisław Grabias (2001). He stresses the unclear character of the term in the classification and draws attention to the fact that in this sense the term retarded speech development becomes a synonym of the term speech disorders in children or is merely a symptom of these disorders.

The opinion presented by A. Pruszewicz, as previously mentioned, corresponds to the opinion held by E. Dilling-Ostrowska (1982). She claims that speech development delay can result from various factors. Along with speech development delay conditioned by various causes (mentioned further in this paper), the author distinguishes speech development delay without any distinct etiopathogenic factors. In such cases speech development is retarded in relation to the child's age, with undisturbed vocabulary recognition, and levels up around the age of 5. Speech disorders of this kind are described as simple or usual speech development delays.

The problem is seen in a similar way by T. Zaleski (2002). He distinguishes retarded speech development triggered by various factors and syndrome of expressive speech delay (simple retarded speech development) which he considers a separate disease unit in children with hearing impairment and speech understanding as well as reduced intelligence level excluded.

The opinion presented by M. Zalewska (1998,98) is nearly identical. She writes about expressive speech development delay (delayed verbal expression) which, according to the author, is selective in nature and differentiates it from speech development delay accompanying autism, mental disorders, various peripheral or central nervous system pathologies, articulatory apparatus dysfunctions and hearing impairment.

Retarded speech development of such primary deficit can also be found in American literature. It is described as specific language impairment (SLI) (Leonard 2006). This disorder is elaborated in more detail further in this paper.

In *Projekt zestawienia form zaburzeń mowy* written by Halina Mierzejewska and Danuta Emiluta-Roza (1997) speech development delay is presented as one of fourteen disorder forms. The authors define it as “disturbances in verbal communication while developing this ability” which are triggered by “unknown causes delaying the development of hearing, motion and other abilities.

It is also worthwhile to present the views of psychologists. They treat retarded speech development as a secondary phenomenon (accompanying mental, mo-

tion and emotional disorders, deafness, autism). In such context retarded speech development is treated as a specific set of symptoms. In this sense, for example, Zofia Kordyl considers aphasia in children and auditory perception impairment as speech development delays. Moreover, they distinguish isolated speech development delay of primary and selective character which refers to the language only, while psychomotor development and intellectual functioning are not disturbed (Jastrzębowska 2008, 314).

Phoniatric literature treats retarded speech development in a similar way, as a disease unit (Mitrinowicz-Modrzejewska 1963).

### CAUSES OF RETARDED SPEECH DEVELOPMENT

Retarded speech development is subject to increasing interest and more frequent analysis by researchers in terms of its pathogenesis and pathomechanism. The causes of retarded speech development are not fully known yet.

It is estimated that retarded speech development affects about 10% of children, out of which 3-7% are cases where underdevelopment or lack of speech occur at the absence of any etiopathological factors (Czaplewska, Kaczorowska-Bray 2002).

Depending on the types of causes, various types of speech development delays are identified: of endogenous and exogenous origin, being symptoms of developmental dysfunctions or pathology, resulting from developmental disorders or dysfunctions, being disorders of primary or secondary character ( Jastrzębowska 2010, 314).

J. Szumska (1982), as previously mentioned, treats delays in the acquisition of language competence and skills as a secondary disorder. According to the author it results from such developmental pathologies as: sight and hearing impairments, inborn motor impairment, mental disorders, family factors, micro brain damage.

A. Pruszewicz (1992) believes that retarded speech development can occur due to damage to the peripheral speech system, sight and hearing impairments, mental retardation, lack of motivation to speak, damage to the peripheral nervous system, family factors, deaf-mutism, acoustic agnosia, metabolic disorders. She also distinguishes basic retarded speech development when none of the above causes has been diagnosed.

E. Dilling-Ostrowska (1982) refers to the term *retarded speech development* in a similar way as A. Pruszewicz. Among the causes of retarded speech development she enumerates: lack of opportunity to speak, sight and hearing impairments, reduced intelligence level, retardation in maturation of the central nervous system, brain damage, mental disorders, motion disorders and damage to the peripheral speech system. She also treats emotional disorders and improper environmental

conditions as adverse factors. Similarly to Pruszewicz the author distinguishes simple or usual speech development delay where exact etiology remains unknown.

T. Zaleski (2002) distinguishes retarded speech development caused by factors such as: insufficient environmental stimulation, multilingualism, hearing impairment, mental retardation, damage to the peripheral nervous system, metabolic disorders, defectiveness of the articulatory apparatus. He also writes about speech delay resulting from cerebral palsy and autism. Additionally, he points to syndrome of expressive speech delay in case where the above factors can be excluded.

In terms of etiology, medical literature distinguishes retarded speech development of known and unknown cause. It is furthermore classified into:

- 1) associated speech development disorders related to peripheral and central hearing, sight and motion malfunctions as well as mental retardation,
- 2) isolated speech development disorders of genetic and psychosocial origin (family factors, excessive requirements, bilingualism) and organic origin – peripheral speech system malfunctions, developmental apraxia of speech (Obębowski 2007).

Marina Zalewska (1998) in her book puts forward an interesting thesis that simple retarded speech development in children is conditioned by their identity development disorders which, in turn, is a result of inappropriate relationship with mother and the troubles mothers experience while building their maternal identity. As important factors in forming mother-child relationship she considers such facts from the lives of children with retarded speech development and their mothers as being born from unwanted pregnancy, long breastfeeding period, no modification of the mother's lifestyle following the birth of the child or, on the contrary, deep devotion to the child, sleeping with the child in one bed, which leads to "separation" of the parents.

Zalewska stresses that speech development delay should not be treated as a problem of the child alone, but rather as set of specific behaviour patterns of the child and his mother. She notices there is a link between the somatic condition of the woman in pregnancy and the way the pregnancy is experienced and the child's development. A lot of mothers whose children suffer from retarded speech development display disturbed identity as a mother which, in turn, results in depersonalization of the child as an individual and independent human being. Thus, the child is not a partner in the interaction, instead it is treated as an object necessary to perform a specific activity. This specific mother-child relationship results in disturbed identity of the child and triggers his "psychological annihilation" as well as the annihilation of the person remaining in relationship with him. As a result "there is no one to speak, no one to speak to and nothing to talk about". In such conditions it is very difficult for the child to develop the language and communication skills. What Zalewska proposes as a therapy is psychological as-

sistance. The parents of the child should also participate in the therapeutic process (Zalewska 1998).

In the previously quoted *Projekt zestawienia form zaburzeń mowy* the authors distinguish endogenous (organic) causes of speech development delay, as opposed to exogenous ones (external, environmentally conditioned). The pathomechanism here is impoverishment of the emotional life, weakening of the motivation to communicate with the surrounding people as, for example, in hospitalism. In the project it has been stressed that the factors behind speech delay are not thoroughly explained to date, yet beyond doubt, the pathomechanisms present here are related to pathological brain processes (Mierzejewska, Emiluta-Roza 1997, 40).

Neuroscientific research proves that a child's relationships with the surrounding people influence directly the creation of connections in the brain. This is why it is difficult to differentiate between the endogenous causes (weakening of the cerebral structures or their malfunctioning) and the exogenous, environmental ones (improper relationships between the child and parent) conditioning speech development delay. Therefore, attention should be paid to both the symptoms of cerebral dysfunctions and the difficulties in the child-mother relationship (Przesmycka-Kamińska, Zalewska 2002, 34).

In case of some children with retarded speech development a co-occurrence of endogenous and exogenous causes exists. Most often it is believed to be caused by delays and malfunctions in maturing of the cerebral structures, which can lead to changes in the neural networks structure which will be less efficient, although functional. Among other causes there are insufficient contact of the child with the language due to poor social experience or mild hearing impairment (caused by effusion into the middle ear) (Przesmycka-Kamińska, Zalewska 2002).

1. Summing up, one can talk about speech development delay when it is related to individual speed of a child's development and has no specific etiology, and also when it is a consequence of development disorders and is caused by biological or environmental pathogenic factors.

#### RETARDED SPEECH DEVELOPMENT – CLINICAL FORMS AND THEIR CLINICAL PRESENTATION

Majority of expert analysts of retarded speech development distinguish two basic types of speech delays. The first one is described as simple speech development delay (synonymic terms functioning in the literature include: alalia prolongata, basic speech delay, expressive aphasia, syndrome of expressive speech delay, autonomous delayed speech development – SORM), the second one – speech development delay (synonyms: retarded speech development, not autonomous delayed speech development – NORM) is described as a symptom of developmental disorders of varying etiology ( Jastrzębowska 1999, 314).

Due to diversified terminology a number of clinical forms of retarded speech development is distinguished. In terms of etiology it seems that the most careful and relatively transparent division of speech development disorders (disturbances) into autonomous delayed speech development (SORM) and not autonomous delayed speech development (NORM) is presented by G. Jastrzębowska (1999). Following this division the types of retarded speech development distinguished by researchers (expressive or receptive aphasia and syndrome of expressive speech delay) should be included in the first group, while the second group would include speech development delays of specific etiology (retarded speech development conditioned by mental retardation, sight and hearing impairments, peripheral speech system developmental disorders, metabolic disorders, environmental factors and damage to the central nervous system).

In the present paper attention will be drawn, above all, to retarded speech development conditioned by damage to the central nervous system classified as not autonomous delayed speech developments (NORM).

In Polish literature on this subject there is no consensus on the nature of speech development delays of central nervous system origin (resulting from developmental pathology or damage of specific cerebral structures in the developmental period). A number of terms is used to describe these disorders, i.e.: alalia, speech underdevelopment of aphasic type, childhood aphasia, developmental aphasia, congenital underdevelopment of verbal expression and verbal expression and reception, dumbness of cerebral origin, auditory perception impairment, congenital speech development disorders, congenital inability to acquire speech, childhood aphasia/dysphasia (Jastrzębowska 2008, 314).

In speech therapy a group of disorders caused by damage to the central nervous system is distinguished including such speech pathologies as alalia, speech underdevelopment of aphasic type and childhood aphasia. A separate group consists of disorders being a consequence of maturation disorders and brain functioning malfunctions but not resulting from organic damage – basic retarded speech development (*alalia prolongata*).

In young children it is difficult to differentiate between speech development delay of cerebral cortical origin and basic retarded speech development. The symptoms are very much alike, yet some differential criteria are distinguished: children affected by *alalia prolongata* reach each stage of speech development in a similar way as healthy children but a few years later, while in case of alalia and speech underdevelopment of aphasic type a smooth transition from one development stage to another does not occur. Another differential factor is the dynamics of withdrawal of the symptoms. In children without neurological damage a substantial improvement of language skills as a result of speech therapy can be observed, while speech improvement in children with organic cerebral changes is a long-term and less effective process (Panasiuk 2008). If the symptoms of

retarded speech development persist in a child after the age of 5 the existence of specific causes should be anticipated, as a speech delay persisting beyond this age indicates a disorder rather than disturbance of the developmental process (Jastrzębowska, Pelc-Pękala 1999).

In the group of disorders caused by damage to the central nervous system the differential criterion is above all the temporal factor (taking into account the degree of structural and functional specialisation of the brain while damaged) as well as clinical presentation. Thus: alalia is a result of damage which occurred in the pre-linguistic period (up to the age of 1). In this case speech develops abnormally from the very beginning, disorders relate to all language skills and, additionally, speech disorders are accompanied by disturbances of higher psychological activity. Speech underdevelopment of aphasic type results from the occurrence of damage during the shaping of language structures (the of 2 to 6). In this case, initially speech develops properly until at one of the stages disturbance of the process occurs. Further speech development can be halted or slowed down, the skills acquired previously can be lost. The disturbances observed are of non-specific character. Childhood aphasia is diagnosed when damage to cerebral structures responsible for speech development occurs after language acquisition, that is after the age of 7. As a result of the damage full or partial loss of verbal communication skills occurs (Panasiuk 2008).

The clinical picture of disorders related to damage to the central nervous system is not uniform. The basic symptoms of alalia and speech underdevelopment of aphasic type are related to variable degrees of verbal expression and reception restrictions as a result of which disorders of expressive type (motor), perceptive type (sensory) and mixed type (motor-sensory) are distinguished. Thus one can come across terms such as motor/sensory alalia or speech underdevelopment of motor/sensory aphasic type. However, mixed type is most frequently observed (Panasiuk 2008).

Another group of disorders includes speech delays being a consequence of developmental disturbances, abnormalities in the development process, but not a result of other disorders (alalia prolongata, basic retarded speech development). A speech delay that can be qualified in this group is described by Jastrzębowska (1999) as autonomous delayed speech development – SORM.

Alalia prolongata constitutes a separate speech pathology. The problem here is disturbance of the language learning process from the very beginning of its acquisition.

“Alalia prolongata should be understood as a language and communication deficit not resulting from other restrictions of psychic and physical skills. i.e.: damage to the central nervous system, defects of the sensory organs (normal hearing), irregularities in the anatomy and functioning of the articulatory apparatus,

pervasive developmental disorders (such as autism) and general impairment of intellectual functioning (although these children can sometimes be positioned at the lower limit of the intellectual norm). As such, they should be distinguished from speech and language development delay understood as a symptom of various developmental disturbances and malformations, such as mental retardation or hearing impairment” (Stasiak 2008).

The basic symptom of this disorder is late speaking (first words are uttered by the child at the end of the second or in the third year of life). Speech development delay may relate to both verbal expression and speech understanding. This disorder manifests itself by a complete lack of language or delay in the acquisition of individual language skills as well as irregularities in various language subsystems. As a consequence, difficulties in reading, spelling, interpersonal relations and behaviour as well as emotional disorders can appear (Stasiak 2008).

The lack of obvious causes for basic retarded speech development is stressed. Establishing the etiology of the phenomenon, one most frequently indicates heredity factors, disorders in maturation of the child's nervous system within cortical areas of the left cerebral hemisphere (slow myelination of nerve fibres), childhood diseases of the prenatal/perinatal/postnatal period up to the age of 1–2 years old and a lack of language stimulation (Stasiak 2008). An important feature characteristic for basic retarded speech development is a fast speed at which the delay is made up for. It is one of the differential factors for diagnosing *alalia prolongata* with specific language development disorders.

Jastrzębowska (1999) states that in autonomous delayed speech development the following phenomena can be included in accordance with ICD-10 classification guidelines:

**1.** Irregular speech development delay - uneven speech development results from individual development pace and rhythm of the child and is a symptom of developmental dysfunctions. It can be diagnosed when environmental factors and other disturbances have been excluded. The child's linguistic activity is restricted to pronouncing a few syllables or words only or imitating the intonation patterns of the language but through the child's behaviour and play it can be proven that his intelligence is not disturbed. Speech development often starts abruptly and then proceeds in a usual way (Jastrzębowska 1999).

**2.** Syndrome of expressive speech delay (synonym: expressive speech development delay) – is characterised by a late start and difficulties in speech development. This phenomenon can be contributed to the immaturity of the articulatory apparatus. By some researches this syndrome is treated as symptom of lower limit of the norm, can be observed in 3% of pre-school children, more frequently in boys than girls. Children with expressive speech development delay speak very little or not at all, individual sounds appear late, difficulties in learning to read and

write appear, yet the hearing and intellectual level are undisturbed (Zaleski 1993). Expressive speech development delay is described as verbal expression disorder. It is diagnosed in children aged 2–5 who do not speak at all or their speech development is significantly restricted. Such delay is selective in nature – psychomotor development, intellectual functioning and speech understanding of the children does not deviate from the norm (Zalewska 1998, 64).

3. Articulation delay (developmental dyslalia) – development delay of the phonetic aspect of speech (the occurrence of substitution, elision, metathesis, assimilation, although no sound deformation is observed), quality of the child's speech corresponds to earlier development stages. At a later time no difficulties in reading and writing or emotional disorders are observed. This delay is treated as a variant of the norm, yet it is considered a pathology while persisting beyond the age of 6 or 7 (Jastrzębowska 1999).

4. Developmental (physiological) non-fluency (developmental stuttering) – delay in the development of the expressive aspect of speech, disturbance in natural transition from one speech element to another with disruption of the rate and rhythm which results from difficulties in coordination of a number of elements fluent speech consists of. It is considered a usual speech non-fluency being a symptom of childhood difficulties, it has no pathological background and is treated as being within the norm. It should not be considered equivalent to stuttering, as except for repeating syllables or words they do not share any common features (Jastrzębowska 1999).

In the literature irregular speech development delay and syndrome of expressive speech delay also function as the synonyms of the term *alalia prolongata* (basic retarded speech development).

### SPECIFIC LANGUAGE DEVELOPMENTAL DISORDER

In addition to ordinary speech developmental delay, the delay described in the American literature as Specific Language Impairment (SLI), and described in Polish literature as specific language developmental disorder (specific developmental disorder of speech and language) is more and more often distinguished.

In the literature specific language developmental disorder is termed as a disorder of primary deficit character. Therefore, the inclusion of this type of disorder into Non-Spontaneous Delayed Speech Development (Non-SDSD) group made by Jastrzębowska is questionable and raises considerable doubt. However, the assumption adopted in the literature that spontaneous delayed speech development should be compensated to 5-6 years of age does not allow for placing this disorder into the Spontaneous Delayed Speech Development (SDSD) group either. Therefore, this term requires a separate discussion, since it cannot be classified in either of the categories.

The term "specific language impairment" (SLI) in the American literature is used in relation to children who show significant reduction of language ability, although they show no symptoms that are usually accompanied by problems in learning the language, such as hearing impairment, low scores on non-verbal intelligence tests or neurological impairments. SLI affects 7% of the population, and is more frequently observed among males than females (Leonard 2006).

In many children with SLI, the delay consists in both late appearance of language, and slower than the average rate of their development. SLI can be a chronic problem that persists during adolescence and even adulthood. The plateau phenomenon can also be observed. It is not enough to say about development of these persons that it is delayed since they never reach a level of complete mastery of the language (Leonard 2006). According to Polish studies, children diagnosed at preschool age after 4-5 years still show some deficits in the language (Lasota 2007).

The phenomenon interpreted in such a way seems to be aptly defined as specific language developmental disorder. The described pathology was called a disorder, and therefore was separated from disruptions: speech developmental disorder, as opposed to disruptions, is pathological. They may have a nature of primary and secondary disorders (SLI is classified as primary disorder). The speech developmental disorder that relates to a deviation from the norm in the process of speech acquisition emerging from the early development of the child should also be distinguished from the speech disorder which is a consequence of the developmental process disorders occurring during the development or after its completion. SLI is therefore a speech developmental disorder and not speech disorder (Leonard 2006).

SLI is diagnosed when there is a substantial deficit of language skills (results in standardised language tests at the level of  $-1.25$  of standard deviation or lower) and when applying of exclusion criteria. These are: non-verbal intelligence quotient equal to or higher than 85, normal oral motor function, no hearing disorders (including effusion into the middle ear), no neurological dysfunctions (mild delay in maturation of the nervous system shall be adopted), no anatomical defects in the articulation organs structure and symptoms of disorders in social interactions (Leonard 2006).

Despite clearly defined criteria allowing for the detection of this type of problem, SLI is not easy to diagnose. It is difficult to distinguish a small child's language problems, because only the course of therapy shows how deep and lasting they are. It is impossible to predict whether we observe only a disruption of development that will disappear without a trace, or a disorder.

Currently in Poland, there are no standardised tests for the diagnosis of SLI. The works under the direction of Magdalena Smoczyńska (<http://sli2012.ibe.edu>).

pl) aiming to create diagnostic tools are proceeding. Currently, early diagnosis allows only for separation of children at risk. The subject of many studies was to determine early risk factors for the emergence of this disorder. American studies, whose results are quoted by Agnieszka Lasota (2010) in her book, take into account the individual and social factors affecting the likelihood of SLI. Individual factors associated with the high level of risk are primarily a low birth weight and low Apgar score, lack of prenatal care, high birth order in the family and poor education of mothers in the scope of child care. The social factors that increase the risk of emerging the disorder have been associated with single mother and low maternal education.

In phoniatric, medical literature, SLI is considered a synonym for children's centrally-conditioned speech disorders: children's agrammatism, dysphasia, developmental dysphasia. It is assumed that these disorders are genetically conditioned and are associated with the location of genes around 7q31. The mutation of the seventh chromosome called FoxP2 is associated with surrounding areas of the brain that control speech and speaking (Obrębowski 2005).

In the American literature, it is also assumed that SLI is genetically determined. And although it excludes brain pathology and neurological disorders, the latest neurological tests show that in case of children with SLI, some anomalies can be seen in the structure and functioning of the brain. This is not necessarily a sign of pathology, but the expression of abnormal structure of the brain which hinders the assimilation of the language, as long as there are also other unfavourable environmental and biological factors (Lasota 2007).

There is a widespread view in the Polish literature that the above is a developmental disorder only of language competence. However, children with SLI do not show communicative competence disorders, since they can guess intentions of other people and have a need to communicate, not necessarily only using language.

Studies have shown that children with SLI much more frequently than their properly developing peers use the gestures and non-verbal communication to convey some information. This confirms the thesis that when children do not have access to the words, then they naturally use other measures and develop a suitable for themselves compensatory strategies and methods in order to be able to communicate with the environment (Lasota 2010).

Although SLI is defined as a specific disorder, in which the main difficulties – language problems – are primary, the co-occurrence of speech disorders and difficulty in reading in children are highlighted as well. Ewa Czaplewska (2010) quotes studies of Bishop and Snowling of 2004, which shows that 50 % of children with dyslexia also meet the criteria for a diagnosis of SLI. The dependence of speech disorders and difficulty in reading can be observed mainly in the results of the longitudinal research. The children diagnosed with specific language develop-

mental disorder at the age of 4-6 years were examined in terms of reading skills. It has emerged that many of them achieved poorer results in the reading tests than their peers without speech disorders.

The researchers working on this disorder indicate that pre-school children with SLI combine words with designations worse than their peers, and school children have more problems than their peers with searching for words, and rapid, automatic naming. This is related to problems with easy access to their own lexical and semantic resources. The ability to build speech was also compared. It has been shown that the utterances of 5-year-old children with SLI contain a smaller number of clauses in comparison with the control group chosen based on MLU (Mean Length of Utterance). Children with SLI are also poor at morphology (Czaplewska 2010).

Elżbieta Drewniak-Wołosz and Anna Paluch (2009) engaged in the issues related to children with specific developmental disorders of speech and language propose other nomenclature for this disorder. They believe that in such cases the appropriate term is speech underdevelopment of aphasia type. The term “of aphasia type” suggests analogy to adults’ aphasia and neurological basis of this disorder. Leonard (2006) specifies the occurrence of neurological dysfunctions as an excluding criterion in SLI diagnosis; so here we have significant terminology difference. However, the authors explain that keeping in mind the variety of aphasia type speech underdevelopment possible causes (organic damages as well as disorders of neurological processes of central nervous system (CNS) maturing, malfunctions in coordination between brain regions, other CNS malfunctions on genetic basis), they focus only on symptom descriptions for these disorders. Therefore, the term “of aphasia type” is used by the authors to highlight the fact that the phenomena observed in children language are similar to the acquired aphasia symptoms, concern understanding and expression and are results of disorders at the highest levels of speech programming, being deep and long-lasting in their nature. They indicate that in children with development aphasia brain pathology is rare to occur, while the symptoms observed may have a genetic basis. They state, that regardless of brain neurological examination results, the occurrence of children specific symptoms concerning speech and language as well as non-specific symptoms (bradyphrenia, memory and concentration degradation, conceptual thinking malfunctions, etc.) is sufficient basis to suspect a brain dysfunction. Therefore, in such cases they recommend to diagnose the speech underdevelopment of aphasia type, and consider the opinion regarding the existence of alalia prolongata (where symptoms are identical to speech underdevelopment of aphasia type, but precise locations of cortical structure cannot be specified) and alalia (which, according to the Authors, is synonymous to dyslalia) as unclear (Drewniak-Wołosz, Paluch 2009).

The Authors specify critical, according to them, diagnosis criteria of speech underdevelopment of aphasia type/specific developmental disorders of speech and language. These criteria include excluding criteria: hearing disorder, pervasive developmental disorder, cerebral palsy, environmental neglect and emotional cause of disorders; logopedical criteria: specific effects on all speech acts and language subsystems, child age for children older than 5 years, language deficiency permanency; psychological criteria: intellectual capacity in non-verbal communication, occurrence of non-specific symptoms, which occur along with the basic deficiency (fatigue, memory and concentration disorders, learning disabilities) (Drewniak-Wołosz, Paluch 2009). The literature available is consistent when it comes to SLI which, although is a specific impairment and relates mainly to the language, has also a negative effect on other development areas – social, cognitive, emotional and symbolic representation development. It has been revealed that adolescents with SLI have not only language problems, but also social, e.g.: reduced number of friends, social withdrawal, reduced social skills. Therefore, language impairments result in reduced interpersonal relations (Lasota 2007).

Concluding, terminology issues within retarded speech development issue concern mainly cases where delay causes are not obvious. Alalia prolongata and specific language impairment, i.e. generally speaking, disorders of primary character, are sometimes identified with central speech dysfunctions (alalia, aphasia type speech underdevelopment, development aphasia). Imprecise definitions of these disorders often lead to diagnostic problems. Therefore there is a necessity to standardise the terminology primarily relating to retarded speech development in children, in the form of a biological standard.

#### BIBLIOGRAPHY

- Czaplewska E., 2010, *Trudności w czytaniu a zaburzenia rozwoju mowy*, „Biuletyn Polskiego Towarzystwa Dysleksji”, t. 2 (7), Gdynia, s. 7–11.
- Czaplewska E., Kaczorowska-Bray K., 2002, *Współpraca terapeutów i rodziców w procesie stymulowania rozwoju mowy u dzieci ze specyficznymi zaburzeniami rozwoju mowy i języka*, [w:] *Metody wspomagające rozwój mowy w różnych jego opóźnieniach*, oprac. M. Przybysz-Piwkowska, Warszawa, s. 43–54.
- Dilling-Ostrowska E., 1982, *Rozwój i zaburzenia mowy u dzieci w zależności od stopnia dojrzałości układu nerwowego*, [w:] *Zaburzenia mowy u dzieci*, red. J. Szumska, Warszawa, s. 18–30.
- Drewniak-Wołosz E., Paluch A., 2009, *Niedokształcenie mowy o typie afazji – rozważania nad kryteriami diagnozy*, „Logopeda”, t. 1(7), Warszawa, s. 90–99.
- Grabias S., 2001, *Perspektywy opisu zaburzeń mowy*, [w:] *Zaburzenia mowy. Mowa – Teoria – Praktyka*, t. 1, red. S. Grabias, Lublin, s. 22–43.
- Jastrzębowska G., 1999, *Zakłócenia i zaburzenia rozwoju mowy*, [w:] *Logopedia. Pytania i odpowiedzi*, red. T. Gałkowski, G. Jastrzębowska, Opole, s. 305–351.

- Jastrzębowska G., Pelc-Pękala O., 1999, *Diagnoza i terapia opóźnionego rozwoju mowy*, [w:] *Logopedia. Pytania i odpowiedzi*, red. T. Gałkowski, G. Jastrzębowska, Opole, s. 670–686.
- Kordyl Z., 1968, *Psychologiczne problemy afazji dziecięcej*, Warszawa.
- Lasota A., 2007, *Specyficzne zaburzenie rozwoju językowego*, „Sztuka Leczenia”, t. 14, nr 1–2, s. 35–45.
- Lasota A., 2010, *Świat gestów i symboli w komunikacji dziecięcej*, Kraków.
- Leonard L. B., 2006, *SLI – Specyficzne zaburzenie rozwoju językowego*, Gdańsk.
- Mierzejewska H., Emiluta-Rozya D., 1997, *Projekt zestawienia form zaburzeń mowy*, „Audiofoniologia”, t. X, s. 37–48.
- Międzynarodowa Statystyczna Klasyfikacja Chorób i Problemów Zdrowotnych (rewizja dziesiąta)*, 2008, t. 1, Centrum Systemów Informacyjnych Ochrony Zdrowia.
- Mitrinowicz-Modrzejewska A., 1963, *Fizjologia i patologia głosu, słuchu i mowy. Rozpoznawanie, leczenie i rehabilitacja*, Warszawa.
- Obrębowski A., 2005, *Uwagi do ośrodkowych zaburzeń mowy*, „Otorynolaryngologia”, t. 4 (4), s. 169–176.
- Obrębowski A., 2007, *Diagnostyka opóźnionego rozwoju mowy*, [w:] *Otorynolaryngologia dziecięca*, red. D. Gryczyńska, Bielsko-Biała, s. 540–546.
- Paluch A., Drewniak-Wołosz E., Mikosza L., 2008, *AFA-Skala. Jak badać mowę dziecka afatycznego?* Kraków.
- Panasiuk J., 2008, *Standard postępowania logopedycznego w przypadku alalii i niedokształcenia mowy o typie afazji*, „Logopedia”, t. 37, s. 69–88.
- Parol U. Z., 1989, *Dziecko z niedokształceniem mowy. Diagnoza, analiza, terapia*, Warszawa.
- Pruszewicz A., 1992, *Opóźniony rozwój mowy*, [w:] *Foniatryka kliniczna*, red. A. Pruszewicz, Warszawa, s. 233–341.
- Przesmycka-Kamińska J., Zalewska M., 2002, *Opóźnienie rozwoju mowy – ujęcie interdyscyplinarne*, [w:] *Metody wspomagające rozwój mowy w różnych jego opóźnieniach*, oprac. M. Przybysz-Piwkowska, Warszawa, s. 19–35.
- Spionek H., 1981, *Zaburzenia rozwoju uczniów a niepowodzenia szkolne*, Warszawa.
- Stasiak J., 2008, *Standard postępowania logopedycznego w przypadku alalii prolongaty*, „Logopedia”, t. 37, s. 39–57.
- Szumaska J., 1982, *Neurofizjologiczne podstawy zaburzeń mowy u dzieci*, [w:] *Zaburzenia mowy u dzieci* red. J. Szumska, Warszawa, s. 7–17.
- Wiśniewska B., 2002, *Sposoby wzrokowo-ruchowo-przestrzennego wspomagania rozwoju mowy* [w:] *Metody wspomagające rozwój mowy w różnych jego opóźnieniach*, oprac. M. Przybysz-Piwkowska, Warszawa.
- Zaleski T., 1993, *Opóźniony rozwój mowy*, [w:] *Diagnoza i terapia zaburzeń mowy*, red. T. Gałkowski, Z. Tarkowski, T. Zaleski, Lublin, s. 185–192.
- Zaleski T., 2002, *Opóźnienia w rozwoju mowy*, Warszawa.
- Zalewska M., 1998, *Dziecko w autoportrecie z zamalowaną twarzą. Psychiczne mechanizmy zaburzeń rozwoju tożsamości dziecka głuchego i dziecka z opóźnionym rozwojem mowy*, Warszawa.
- Zalewska M., 1998, *Dziecko z zespołem prostego opóźnienia rozwoju mowy*, [w:] *Wybrane problemy psychologicznej diagnozy zaburzeń rozwoju dzieci*, red. J. Rola, Warszawa, s. 64–83.

**Internet sources:**

<http://sli2012.ibe.edu.pl>

<http://www.dsm5.org>