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Mutism in Autism. A Case Study

ABSTRACT

An increase in recent years in the number of children diagnosed with mutism, i.e. silent period/dumbness, as well as an increase in the number of children with autism spectrum developmental disorders, may be related to civilizational transformations that determine the biological and social conditions for the child's development. Autism as a neurodevelopmental disorder is differentiated from mutism – a symptom of social phobia. Diagnosing of the two disorders is the domain of psychiatrists and psychologists; however, the treatment of children with autism and mutism is increasingly often provided by logopedists (speech therapists). The goal of the article is to present the pathomechanisms and symptoms of mutism in the context of autistic disorders and the procedure for logopedic management in the case of a 9-year-old autistic child with developed language skills, in whom mutism occurred as a result of having experienced a trauma. Establishing of the criteria for the differential diagnosis of autism and mutism and developing a strategy for the treatment of the child with combined communication skills disorders requires taking into account the neurobiological pathomechanisms underlying these symptoms.

Keywords: autism, mutism, combined speech disorders, logopedic diagnosis, logopedic treatment

INTRODUCTION

Autism, described as a comprehensive neurodevelopmental disorder, is differentiated from mutism defined as a manifestation of anxiety reactions. The currently binding disease classifications ICD-10 (1994) and DSM-5 (2013) exclude the diagnosis of selective mutism in autistic children. However, clinical practice shows that the speaking child with autism spectrum developmental disorders is, because of limitations in the communication and language sphere, especially exposed to trauma in social contacts, and thereby to the occurrence of mutism. Diagnosing of pathomechanisms that determine the interference of symptoms of neurodevelopmental and emotional disorders requires longitudinal studies, and the interpretations of symptoms of speech disorders for logopedic diagnosis had to take account of the information about the dynamics of the child's development in the language and communication spheres, obtained in a detailed follow-up.

The goal of the study is to show the specificity of the language behaviors of the autistic child with selective mutism. By analyzing the verbal and nonverbal indicators of interactive behaviors in different communication situations, the study sought to differentiate – in the clinical picture - the interfering symptoms and mechanisms of communication disorders, and thereby to define the criteria for differential diagnosis of autism and selective mutism in order to determine the optimal forms of logopedic therapy.

THE ESSENCE OF MUTISM

Mutism (Lat. *mutus*, *muta*, *mutum* "speechless, mute"), already known from ancient sources[1], was first described in 1877 by a German doctor Adolf Kussmaul as *aphasia voluntaria* "voluntary aphasia". The name wrongly suggested that persons with mutism consciously decided to be silent. This way of interpreting mutism became established due to the publication by a Swiss psychiatrist Moritz Tramer. In 1934 in the periodical "Diagnostic and Statistical Manual of Mental Disorders" he presented the results of his research that was to show that mutism was a person's free choice[2]. To name this disorder, he introduced the term *elective mutism* (Tramer, 1934).

[1] The history of the mute Lydian King Croesus (VI c. B. C.) is cited by Kołaczkowska (2012: 228).

[2] The term *selective mutism* and the first criteria for diagnosing this disorder also highlighted the importance of the patients' conscious decision to withdraw from verbal contact. Also, the term was used to define a "voluntary refusal to speak" to most people and in most social situations. The name *elective mutism* was still present in the DSM-III-R classification and also appeared in Polish psychiatric literature (Kołakowski, Liwska, Wolańczyk, 1996). In the 1980s and 1990s, scholars were inclined to interpret symptoms of selective mutism as a manifestation of defiant-rebellious behaviors rather than symptoms of social phobia (Holka-Pokorska, Piróg-Balcerzak, Jarema, 2018).

"Selective mutism" as a separate diagnostic entity was first described in the 1992 American classification of mental disorders (DSM-IV, 1992) and is still regarded as a nosological entity in the current classifications of mental diseases and disorders (DSM-5, 2013; ICD-10, 1996) despite growing controversies around the nosological status of this disorder.

Reuttowa (1971), referring to Tramer's (1934) pioneering work, compares different determinants of mutism. Historically, mutism was described in the cases of morbid shyness (mutism of shy patients), hysteria, of the catatonic form of schizophrenia, in severe depression conditions, stopping of all thinking processes (as a symptom of dementia), after emotional traumas (thymogenic, affective mutism), hypersensitivity, and excessive self-focus, as well as in situations that are too troublesome, humiliating for the patients (mutism of malingerers), when the patient is convinced about the malfunctioning of the speech organ (ideogenic mutism) or experiences the fear of embarrassment (voluntary mutism).

At present, frequent ambiguities in the use of the term *mutism* stem from the fact that it is sometimes used to describe the inability to speak despite the developed and preserved abilities to utter voice during instinctive activities (coughing, clearing one's throat, etc.) or to define the total inability to utter sounds, which may accompany profound neurodegeneration and is a permanent characteristics of anarthria[3], or, in other cases, to denote a separate nosological entity in accordance with the criteria described in the current classifications of disorders (DSM-5, 2013; ICD-10, 1994).

In logopedics, mutism was defined as a substance disorder at the suprasegmental and segmental level – in Kaczmarek's (1975) classical typology, or as an endogenic speech disorder classified as neurosis – in Styczek's (1983) causal classification. The etiological criterion provided a basis for distinguishing two forms of mutism:

- organic (akinetic, hyperkinetic) mutism,
- functional (psychogenic) mutism.

In Minczakiewicz's (1997) view, this division is not disjunctive, and the two groups of factors can overlap. Slight organic dysfunctions may result in profound mutistic disorders if they are accompanied by concurrent adverse external factors (e.g. loneliness, intense personal experiences).

[3] In the second sense, mutism as a symptom can be diagnosed in the case of various pathomechanisms: laryngitis and other disturbances of the functions of vocal cords, laryngectomy, nerve-muscle conduction disturbances, peripheral neuropathy, and motor neuron disorders within the trunk in the course of lateral amyotrophic sclerosis (Lat. *sclerosis lateralis amyotrophica* – SLA), viral inflammation of the brain, cerebrovascular disease, extrapyramidal syndromes – Parkinson's disease, progressive supranuclear paralysis, Wilson's disease, dystonias, as a result of hydrocephalus, brain tumor, cerebrospinal meningitis, etc. Essentially, any advanced process of a nervous system disease can produce mutism symptoms.

In the theoretical interpretation, organic mutism manifests in the speaking limitation, or failure to speak as a result of brain injury or of peripheral speech organs (abnormalities in the structure of the oral cavity: tongue, jaws, lips, palate, tonsillar ring, etc., or in the structure of the larynx) as well as due to the dysfunctions of these organs (Herzyk, 1992). Organic mutism is usually accompanied by other symptoms of damage to the central nervous system:

- motor aphasia (with maintained comprehension; aphasic mutism is usually transitory),
- apraxia (disorders of intentional tongue and lip movements; it manifests itself during the performance of random functions, like raising the tongue to the palate, whistling, blowing, licking lips, protruding the tongue and withdrawing it into the mouth),
- akinesis (significant slowdown of motor activity, absence of motor response to external stimuli),
- hyperkinesis (general restlessness, unintentional and uncontrolled stereotyped movements; single, loud, inarticulate sounds appear instead of verbal responses) (Minczakiewicz, 1997).

In contrast, functional mutism denotes being silent or the limitation of speaking with the absence of damage to the central nervous system and of anomalies in the structure and functioning of speech organs (Reuttowa, 1971). Styczek (1983) classifies mutism as a logoneurosis (speech neurosis) and defines this disorder as a total inability to use speech, with the ability to comprehend it being maintained. The occurrence of such symptoms is associated with the activity of exogenous factors, which include inter alia: intense experiences and long-lasting stressful situations, the wrong family structure, misunderstandings in the home environment, sudden changes in the family system (birth of a child, death of a close person), maltreatment and violence, deprivation of mental needs, negligence in parental care, limited communication, prohibitions to reveal secrets (Goodman, Scott, 2000). Functional mutism is diagnosed after excluding organic brain injuries, anatomical anomalies and functional limitations within the speech organs (Chavira et al., 2007).

Two kinds of functional mutism have been distinguished in respect of the range and intensity of symptoms (Herzyk, 1992; Minczakiewicz, 1997):

- selective (partial) mutism – the patient speaks only to some persons, e.g. family members, or in some social situations, whereas in the presence of strangers or in special situational circumstances s/he forgoes verbal communication[4];

[4] As part of selective mutism, there may occur situational mutism, which appears in children who develop correctly in physical and mental terms, speak normally in known situations and are si-

- total (hysterical) mutism– regardless of the situation, the patient utters only a silent whisper, seldom produces nonverbal messages in the form of gestures, does not initiate spontaneous utterances; in persons who have learned to write, it is possible to communicate through writing, and in small children – by means of drawing.

Partial mutism manifests in speaking freely under specific circumstances to a narrow circle of very close persons (e.g. children talk only to parents) with the failure to speak in the presence of strangers at the same time (e.g. children do not talk to teachers and peers in kindergarten or school). The behavior of mutistic persons may significantly differ at home and outside it. In the home environment they can be energetic, in control, domineering and persistent, sometimes even aggressive or manipulative. Outside of home, they become passive and inhibited in expressing emotions (Kołakowski, Liwska, Wolańczyk, 1996). The reverse also happens, albeit sporadically, and the child speaks at school and is silent at home. In the case of people with mutism, nonverbal communication is maintained by means of gesticulation, and facial expressions, as is the ability to use writing or drawing (Herzyk, 1992).

Total mutism also differs from selective mutism in that in the patient with total mutism there may appear a dramatic cry (spasmodic, with the rigidity of muscles, tongue and lips), inarticulate sounds or a silent whisper, as well as dysphagia (swallowing difficulty), lack of appetite (in a profound form resulting in anorexia), amimia (reduced facial expressions, and limited, unintentional eye movements) and aphonia (loss of voice) (Herzyk, 1992). In either case, underlying the speaking difficulties are mental factors e.g. emotionally difficult situations, mental traumas caused by painful experiences (Minczakiewicz, 1997).

According to the ICD-10 (1994) classification, selective mutism (F94.0) is one of the three categories included in the group of "social functioning disorders that start in childhood or in adolescence" and is not classified as speech or language disorders but as part of the F90-F98 group, defined as "behavioral and emotional disorders". According to the diagnostic criteria adopted in this classification, mutism is diagnosed when:

- the level of language development assessed according to standard tests is within two standard deviations, according to the child's age,
- there is a relatively persistent failure to speak in special situations in which the child is expected to speak (in kindergarten, at school), despite confirmed speaking in other situations,
- the duration of the disorder exceeds 4 weeks,

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lent in new situations (in kindergarten or school environment) (Minczakiewicz, 1997). The cases of refusal to speak during the first weeks of the child's stay at school do not however meet the clinical criteria for mutism diagnosis in accordance with the ICD-10 (1994) and DSM-5 (2013).

- there is none of the comprehensive developmental disorders,
- the disorder is not explained by the ignorance of spoken language in social situations, where the failure to speak occurs.

In the DSM-5 (2013) classification of mental disorders, selective mutism was transferred from the category of "childhood and adolescence disorders" to the category of "anxiety disorders", which reinforced the conviction about this disorder being based on anxiety. The criteria for diagnosing selective mutism have not changed, the only difference being that it can be diagnosed not only at the developmental age and adolescence but also in adults, in whom becoming silent is anxiety-induced and is not a symptom of psychosis, neurodevelopmental disorders, neurological diseases, or the result of ignorance or language difficulties. The diagnosis of mutism in accordance with DSM-5 (312.23) is defined by exclusive and inclusive criteria.

a) Exclusive criteria:
   - excluded or highly improbable brain dysfunction,
   - no disorders in the structure and functioning of the speech organs,
   - there are no comprehensive developmental disorders (spectrum of autistic disorders), schizophrenia or other mental disorders;

b) Inclusive criteria:
   - diverse pathogenic factors have occurred (e.g. environmental deprivation, wrong family structure, upbringing errors, intense mental experiences: shock or long-term stressful situations),
   - failure/refusal to speak in specific situations for a minimum of one month (the first month at the kindergarten or at school is not taken into consideration),
   - the disorder impacts on school or professional achievements or on social communication.

Having adopted the conception of functional mutism caused by anxiety, its neurobiological determinants should be associated with the structures of the limbic system, which is responsible for controlling emotions. Among these structures, the crucial role is performed by the hypothalamus responsible for the neurohormonal activity of the brain. It is through this part of the brain that information is sent to the hypophysis, which controls the secretion of most hormones and the sympathetic and parasympathetic systems. In the case of danger, adrenaline and cortisol are released into the blood, resulting in vegetative changes such as muscular contraction and tachypnea involved in the preparation to escape or defend oneself. The system is called the hypothalamus-pituitary-adrenal axis. Of essential significance is also the hippocampus responsible for episodic (context-dependent) memory and learning. It is connected with the prefrontal cortex, the amygdala, and the hypothalamus, owing to which it impacts on the stimulation of the cortex

and regulation of emotional reactions. The hippocampus is a structure that enables remembering experiences while they are given emotional coloring by the amygdala. A separate role in the process of remembering is played by the callosal gyrus, which is responsible for the consolidation of memory traces, and, combined with the prefrontal cortex, it enables becoming aware of the mental processes going on. This structure is activated, e.g. when naming emotions (Fix, 1997; Martin, 2001).

Four kinds of psychogenic mutism can be distinguished with regard to its emotional determinants (Kołakowski, Liwska, Wolańczyk, 1996):

- phonic – it occurs in children who are afraid of their own voice or experience obsessions,
- symbiotic – resulting from the child's extremely strong bond with the parents, whom s/he controls ,
- passive-aggressive – when silence is the manifestation of hostility and becomes the child's "weapon" ,
- reactive – when becoming silent is a reaction to traumatic events.

Studies show that mutism is a comparatively rare disorder in children with harmonious development[5]. It usually co-occurs with other neuropsychiatric disorders (motor hyperactivity, tics, anxiety, depression), difficulty in controlling physiological functions (encopresis, enuresis). This may affect both intellectually normal children and children with different degrees of mental disability, it may occur in children with proper speech development and in the cases of delayed language development and various speech defects. It may be also diagnosed in children with the dysfunction of the motor organ (e.g. after the amputation of limbs). This disorder usually occurs in children aged between 3 and 12 years, the peak of incidence affecting children starting preschool education (3-year olds) or school education (aged 6–7 years) (Wong, 2010) – it may also occur in adolescents and adults.

A predictive factor for selective mutism can be family determinants: the occurrence of selective mutism in one of the parents or siblings, as well as personality problems of the parents, disturbed relationships between them, or the mother's overprotective attitude

[5] The frequency of occurrence of selective mutism is difficult to estimate because of the still inadequate knowledge about this disorder. It is estimated that in Poland this problem affects 0.02% of the population of children and adolescents, and 0.2% of psychiatrically treated children (Kołakowski, Liwska, Wolańczyk, 1996). This usually lasts from several months to 2 years. It may last longer, to 12 years, on average 8 years. The occurrence of selective mutism in girls and boys ranges between 2.6:1 to 1.5:1 (Freeman et al., 2004). In the context of this disproportion a suspicion arises that the frequency of mutism can be determined by socio-cultural factors in which social distance is more acceptable in girls than in boys (McInnes, Manassis, 2005).

COMMUNICATION IN AUTISM

Autism is diagnosed in people with difficulties in social development, in communication, in those showing characteristic patterns of activity, interests and behaviors (ICD-10 1994). The symptoms of this disorder also relate to the child's cognitive, motor and sensory functioning. A significant criterion for the diagnosis of autism is participation in social interactions, in initiating and maintaining them through eye contact, creating the field of attention shared with another person, and responding to social stimuli (smile, words). Half of the persons with autism do not speak; the remaining persons speak but exhibit characteristic communication difficulties (Pisula, 2014).

A significant role in the process of the development of the ability to communicate is played by two phenomena that take place at the end of the child's first year of age. First, the child begins to realize that his/her behavior exerts a specific impact on others, and s/he learns how to demand the desired things from another person. Then, s/he acquires the ability to use symbols and expresses his/her intentions through gestures or words. The two spheres are disturbed in people with autism (Olechnowicz, 1997).

Problems in communication are observable in autistic children not only in the way they speak but also in nonverbal communication. One of the first difficulties in building relationships with other people is autistic children's problems with reading facial expressions and recognizing emotions, which produces serious consequences in their (children's) further development, poor abilities to distinguish social stimuli as significant information. Autistic children are hardly interested in what the people around them are doing, they do not follow their (other people's) behavior, and either do not respond or react with a considerable delay to the signals aimed directly at them (Pisula, 2014).

Children with autism encounter difficulties with understanding the function of communication, with creating the shared field of attention, with nonverbal aspects of communication, typical forms of communication, with communicating needs, comprehending the listener/speaker relations, in organizing information so that it could be comprehensible to the interlocutor, in perceiving and correcting communication errors, and in communication in order to share interests. Developing the abilities to communicate is one the principal goals of supporting the autistic child's development, the level of speech development being one of the best prognostics of the child's further development. The sooner and better his/her speech develops, the better are further developmental prognoses although this is not a decisive condition (Pisula, 2014).

The state of communication skills of autistic children is varied. With regard to the level and quality of social contacts, three categories of autistic persons are distinguished (Pisula, 2000):

1. *The Aloof Group* (withdrawn persons) – they are the majority of autistic persons (61%), are characterized by avoidance of contacts with other people, a poor level of speech development, weaker reaction to orders and communications (messages) with numerous motor stereotypes,
2. *The Passive Group* – they accept contacts with others but do not initiate them spontaneously, they use a fairly elaborate vocabulary but the subject matter of their utterances focuses on narrow areas of interests, and their activity is characterized by conventionalism,
3. *The Active-But-Odd Group* (socially active persons) – they seek to establish social contacts, are characterized by the highest degree of language acquisition among the autistic persons but they show difficulties in understanding metaphorical utterances and in the use of nonverbal signs.

Speech disorders thus affect all children with autism and are manifested as difficulties both in producing and understanding verbal and nonverbal messages (Markiewicz, 2004). Disorders in comprehension are manifested as difficulties in relating words to referents, as impoverished conceptual structures assigned to names, and difficulties in interpreting grammatical constructions (Markiewicz, 2007; Markiewicz, 2015). In the language of the autistic child, words that denote abstract concepts, i.e. that do not have material equivalents accessible to the senses, may cause special interpretive difficulties. Autistic children "quickly learn that the word *cat* denotes a specific cat but they find it difficult to understand that it denotes all cats. Autistic persons find it very difficult to understand words that have a dual meaning: concrete and figurative. They know that the word *head* denotes a part of the body but they do not understand when one speaks of the *head of the state* – not for anything will they be able to understand that the state has the head" (Peters, 1996).

Table 1. Basic language deficits in the communication of children with autism

Communication limitations in autistic children	Symptoms
Quantitative deficits	failure to speak (with lack of gesticulation and with elementary gesticulation) delays in speech development (short, month-long, and long-term, many years long) limited spontaneity in speaking (only the stimulus-response chain) limited use of speech

Table 1. Continued

Qualitative deficits	echolalia (immediate and delayed) reversal of pronouns neologisms metaphorical use of language inappropriate remarks stereotypical utterances defects in articulation
Deficits in the pragmatic use of language	inability to express oneself alternately lack of communication with adults lack of communication with peers inability to symbolically use objects and to symbolically understand words weak use of prosody to express intentions weak use of visual-facial stimuli in metacommunication

Source: own study based on Konstantareas, Blackstok, Webster (1992: 73).

Symptoms of autism change in the course of human life. The fundamental characteristics of autism spectrum disorders that differentiate them from other problems: the presence of difficulties in social functioning and communication, are relatively constant. It is they that determine the specificity of autism, and their profoundness impacts on the course of the child's development in different spheres, and defines the efficacy of treatment. However, also in these aspects of functioning, significant changes take place over the years. They are sometimes so great that the diagnosis of autism is no longer relevant even though the patient is suffering from many difficulties and needs specialist help (Panasiuk, Kaczyńska-Haładyj, 2015).

AUTISM AND MUTISM. PATHOMECHANISMS – SYMPTOMS – INTERFERENCES

The article uses the case study method. On the basis of information obtained from the follow-up, and data from the many-year-long observation of the child in the family and school-therapeutic situations and as a result of experimental-clinical tests, the study presents the development of language and communication in an 11-year-old boy with autism, in whom symptoms of selective mutism appeared at the age of 9, following a trauma. Studies made it possible to determine the dynamics of the growing mutism disorders in the child with comprehensive autism spectrum developmental disorders, to indicate diagnostic and therapeutic difficulties arising from the interference of the mechanisms and symptoms of

comorbid communication disorders in the clinical picture, as well as to show the consequences of this condition for the future of the child under investigation.

CASE DESCRIPTION

The study covered an 11-year-old boy born prematurely (in the 34th week) in the natural way from the first and complicated pregnancy, weighing 2,240 g at birth and with the Apgar score of 5 points in the 1st minute of life. After birth, the child was diagnosed with respiratory insufficiency: he was placed in an incubator and administered passive oxygen therapy. Clinical examination found hypotonia, skin livedo with many extravasations, and his condition was diagnosed as serious. With the growing symptoms of respiratory insufficiency, the child was intubated and connected to a respirator in the 3rd hour of his life. On account of the suspicion of inborn infection, anti-inflammatory treatment with immunotherapy was administered. On the 4th day of the infant's life, a bleeding from his airways occurred, and on the subsequent days, there was a further deterioration of the clinical condition: fever, dyspnea, pneumonia. After the septic shock in the third week of his life, antibiotic treatment was begun. The baby's clinical condition began to improve, the boy started to breathe on his own, and from the 5th week of life he was breast-fed. In the neuroimaging examination (the trans-fontanelle USG of the head), a slight widening of the lateral brain ventricles with the thickened ependyma was found; the choroid plexus were hyperechogenic. The neurological assessment showed normal reflex reactions, the symmetry of limb movements with somewhat increased muscle tone and with a slight reflection of the head. After the child was discharged from hospital in his 2nd month, further outpatient medical care was recommended.

From the beginning, the boy's psychomotor development proceeded inharmoniously, and in his 5th year he was diagnosed with a comprehensive undefined development disorder (in the ICD-10 classification: F84.9) with autism spectrum behaviors. The psychological assessment diagnosed mental retardation to a difficult-to-determine degree, reduced abilities in the verbal sphere (numerous echolalias, lack of dialog and monolog skills); in task situations: difficulties to concentrate, intensified tension and mental anxiety, impulsive reactions; and in daily behavior: periodical hypersensitivity to sounds and difficulties in performing precise movements. The boy was characterized by cognitive curiosity, he explored the environment but showed no need to share his emotions and experiences with others, did not enter into spontaneous social interactions, did not establish peer relationships, did not adapt his behavior to the social and situational context, displayed limited, repeated behavior patterns, reacted stereotypically, used his toys in an untypical way, had difficulties with planning a thematic play, could not

imitate behaviors of others and adopt social roles. It was found at the same time that the five-year-old child knew letters and figures, could read fluently and count to 10. A multi-specialist (psychological-pedagogical-logopedic) treatment of the child was recommended as well as outpatient care at the Outpatient Mental Health Center for Children. The boy began to attend an integration kindergarten.

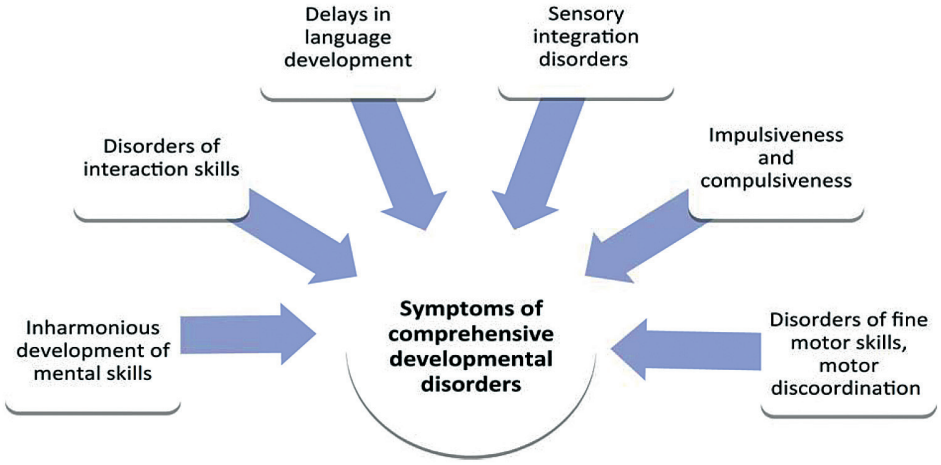

Figure 1. Symptoms of austistic disorders in the studied boy
Source: own study.

The systemic therapy of the child resulted in the improvement in his social and language functioning. At the age of 6, the boy was able to make long-lasting eye contact, did not initiate social interactions but accepted them, and was engaged in the construction, imitation and symbolic games/plays. He acquired the ability to think logically by analogy, learned mathematical operations (he added and subtracted concrete objects within 10), categorization by formal and semantic criteria, syllable analysis and synthesis as well as sound and letter analysis. He focused attention on verbal utterances, carried out orders, named illustrations by himself, displaying rich vocabulary at that. He communicated his needs, but continued to realize echolalic repetitions in verbal behaviors. While executing tasks, he was easily distracted, required motivation, supervision and channeling of attention.

On the basis of psychiatric diagnosis (early-childhood autism, mixed developmental cognitive and communication deficits with early-childhood hyperkinetic syndrome) and based on the opinion by the psychological-pedagogical outpatient clinic (early-childhood autism, cognitive deficits, verbal communication disorders, difficulties in social adjustment), the child was assigned to special education.

After the postponement of compulsory education for a year, the boy began education in an integration class. He continued to attend speech therapy and developed dynamically in the cognitive, language and communication area. He spontaneously started and maintained dialog with different persons, told picture stories, solved riddles, and took part in school and therapy classes with pleasure, demonstrating great cognitive activity. At this stage, his language constraints affected the understanding and formation of some grammar constructions (government) and texts with metaphorical meanings. Metalinguistic difficulties also occurred (assessment of the correctness of utterances in pragmatic terms, and to a lesser degree – in semantic terms). With relatively good language skills and significantly improved social and situational skills the child still had difficulties in realizing pragmatic language rules and with the skillful verbalization of communication intentions, using highly stereotypical linguistic structures.

At the age of 9, the boy (then a second-grade primary school pupil) displayed a change in behavior and communication disorders began to increase intensely, which were manifested in the formal and semantic reduction of verbal messages (communications), and then in aphonia in relations with persons outside the close family. The child was full of anxiety or froze to the spot, motionless. The boy's parents attributed these symptoms of emotional disorders to religious instruction classes, during which the child was prepared for the First Communion. Formerly, the boy willingly attended church services (he liked organ music and church songs), but after religion classes he reacted to going to church with fear. In the opinion of parents the change in behavior was the result of trauma the boy suffered because he literally understood the contents of lessons taught during religious instruction (they were about the Passion of Christ). At the same time the pupil began to manifest growing communication difficulties at school. In the course of several weeks he stopped speaking at school, at therapy classes, and at home in the presence of strangers. He still understood the utterances by others and responded appropriately to orders; however, in these interactions he communicated his intentions exclusively through gestures and mime. He only produced verbal utterances in contacts with his parents, but a progressing reduction of texts was observable even in these situations. This condition lasted during the next three successive years.

At the age of 10 the boy underwent extensive specialist examination. The functional assessment of the brain (EEG) showed abnormal bioelectric activity from both temporal regions and from the midline of the brain over the frontal-motor-parietal region in the form of discharges of a series of delta-theta waves during a hyperventilation test. The child's ophthalmological examination revealed hyperopic astigmatism, and laboratory tests showed disorders in the functioning

of the thyroid (the child was prescribed euthyrox N25). On the basis of psychological examination the child's general mental development was assessed to be at the level of moderate intellectual disability. This assessment of the boy's intellectual abilities was surprisingly low in the context of his earlier developmental achievements and also of his later school education results described by the female tutor of the class to which the boy went from the beginning of his school learning.

In her opinion prepared at the request of the mother, the teacher of the then 11-year old pupil stressed the child's great knowledge in the field of Polish and natural science, with worse results achieved in mathematics education, and with the pupil's unwillingness to do artworks and take part in domestic science classes and physical education, which may have been caused by the child's limitations in manual skills and his motor discoordination. The teacher positively assessed the autistic boy's involvement in classes at that time and active participation in the life of his class; she emphasized his participation in common games and class events. As she stressed, the boy did not talk to his peers, and expressed his intentions through miming and gestures. The tutor also noticed certain changes in the boy's behavior and said that he recently kept sitting at his desk throughout classes, which was not the case earlier, and does exercises readily, with praise and small successes motivating him to work. They boy coped well with identifying social relations, interpreting information with emotional meaning, which enabled the prognostication of further development of emotional-motivational processes and empathic abilities.

It can be assumed that the inconsistency between the assessment by the psychologist who diagnosed the level of the boy's mental development at the psychological-pedagogical outpatient clinic and the opinion of his teacher stems from the methodology of examination. The diagnostic procedures not adjusted to the child's functional abilities resulting from the combined disorders: autism and mutism may have determined the low score of the child's mental abilities, disproportionate with his actual capacity.

MUTISM AS A CLINICAL PROBLEM

Controversies over the diagnosis of selective mutism focus on the following problems (Viana, Beidel, Rabian, 2009; Holka-Pokorska, Piróg-Balcerzak, Jarema, 2018):

1. Is mutism an emotionally based disorder?
2. Is mutism a consequence of speech development disorders?
3. Is mutism a behavioral disorder of the type of avoidance behavior?

The presented case suggests the reassessment of the accuracy of the ICD-10 and DSM-5 criteria for diagnosing selective mutism for the needs of clinical

diagnosis and enables elucidating the signaled problems concerning its etiology and clinical picture[6].

a) Exclusive criteria:
   - excluded or highly unlikely brain dysfunction – the studied child displayed neurorodevelopmental disorders resulting from structural and functional changes in the brain, confirmed in instrumental examination,
   - lack of disorders in the structure and functioning of the speech organs – in the studied child, anatomical abnormalities were not found within the speech apparatus, nor were any limitations in the motor skills of the speech organs; articulation was normal,
   - comprehensive developmental disorders do not occur (spectrum of autistic disorders), nor does schizophrenia or other mental disorders: in the studied child, autism spectrum disorders were diagnosed;

b) Inclusive criteria:
   - external pathogenic factors of different character occurred (e.g. environmental deprivation, wrong family structure, upbringing errors, strong mental experiences – shock or long-lasting stressful situations) – the studied child became silent as a result of a stressful situation stemming from language limitations in understanding symbolic meanings,
   - failure/refusal to speak in specific situations for a minimum of one month (the first month at kindergarten or at school is not taken into consideration) – mutism has lasted incessantly in the studied child for three years,
   - the disorder impacts on school or professional achievements or on social communication – in the studied child the speaking constraints resulting from mutism determined the poor grading obtained in the psychological examination: the assessment may have showed his moderate disability, which determined the further course of the education process through reduction of the learning content.

The etiology and pathogenesis of mental disorders is not only a clinical but also scientific problem. The interference of mechanisms and symptoms of psychopathology can be explained based on the concept of comorbidity of mental disorders in the individual's development at particular stages of his/her life (*life-*

[6] The currently effective classifications in Poland are DSM-5 and ICD-10 and the current diagnostic criteria refer to them exclusively. From 1 January 2022, in Poland, the ICD-11classification will be effective, in which mutism is a separate diagnostic entity, or (6B06) (International Statistical Classification of Diseases and Related Health Problems. ICD-11, 2019).

time comorbidity) (Wittchen, 1996; Jacobi et al., 2004). This perspective is anosological and is in opposition to the recognized systems of classification of diseases and mental disorders (Holka-Pokorska, Piróg-Balcerzak, Jarema, 2018).

THE PROBLEMS OF DIFFERENTIAL DIAGNOSIS OF AUTISM AND MUTISM

It should be assumed that the disharmonious development in the emotional and social, communicative and linguistic, and cognitive spheres of the speaking child with autism spectrum disorders may predispose to the occurrence of selective mutism. A longitudinal examination shows that *mutism symptoms* may appear in such a child. Autism and mutism, although they are separate diagnostic entities in terms of symptoms, may co-occur in some clinical cases.

Figure 2. Autism and mutism – the rules of differential diagnosis

On account of the dynamics of pathology determined by developmental factors and the interference of biological, mental and social symptoms, there arise non-specific spectra of symptoms and dilemmas in interpreting the individual

picture of comorbid developmental disorders. Epidemiological data show that children with symptoms of selective mutism also often meet the criteria for other mental disorders like depression, panic anxiety syndrome, obsessive-compulsive disorders, dissociative disorders, or Asperger's syndrome, which is diagnosed even in 7.4% of children with selective mutism (Kopp, Gillberg, 1997; Sharp, Sherman, Gross, 2007).

Also logopedic practice shows that selective mutism can occur as a result of other speech disorders, *inter alia*:

- autism spectrum disorders in language and communication,
- stuttering,
- alalia prolongata,
- delays in speech development in one language in the case of unstable bilingualism.

Literature on the subject increasingly often highlights the connection of selective mutism with the occurrence of speech disorders (Manassis et al., 2007; McInnes et al., 2004) and central auditory processing disorders (Henkin, Bar-Haim, 2015; Hoy, 2002). The combined language difficulties mold the picture of mutism in individual patients, form the individualized picture of pathology and require the use of differential diagnosis procedures in the clinical assessment, as well as separate therapy methods.

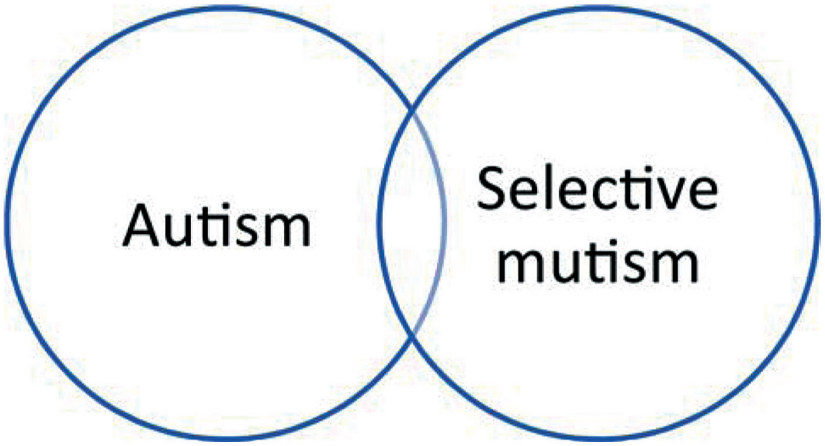

Figure 3. Relationship between autism spectrum disorders and selective mutism
Source: own study.

The logopedic assessment, as an element of multi-specialist evaluation, can be a significant factor both at the stage of identifying the clinical problem and at the stage of verification of diagnostic hypotheses. The practical aspects of the logopedic diagnosis of mutism are that the assessment should take into ac-

count the social and situational determinants of the child's linguistic functioning. Each child exhibits individual differences in coping with new social situations. Children may manifest transient communication difficulties resembling mutism symptoms in the new environment (kindergarten, school) that subside with the child's progressing socialization. Limitations in communication may also stem from profound disorders in language development (e.g. in children with unstable bilingualism). The logopedist may exclude language deficits as the cause of these difficulties when s/he has the data about the child's effective verbal communication in some situations. The neurologopedic assessment of the studied child, based on the analysis of clinical documentation, the history data, directed observation and longitudinal research conducted from the age of 5 to 11 enabled the following diagnosis: autism spectrum disorders in language and communication, selective mutism, and disharmonious intellectual development.

LOGOPEDIC THERAPY OF THE AUTISTIC CHILD WITH SELECTIVE MUTISM

From the age of 5 to 11, the boy was inter alia under the care of the Logopedic Laboratory, Department of Logopedics and Applied Linguistics, UMCS, Lublin. He was admitted to speech therapy because of limitations in language and communication skills in the course of comprehensive autism spectrum disorders. The therapy program resulted in the improvement in lexical-grammar skills (enrichment of passive and active vocabulary, conceptual development), semantic skills (development of sentence structures), narrative skills (development of dialog and monolog utterances), as well as communication skills (situational, social, and pragmatic) in the verbal and nonverbal sphere. At the same time the development of the cognitive function of speech is stimulated in the child (processes of generalization, abstraction, conclusion, and categorization).

The boy attended speech therapy classes systematically and showed visible progress in speech therapy. The dynamic development of language skills suggested that the continuing intensive speech therapy in the next years and the stimulation of cognitive and communication activities in the educational and school environment would provide an opportunity for the child to fully acquire language and improve social contacts. The boy had a chance to show his entire developmental abilities only in the educational-therapeutic process that would be conducted in the individualized way in terms of methods, taking into account the boy's linguistic, communicative, cognitive and emotional difficulties resulting from the autism spectrum disorders. This did not happen, however. In the education organization, there are no systemic solutions that would define the qualifications of a religious instruction teacher to work with a special educational needs child. Due to the inap-

propriate content and methods of teaching, the child experienced a trauma during the religious instruction classes at the age of 9 – selective mutism appeared which determined his further developmental and learning capacities. The boy answered questions and produced messages in the subkinetic code only. Consequently, the speech therapy program was modified, and additionally, the boy was referred to psychological therapy.

The psychological therapy of mutism is based on several separate approaches:

- behavioral theory, according to which children with selective mutism identify certain situations as threatening, which results in the blocking of speech because the parasympathetic system takes inhibitory control over the ability to speak and over the whole behavior[7] (Krysanski, 2003);
- psychodynamic theory, according to which selective mutism is a symptom of an unresolved oedipal conflict, fixation in the psychosexual development at the level of the oral or anal phase, when, in the situations of danger, the defense mechanism is activated by channeling anger towards the same-sex parent, and by regression to the nonverbal stage of development, while silence serves to "punish" the parent[8] (Giddan, Milling, 1999);
- system theory, which analyzes the role of parental neurotic control of the child, leading to the excessive dependence of the child and his/her overly strong attachment to parents, which results in the child's uncertainty in contact with others, fear of verbal communication, which in turn results in mutism (Krysanski, 2003; Melfsen, Walitza, Warnke, 2006).

Unfortunately, because of the boy's accompanying communication difficulties caused by both autistic and mutism disorders, it was impossible to find a specialist who would agree to conduct the child's psychological therapy.

Two interventions are used in the logopedic therapy of selective mutism in children: one serves to eliminate adverse environmental factors, the other – to eliminate mutism symptoms (Minczakiewicz, 1997). The two ways complement each other. At the same time, the program for treating the child with selective mut-

[7] Behavioral methods comprise techniques used also in the treatment of stuttering, e.g. gradual desensitization, which prepares the child to speak in larger groups. This process begins with persuading the child to speak in the presence of one well-known person and consists in the gradual increase in the number of listeners. Selective mutism usually occurs in school children, which is why teachers, school counselors and school logopedists should be involved. The logopedist can additionally alleviate the problem through language exercises that reduce deficits in language development or through articulation exercises that enable correction of possible speech defects, thereby contributing to the reduction of the child's inhibitions related to speaking in public (Goodman, Scott, 2000).

[8] As part of the psychodynamic approach, therapists analyze the behavior or products (e.g. the child's drawings), trying to explain the sources of current conflicts or those whose beginnings go back to the past.

ism should take his/her global development into consideration, and introduce the principle of gradation of difficulties and the individualization principle[9].

The programming of logopedic management for the needs of the child investigated used an analytical approach seeking to determine the causes of mutism and to solve the essential conflict, at the same time the fully accepting the child's silence and guiding his activities towards effective nonverbal and later verbal communication. In addition, psychoeducation of his parents was conducted to sensitize them to the change of some patterns of the child's activity at school and at home, intended first of all to avoid traumatic situations. The parents decided that the son would transfer to another class, stop going to religious instruction and to church, and would at the same time begin to attend additional group classes as part of social skills training, and logopedic classes based on interactive plays using the drama method.

In Olechnowicz's (1997) view, children affected by mutism react with increased resistance to being taught to speak through orders; consequently, the use of routine speech therapy management towards them is contraindicated. In the case of the child in question this principle was confirmed, and the diverting of attention from speaking was conducive to the production of spontaneous vocal and verbal responses. The boy displayed vocal abilities from the beginning of therapy classes. Spontaneous vocal responses (nonverbal interjections – laughter, sighs, as well as exclamations and onomatopoeia) during guided plays resulted in the unblocking of speech. However, the spontaneous regression of mutism symptoms did not occur during school lessons: there was no cooperation on the part of the teachers, who channeled the child's activity into randomly chosen and highly controlled actions. The model of diagnostic procedure used to assess the child's intellectual capability during psychological diagnosis was also directive. The results of that diagnosis conducted in a highly procedural way showed the low level of the boy's intellectual skills, which was classified at the level of moderate intellectual disability. The result of the diagnosis determined the selection of the learning program content and the scope of the child's further education.

The presented case proves that rigid diagnostic criteria and procedures are not compatible with the complex developmental problems of individual patients, and the absence of the will to cooperate between specialists impedes the child's development potential if his complex neuropsychiatric difficulties require multispecialist and individualized procedures.

[9] Anna Herzyk proposes a multi-stage therapeutic management of the child with selective mutism. The therapist, as a passive observer of the child's interaction with the person s/he usually talks to (most often it is his/her mother), gradually changes into a participant in nonverbal and then verbal interactions with the child, whose actions s/he (therapist) comments on, subsequently assuming the function of one who stimulates interactions. The therapist reduces the child's direct contacts with mother, who becomes only a passive participant in the situation. Finally, s/he introduces the child into interactions with the persons in the child's indirect environment (Herzyk, 1992: 31–33).

CONCLUSIONS

In clinical practice, diagnosing of mutism is still based on the dichotomous division, according to which the following types are distinguished in terms of causes: 1) psychogenic (functional) mutism, and within it: a) total (hysterical) mutism and b) selective mutism, as well as 2) organic (akinetic) mutism. This typology divides etiological mechanisms of mutism into neurobiological and mental (psychic) determinants. In accordance with the approach to selective mutism in the DSM-5 classification the pathogeny and psychopathology of selective mutism is interpreted as an extreme form of social phobia. The adoption of the thesis that all human behaviors are biologically determined, and, consequently, that behind each kind of mental, including anxiety, disorders, there are certain neurobiological dysfunctions resulting from genetic or developmental factors, changes the understanding of mutism as a speech pathology entity and broadens the criteria for diagnosing this disorder and defines the directions of therapy.

Clinical experience and the increasingly often published case studies prove that selective mutism is a group of disorders differentiated in terms of their etiology, clinical picture, and dynamics. In patients with selective mutism, co-occurring developmental deficits are often diagnosed; consequently, selective mutism in children can be recognized as a symptom occurring in the crucial period of development as a result of cognitive deficits, language disorders and communication difficulties.

Functional mutism should be understood as a disorder in the brain mechanisms of any vocalization, caused by neurobiological and socio-emotional factors. In such an interpretation, the logopedic therapy of children with mutism should be first oriented towards producing spontaneous vocal responses, then towards eliciting verbal automatisms, and at the final stage, towards programming any utterances under different social and communication conditions.

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