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COGNITIVE AND SOCIAL ASPECTS OF COMMUNICATION DEFICITS IN CHILDREN WITH AUTISM

Qualitative impairments in communication are some of the main symptoms of autism. Major deficits include disorders in initiating and sustaining conversations, delay in language development uncompensated by gestures or facial expressions, as well as repetitive, stereotypical use of language. Knowledge of social rules of communication and pragmatics is also affected. People with autism have great difficulty interpreting non-literal speech. They do not understand irony and humor and they are incapable of adapting their utterances to the expectations and knowledge of the listener. So far, these deficits have not been explained satisfactorily. One interesting explanation is provided by theories that assume the impact of cognitive factors on the ability of people with autism to communicate. The article discusses the relationship between theory of mind deficits and communication disorders. Some attention is devoted to the role of communication disorders in the parent-child relationship.

Autism is a pervasive developmental disability that manifests before the age of 3 (APA, 1994). The three primary areas of impairment include deficits in social interaction, language and communication, as well as repetitive and stereotyped patterns of behavior, activity and interests (APA, 1994; WHO, 1992). Closely interrelated social and language deficits are specific for a child with autism. Among the communicative problems one can mention impairments in initiating and sustaining conversations, delay or lack of spoken language, impairments in body posture, facial expressions and gesture, as well as repetitive, stereotyped use of language. The knowledge of social rules of communication and pragmatics is also affected (Robertson et al., 1999).

Kanner (1943), who was the first to describe autism and identify it as a separate disorder, claimed that the lack of speech or the fact that it develops in such a way as to be ineffective in interpersonal communication is typical for that disorder. Years of research on children with autism have enabled us to conclude that they manifest a number of behaviors whose function is to communicate or control the course of interaction, although those behaviors tend to differ from the norm expected for the child's age and stage of development (Loveland et al., 1988).

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As noted by Gałkowski (1998), there is a lot of inconsistency and ambiguity in the literature on the communicative abilities of people with autism. Undoubtedly, one of the reasons is the high degree of diversification of that population in terms of the level of development of communicative abilities and expression of social and language deficits. Although the ability to communicate with others is always impaired in people with autism, the deficits differ in character and extent. Some do not speak at all nor use gestures to communicate. Others have a repertoire of communication limited to screaming or a few basic simple gestures, while for some the only form of expression is echolalia and repeating sentences out of context. However, some people with autism speak fluently, although they demonstrate deficits in pragmatics. Even the most fluent speakers in this population do not use language as the primary tool for communication and self-expression. A significant heterogeneity among children with autism was found by Kjelgaard and Tager-Flusberg (2001). Their study was conducted on a relatively large group of 89 children with the use of a series of language tests. The results helped to identify a number of subgroups characterized by specific features of speech development.

It is generally accepted that onset of speech before the age of five years can be an important prognostic indicator for a child's later language and social development. Venter, Lord and Schopler (1992) concluded that fluent speech (defined as the ability to spontaneously construct at least three-word utterances in a regular and communicative manner) before 5 years of age was equally effective in predicting adaptive abilities and learning achievements in adolescence as the IQ measured at the same time. However, Lord and Paul (1997) rightly note that it was not verified whether a similar level of fluency at the age of 3 or 10 years might be an equally effective or perhaps a better predictor.

Gałkowski (1995) emphasized the importance of emotional attachment to the mother for the development of speech. Nonverbal discourse between infant and caregiver practically from birth constitutes the basis for later stages of speech development. The initial period of social communication development occurs in the first six months of life (Robertson et al., 1999). Early relationship disorders, as well as irregularities of dialogue, or in some cases the lack of it altogether, are important factors in the subsequent development of communicative abilities. Children with autism can demonstrate disorders already at that stage, although so far our knowledge on this subject is limited. Some interesting observations on the early development of children with autism were made by Jaklewicz (1993). She suggested a distinction between two groups of children with autism differing in time of onset of the disorder. The first group includes children with early onset of autism (before 12 months of age), and the second group – with late onset (later than 12 months of age). Differences between these two groups regard the course of speech development. Typically, the children with early onset of autism demonstrate the following symptoms: (1) lack of or weak response to the mother's voice, (2) not using their voice to attract attention to themselves, express emotions, establish contact, etc., and (3) lack of attempts at non-verbal communication. Jaklewicz (1993) claims that the majority of children from the first group remain autistic throughout their lives. In the case of the children with late onset of autism, she observed a characteristic regression in speech which had previously

developed normally. At some point speech ceased to be used by the child for communication with others, though once used for that purpose. Further research is required to verify the conclusions from those observations, especially with regard to the age of onset on the basis of which to distinguish between the two groups and formulate developmental prognoses.

There is no doubt, however, that the process of speech development varies among children with autism. It tends to be more or less severely delayed; speech development may progress normally up to a certain age and then be halted or regress, or speech may not develop at all. There are no data available that would enable us to relate the various patterns of speech development to particular pathogenic factors. We do not know exactly how often a particular pattern occurs. According to Minczakiewicz (1998), the "sentence" period in speech development occurred in only some of the 15 children in her study, and even then it was delayed by over 10 years. In a study conducted by Błeszyński (1994) that involved 19 persons with autism (aged 4-24 years), regression in speech development was observed in 5 subjects. It was varied in character – from complete withdrawal from speaking to functioning on a level lower than expected for a child of a particular age.

The phenomenon involving the speech loss after its more or less normal development early in life is still unexplained. This regards usually children between 18 and 36 months of age. Kurita (1985) noted that according to parents about 25% of children with autism aged 12 or 18 months used single words. Some of them stopped speaking suddenly, others demonstrated a gradual regression and loss of speech, while still others retained a number of previously acquired words, but the subsequent development is arrested. According to Kurita, speech loss concerns mostly those children who use 10 or fewer words for a period no longer than a few months. Błeszyński (1998) found that complete cessation of speech (which in the case of the subjects in his study occurred at three years of age or later) was preceded by a period of normal speech development. However, due to the non-representative selection of subjects and small size of the sample, it would be difficult to draw general conclusions on the basis of those data.

So far no factors that could cause this phenomenon have been identified. Relating it to extremely difficult situations experienced by the child (e.g. separation from the caregiver, birth of a younger child in the family, painful medical interventions requiring hospitalization) or the impact of potentially harmful factors, such as some vaccines, have the status of unconfirmed hypotheses.

What is typical for autism is that both verbal and nonverbal communication is impaired. This fact should be analyzed in the context of social development disorders. Tager-Flusberg (1992) notes that children with autism do not seem to develop the understanding that conversations ought to entail the exchange of information. On the other hand, Happe (1993) claims that in people with autism the disorder affects the intention to communicate. There is no doubt that at the core of autism lies the combination of language deficits and nonverbal communication disorders.

Statistically, a little over 50% of children with autism use speech (Stone & LaGreca, 1986). On the basis of a 3-hour observation in normal conditions, Stone and Caro-Martinez (1990) concluded that 21% of children whose nonverbal IQ was below 50

and 53% of children with nonverbal IQ of 50 and above used speech spontaneously. The statistics in that area suggest that the number of people using speech increases. It could be the result of ongoing therapeutic efforts and new methods of language skill improvement, as well as more people receiving specialized care.

Nonverbal communication in children with autism

Difficulties in using eye contact and in the ability to point and show objects are typical for people with autism (Baron-Cohen, 1989a; Mundy, Sigman and Kasari, 1994). It would be a gross oversimplification to say that those children are incapable of any form of nonverbal communication. Nevertheless, there is no doubt that they use far less complicated combinations of nonverbal behaviors (in comparison with their normally developing peers). They tend to make isolated gestures and rarely combine them with vocalization (Wetherby, Yonclas & Bryan, 1989).

As a rule, people with autism do not spontaneously use eye contact to communicate with others. This is probably the result of the inability to decipher signals transmitted with the eyes: being unaware of the fact that eyes communicate signals of primary importance (the child does not pay attention to other people's eyes nor look for information in that part of the face); difficulties in interpreting those signals (they can provoke fear and lead to avoidance), or lack of knowledge how to react to them. As we can observe in people with autism in social situations all of the above mentioned difficulties are present. They often avoid eye contact or use it inappropriately to the situation (e.g. when talking to someone or listening to them they do not look into their eyes; their look is devoid of "content", which happens when there is no verbal contact). Characteristic is their "empty" look, "talking into space" (Gałkowski, 1998, p. 43), even though in quantitative terms they can initiate eye contact as often as children without autism (Sigman et al., 1986). Interestingly, children with autism initiate eye contact as frequently as their normally developing peers when asking for something, but they use it far less effectively in joint attention behaviors and when looking at the same object (Mundy, Sigman, Ungerer & Sherman, 1986). In one of the studies the experimenter encouraged the child to play with an attractive toy (Philips, Baron-Cohen and Rutter, 1992). Once the child got involved in this activity, the experimenter held his or her hands, which made further play impossible. Normally developing or mentally retarded children reacted by initiating eye contact with the experimenter. Children with autism looked at their hands or at the toy, or tried to break free.

The problems related to eye contact are important for the child's development, e.g. for learning new words (Baron-Cohen, Baldwin & Crowson, 1997). Fewer than 30% of people with autism are able to correctly locate the object that someone else is talking about by following his gaze (the gaze – following strategy is used by about 70% of children with mental retardation). The absence of this strategy means that the child associates the new word with the object it observes at the given moment, which obviously leads to many mistakes.

Children with autism look less frequently at other people's faces, especially the central part and the eyes less frequently (Trepagnier, Sebrechts & Peterson, 2002).

They are incapable of monitoring the interlocutor's facial expressions and look for feedback regarding their own behavior (and of modifying it according to the information obtained from that source). Particular problems concern combining eye contact with other forms of communication. These children look at the face of the person they are talking to more often than at someone that is talking to them (Tantam, Holmes & Cordess, 1993). Furthermore, they rarely combine eye contact with a smile.

It has been demonstrated that autism affects the processing of information regarding the human face (Trepagnier et al., 2002). People with this disorder had difficulties recognizing faces, although they recognized objects correctly (even slightly better than the control group). By monitoring gaze direction it was shown that they focused their gaze on the face for a much shorter time. The results of this study suggest that the source of difficulties in recognizing objects is not to be found in attention disorders. However, the hypothesis about the role of attention disorders in the communication process should be carefully scrutinized, since people with autism have particular difficulties in monitoring the attention of their partner in interaction (Gomez, Sarria & Tamarit, 1993). The problem seems to concern switching the focus of attention from a person to an object or event. It is during such "triadic" relationship when the interaction involves, apart from the child and another person, an object (item or event) or still another, third person, that the child's specific difficulties emerge. Stone et al. (1997) argue that the directive behavior of a child with autism involving the manipulation of someone else's hand can be interpreted as an adaptive strategy whose purpose is to compensate for the difficulties in switching attention.

Deficits in eye contact can be part of treating other people as inanimate objects. This is suggested by the results of studies on asking behaviors in small children with autism (Phillips et al., 1995). A small percentage of the children treated another person as a subject (e.g. by initiating eye contact) while the majority used the object-oriented strategy (ignoring the person, e.g. moving objects towards the desired toy, climbing furniture).

Besides eye contact, the disorders affect facial expression. The face of a child with autism often shows an impassive facial expression, and the body language is also disturbed. Deficits concern not only expression, but also the understanding of such signals (Njiokiktjien et al., 2001). The ability of children with autism to use gestures in communication is also limited. Undoubtedly, part of the reason for that phenomenon is the disorder of imitation skill. It has been demonstrated that difficulties in that area regard not only symbolic gestures, but also simple, non-symbolic ones (Smith & Bryson, 1998). They seem to be specific for autism, as it has been found that they are more pervasive in children with autism than in children with receptive language delays at the same stage of cognitive and language development.

Individuals with autism do not compensate for their difficulties in language acquisition by using nonverbal signals. In preschool children who use nonverbal communication (e.g. gestures and gaze), the receptive language develops better and faster (Mundy, Sigman & Kasari, 1994). On the other hand, the language development of a number of children is significantly worse than could be expected on the basis of their nonverbal skills (Lord & Schopler, 1989). Moreover, even in fluently speaking people

the nonverbal communication skills are to some extent impaired. They also show disorders in complex forms of communication e.g., combining utterances with body language, matching gestures, facial expressions and posture with the meaning of uttered words and sentences, as well as in understanding the meaning of communication and using it in interactions with others.

Language impairments in autism

It is a common belief that children with autism babble less than normal children (Chmielińska, 1998; Howlin and Rutter, 1991). The results of some studies contradict that opinion, showing that there are no differences in that area between 2-year-old children with autism, 2-year-old children with mental retardation and 10-12 month old normally developing children (Lord & Paul, 1997). In the preverbal phase, children with autism develop atypical ways of communication. Usually these are not gestures, vocalizations or gazing, but rather self-abuse, aggression, screaming and crying (Bara, Bucciarelli & Colle, 2001). At the same time, those children do not use gestures, facial expressions, nodding or smiling to enhance communication (Ricks & Wing, 1975). Nor they do respond when such signals are directed at them.

Among people with autism who use speech, some characteristic disorders (though not exclusive to autism) have been observed. They include echolalia, which involves repeating, with a similar intonation, words or phrases spoken by another person. Echolalia, formerly treated exclusively as a disorder preventing communication and a type of repetitive, stereotyped behavior, today has come to be interpreted in the context of various communicative functions it could perform. Prizant and Duchan (1981) analyzed the course of interactions with children with autism and concluded that those functions include asking, protesting, confirming and demanding. These results would contradict the opinion that echolalia are purely automatic, as their intentionality in the situations analyzed was undeniable. However, we still do not know the specific mechanisms and causes of echolalia. There are conflicting opinions among experts as to whether echolalia hinders or supports communication. There is no doubt, however, that it recedes when the child's linguistic abilities develop.

Another characteristic feature of the language of a child with autism is pronoun reversal. The child refers to him or herself as to another person: "Johnny wants...", "you see".. Those utterances can be interpreted as a symptom of echolalia or an indication of self-identity disorders (Frith, 1989). The latter explanation seems to be insufficient, since pronoun reversal is not limited to the avoidance of pronouns "I" and "my" and substituting them with other words. Sometimes the children use the pronoun "I" to refer to another person. A study conducted on a small group of children by Minczakiewicz (1994) showed that none of the twelve children with autism (aged 7-13 years) understood phrases such as: "it's his", "it's hers", which could indicate problems in processing verbal messages of that kind (even if they were accompanied by gestures). The use of the pronoun "I" by people with autism was analyzed by Błeszyński (1997) in a study involving 17 subjects aged 3-26 years. Their parents, therapists, and teachers were interviewed about the children's speech development, and the children's utterances were recorded as well.

The majority of the children did not use the pronoun "I". It appeared in the utterances of only 3 out of 18 girls and 12 out of 29 boys. That aspect of speech development was delayed in all of the subjects; in some cases the pronoun "I" was first used after 10 years of age. It should be noted that the majority of subjects who used the pronoun "I" clearly did not understand its meaning. It appeared most frequently in echolalia or was added at the end of utterances. There was also a group of children who had used the pronoun "I" earlier but stopped using it after some time as a result of general speech regression. The results of the study are interesting, but the full interpretation is hindered by the high level of diversification in the sample in terms of intellectual functioning, speech development, and the severity of autism. Summing up this point, we still do not know to what extent the fact of not using the pronoun "I", using other words for it, as well as pronoun reversal, should be associated with the difficulties in treating oneself and others as subjects. However, there is no doubt that pronoun reversal is an important indicator of the child's difficulties in processing information about other people.

There have been relatively few studies on autistic children's narrative language. In one study children were asked to tell a story based on pictures (Tager-Flusberg, 1995). The stories told by children with autism were simpler, shorter, and included fewer causal statements.

Irregularities are also observed in terms of suprasegmental aspects of language (intonation, melody, strength of voice, vocal emphasis). Particularly striking is the peculiar intonation that makes the speech of individuals with autism sound unusual. However, the population is diversified in that respect as well (Lord & Paul, 1997). The most commonly observed intonation is monotonous, combined with the lack of emotional expression through tone of voice, which makes the utterance much more difficult for the interlocutor. Moreover, the utterances often have a characteristic rhythm, interrupted and non-fluent (Howlin and Rutter, 1991).

As demonstrated by Tager-Flusberg (1999), high functioning individuals, i.e. those whose IQ is within norm, use syntactic strategies correctly. Their language development disorders concern semantics and pragmatics. These deficits significantly impair the ability to understand communication. People with autism are incapable of enhancing their interpretation with information expressed indirectly, and they do not take into account the interlocutor's interests and expectations not spoken directly. Their participation in a conversation is repetitive and stereotyped.

Communication skill disorders significantly impair social functioning of autistic children. These have various causes that we are still a long way from discovering. An interesting insight into communication problems can be found in hypotheses that attribute a significant role in the process of linking those problems to cognitive deficits.

Communication disorders and cognitive deficits

In the course of the last 25 years there has been an increase in the popularity of the hypothesis that cognitive deficits play an important role in the formation of the disorder triad typical of autism. In this approach, cognitive factors would be by nature primary and would cause disorders in social functioning and the ability to communi-

cate. According to the psychological model of autism (Tager-Flusberg, 1999), the complex etiology of this disorder (combining various factors, mainly neurobiological) leads to the impairment of brain mechanisms, which in turn are the cause of cognitive deficits, with theory of mind disorders at the core. These deficits affect the ability to play (especially pretend play), communicate and interact socially.

One of the most interesting concepts is the theory of forming and using the theory of mind. In general, the term “theory of mind” describes the ability to attribute various mental states (such as knowledge, belief, desire) to oneself and others in order to explain their behavior (Tager-Flusberg, 1999). Leslie (1987) suggests that the disorders concern the innate cognitive mechanism that enables people to perceive and use associations of abstract feelings in the psyche, i.e. to imagine what is going on in the mind. Consequently, those deficits concern the ability to form metarepresentations. Physical properties of objects and events are first-order representations, while the ungraspable, memorized psychological events are second-order representations. If the child uses first-order representations, it has difficulties in understanding why, for example, someone holding up a pot cover pretends that it is a shield. According to Leslie, the basis for the theory of mind is the pretence ability that children develop in the second year of life. In order to play by pretending that something is happening that is not actually taking place, one must be capable of integrating the knowledge of the real and imagined situation, and, at the same time, be able to clearly differentiate between the two. Otherwise, it is difficult to understand that facts can be perceived and interpreted differently by different people and that people differ in their perceptions of those facts (Frith, 1993).

Tager-Flusberg (1999) notes that the deficits associated with the theory of mind are manifest already towards the end of the child’s first year of life. They involve the lack of joint attention skill, which impedes the perception of another person as an intentional and goal-oriented individual. Baron-Cohen (1995) suggests that as a result of theory of mind disorders, the behavior of other people is not perceived as goal-oriented. This can be the basis of treating other people as inanimate objects by children in autism (manifested e.g. in climbing on them to reach some item, taking the adult’s hand and putting it on the door handle).

Deficits in forming second-order representations can play a key role for the ability of social information processing. They have significant consequences for communication. People with “mind-blindness” can be incapable of decoding the speaker’s intentions. The communication in that case is limited to words or gestures used instrumentally (Happe, 1993).

Due to theory of mind disorders, children with autism demonstrate difficulties in various tasks. They do not understand the rule “seeing is knowing” – for example, seeing two dolls, one of which is touching the box, and the other looking inside it, when asked which of them knows what is inside, they give random answers. They do not differentiate between the look of something and what it is in reality (e.g. they do not see that a cucumber can serve to imitate a phone receiver). They rarely use terms related to mental states spontaneously (think, know, imagine). They cannot engage in spontaneous pretend play and they do not understand what pretending is. They per-

ceive simple associations between emotions and events, but they do not comprehend more complex causes of emotions. They understand that someone can be happy because they were given what they wanted, but they have problems understanding that they can be happy imagining that they received it. They do not see the difference between the fact that something happened by accident and that someone did something on purpose – they do not grasp the nature of intentionality. Furthermore, they do not understand when someone misleads or deceives them; they are unaware of the fact that someone might want to manipulate them. They do not understand metaphors, sarcasm, irony – anything beyond the basic meaning of words.

The impact of theory of mind disorders on the ability to communicate seems obvious. The key to understanding what someone says is in many cases the ability to imagine their intentions (Howlin, Baron-Cohen & Hadwin, 1999). If one is incapable of forming the representations of the interlocutor's intentions, he or she has difficulty understanding the reasons for other people's actions. As a result, the social world is for people with autism unpredictable. The ability to mind-read is also essential to understand figurative speech (e.g. irony, humor). In addition, it allows one to interpret nonverbal communications.

Baron-Cohen (1995) claims that eye contact deficits are the result of a peculiar deficit that impairs the ability to understand something crucially important that concerns the eyes themselves, and not the processing of nonverbal information in general. Gaze direction and eye movements can provide information about intentions and wanting something (Baron-Cohen & Cross, 1992). People with autism are incapable of associating the fact that someone looks in a given direction and their mental state. They do not understand that the gaze can signify interest or the need to possess. They perform poorly at recognizing emotions expressed by faces in photographs when they only see their eyes (Baron-Cohen, Wheelwright & Jolliffe, 1997).

Another area of communication where disorders can emerge as a result of theory of mind deficits is monitoring of information-related needs of the partner in communication. It is related to the ability to judge what a given person knows and what they would like to know; what information should be included in the message so that our interlocutor, using the knowledge we assume he or she possesses, could understand it. Comprehension monitoring is vital for communication to be effective. It allows for reformulating the communication, developing it and clarifying any vague issues. Theory of mind disorders are particularly clear with regard to the ability to maintain conversation. Central to autism are pragmatic deficits that make impossible the appropriate use of language in a particular social context. People with this disorder are incapable of adopting the interlocutor's perspective. As a result, they tend to dominate the conversation that is often limited to a monologue on the subject interesting to individuals with autism (Tager-Flusberg, 1996).

The inability to mind-read also means that the purpose of communication for people with autism is asking or labeling objects. They rarely comment or reminisce on earlier activity, or attempt to use language for joint attention purposes or to provide their interlocutor with new information, to express intentions, etc. (Tager-Flusberg, 1992). In consequence, the functions of language are severely limited.

As mentioned above, also characteristic of autism is pronoun reversal (not using the “I” pronoun), which in the context of the theory of mind, can be seen as the sign of difficulties in understanding the speaker-listener relationship. The child must understand that the pronoun “I” in a turn-based conversation means a different person each time, i.e. the speaker at the moment (Tager-Flusberg, 1999). This is related to the more general problem of self-reference and self-reflection. While not ascribing particular mental states to the child’s self, he or she has great difficulties understanding the reasons for own behavior and achieving self-reflection (Howlin, Baron-Cohen & Hadwin, 1999). As a consequence, the child can have difficulties in differentiating self from others, understanding that other people can think, feel, and remember other things than the child does. This explanation, however, fails to dispel some doubts, since research findings suggest that people with autism have no difficulties in understanding pronouns (Lee, Hobson & Chiat, 1994), while they have problems substituting pronouns. So far we can only speculate about the nature of those difficulties.

There is no doubt that narrative deficits can also be viewed as a consequence of theory of mind deficits. Telling stories often requires the awareness of social context and the impact of cultural factors. Stories told by high-functioning children with autism are shorter and less complicated than those told by their normally developing peers. Moreover, they contain more grammatical mistakes. In addition, children with autism are far less likely to make causal statements (Tager-Flusberg, 1995). They use less often terms that refer to the mental states of characters in their stories. Loveland et al (1990) note that there are at least two reasons why theory of mind deficits affect the ability to tell stories about events. Firstly, an individual with these deficits may be unable to understand some socially important aspects of the event, such as feelings, motivations of the event’s participants, relations between them, mutual influences. Secondly, the child may be incapable of selecting, organizing and presenting the information to other people because of the inability to predict the needs, knowledge and interests of the listeners.

Some of the nonverbal communication disorders can be interpreted as a result of theory of mind deficits. This is relevant in particular with reference to gestures. Even the disorders observed at the level of simple gesture imitation can be related to difficulties in adopting the perspective of another person. Smith and Bryson (1998) found a peculiar mistake in those children which involves reversing the hand moves by 180°. They suggest that difficulties of that sort can have similar causes to pronoun reversal.

Depending on the nature of the task, around 20-35% (Holroyd & Baron-Cohen, 1993), and according to some researchers up to 60% (Dahlgren & Trillingsgaard, 1996; Sparrevojn & Howie, 1995) of people with autism do not have difficulties in solving tasks testing the ability to recognize first-order false beliefs (where one has to decide what X is thinking). According to research data, the second-order false beliefs test (e.g. Ann doesn’t know that John knows) is often too difficult even for those who perform well in the first-order false beliefs test (Baron-Cohen, 1989b). Nevertheless, there is no doubt that some people with autism demonstrate abilities to form metarepresentations. Studies by Happe (1993) reveal that some of them are capable of

attributing mental states. Similar results were obtained by Mitchell, Saltmarsh, and Russell (1997). There are grounds to suspect that the low scores in that area result from attention deficits and fixation on the task. The same reservations concern not only the deficits in terms of the theory of mind. Despite those limitations the deficits in using the theory of mind can participate in the development of communication-related problems.

Communication problems are usually the source of parents' initial concerns regarding the child's development. They are one of the chief factors of parental stress.

Parents and the children's communication difficulties

Autism in a child presents its parents with a unique challenge. Lack of clear signs of the child's attachment, disharmonious development, a number of difficult and incomprehensible behaviors – those are only some of the problems to overcome.

It was demonstrated that the level of stress in this group of parents is particularly high (e.g. Bouma and Schweitzer, 1990; Holroyd and McArthur, 1976; Fisman and Wolf, 1991). In one study (Pisula, 1998) using the Questionnaire on Resources and Stress (Holroyd, 1987), the profiles of stress in mothers of children with autism, Down syndrome and mental retardation were compared. The mothers of children with autism showed a much higher comparative level of stress in terms of personal problems, family functioning, as well as problems related directly to the functioning of the child (Pisula, 1998). Only in the case of one out of 15 scales used, their results did not differ from those of other subjects. The scale concerned family integration. The results were particularly elevated on the "Difficult Personality Characteristics" scale, where the score is closely linked to the child's difficulties in communicating with others. Mothers of children with autism also experienced more severe stress resulting from the child's dependence on their care, which in turn results from the lack of adequate therapeutic and educational services and the impossibility of finding assistance in a situation when it is so difficult to communicate with the child. The lack of social support for the mother and her feeling of abandonment completes the picture.

Undoubtedly, limited communication with the child is one of the principal causes of stress experienced by the parents (Gray, 1994; Peeters, 1996; Smith, Cheung Chung, and Vostanis, 1994). A number of parents claimed that their concerns had already begun at the stage of babbling, which was when they first noticed abnormalities (Bleszyński, 1998).

From the beginning of interest in autism, one of the most controversial questions was whether these children are capable of forming emotional attachments. Kanner (1943) thought that they were incapable of forming attachments. He suggested that they treated their family members in the same manner as strangers, demonstrating indifference both to the absence and presence of their parents. This opinion lingered for a number of decades, and determined, to a large extent, the perception of autism. It was only with research findings in the 80s and 90s (e.g. Dissanayake & Crossley, 1996, 1997; Dissanayake, Sigman & Kasari, 1996; Sigman & Mundy, 1989; Sigman & Ungerer, 1984) that those beliefs subsided.

Whether their child is capable of having feelings for his or her loved ones is of fundamental importance to the parents. As our study demonstrated (Pisula, 2003), mothers are convinced that the lack of typical signs of the child's attachment results from the difficulties in expressing feelings, and not from the lack of ability to form emotional attachments. From that perspective, the nature of the problem seems to be related to communication, as it involves the lack of skills required to express feelings and difficulties in realizing another person's need for those feelings to be expressed.

Parents tend to see the child's ability to communicate as the key to its recovery or significant improvement. They are aware of the extent of the child's problems in that matter. When asked what they think causes their children the most difficulty, the mothers mention speech, and, from a wider perspective, communication with others (Pisula, 2003). At the same time, one of the things they find the most difficult to accept in their children is the lack of speech as the most important factor impairing contact.

Problems in communicating with the child are probably one of the most important causes of the high level of anxiety in mothers. In the research conducted by Sekułowicz (2000), a high level of anxiety was found in half of 34 mothers of autistic children. It was significantly more than in the other tested groups: mothers of children with cerebral palsy and mothers of children with mental retardation. The relatively higher level of anxiety in mothers of children with autism was also demonstrated in comparison with mothers of children with Down syndrome and mothers of normally developing children (Pisula, 1993), as well as mothers of children with mental retardation and mothers of children with movement disturbances (Ryde-Brandt, 1991). Without clear messages from the child (both verbal and non-verbal), parents have problems understanding what is going on with the child and what are the child's needs. The child's behavior is often a source of conflicting signals (Olechnowicz, 1983), which leaves them feeling confused, helpless, and doubting their ability as parents. The child's behavior is often unpredictable and can be the source of difficult experiences involving depersonalization. Such is the nature of communication disorders in children with autism that they tend to treat other people as objects. The lack of eye contact accompanied by the manipulation of another person's body (e.g. when the child takes someone by the hand and places it on a door knob, expecting the door to be opened) makes people feel that they are merely a tool at the disposal of the child.

The high level of stress in parents of autistic children can cause a general decline in health, and consequently can impair the ability to care for the child. Those parents are much more likely to be depressed than the parents of normally developing children and the parents of children with other developmental disorders (e.g. Bristol, 1987; Ryde-Brandt, 1991). There is no doubt that a significant cause of depression in that group can be the feeling of helplessness and lack of control over events related to the child.

Another consequence of the problems experienced by the parents is the burn-out syndrome. In our research (Gałkowski, 1995, Pisula, 1991) we attempted to determine the causes of that syndrome. We compared parents of children with autism and those of children with Down syndrome. In the case of the parents of autistic children, the factors leading to burn-out were the feeling of being constantly overburdened with child-caring duties, hopelessness of their efforts and the exclusive responsibility for

the child. The differences between groups were particularly apparent with regard to the lack of clarity as to the child's abilities and the lack of knowledge and skills required to raise the child. This is therefore another area where we have found evidence that the child's communication disorders are the source of parental anxiety that has negative consequences from the perspective of their ability to care for their child.

Conclusions

Despite general consensus about the key importance of symptoms related to disturbance in the ability to communicate, there are relatively few dependable studies on this subject. It is especially true with regard to the beginnings of language development. Few studies have been devoted to the development of speech in children with autism younger than three years of age. There are probably multiple reasons for that situation, two of which seem to be crucial. As we know, autism is usually diagnosed late in the child's life – usually around 5-6 years of age (Howlin & Moore, 1997). Before the diagnosis, many children suffering from this disorder are thought to be deaf or their difficulties in communication are interpreted as speech development deficits. The second cause is the small number of methods for measuring a young child's communicative competence that can be used with this population. Usually it is the parents who are asked about the child's development – an approach which has its obvious limitations.

Moreover, differences in findings from research on the development of communicative abilities in people with autism proliferate in the literature. To a large extent they result from the methodological shortcomings of those studies, such as the small size and lack of representativeness of the samples tested, the nature of tools used, as well as differences in definitions of the abilities measured.

In spite of the varied clinical picture, the disorders occurring in people with autism are always related to the heart of communication – understanding of its purpose and its use to regulate one's relations with the environment. People with autism have difficulties understanding that the purpose of communication is to influence the partner of interaction intentionally. Even if they learn to exert such influence, the means they use for that end are considerably limited and often beyond what would be expected for both their age and cognitive level. In consequence, they are incapable of effectively communicating with other people or flexibly adapting their communication to the situation. Even those individuals who achieve the highest level of speech development rarely use it to exchange information. A number of behaviors of a child with autism have a communicative dimension, but it is often extremely difficult to make sense of them.

Theories pointing to the significance of cognitive deficits for the development of social and communication abilities provide the most exhaustive explanation so far of the complexities of communication deficits. They allow for a consistent interpretation of a number of problems experienced by people with autism. Of course, they do not explain the whole variety of autistic symptoms, but with the current state of knowledge this task is extremely difficult. From the perspective of communication impairments, the concept of theory of mind deficits is particularly appealing. It enables us to

understand why even fluently speaking people with autism cannot communicate with others. Talking to another person without being aware of their separate needs, beliefs and expectations is bound to be a failure.

It should be emphasized that even though communication ability deficits significantly influence the picture of autism as one of its central symptoms, the lack of speech or significant delay in language development do not necessarily point to autism. Although this statement is a direct consequence of adopting such systems of classification as DSM-IV (APA, 1994) or ICD-10 (WHO, 1992), it is sometimes ignored. Here we encounter a peculiar paradox. On the one hand, experts avoid diagnosing autism in very small children (until two, or even three years of age). They justify their decision with the need to gain a more complete picture of the child's communicative abilities, which is supposed to be impossible until it is older. On the other hand, children who demonstrate significant language deficits are diagnosed with autism, even if there is nothing except the impaired speech to suggest it. Language impairments should be carefully analyzed in the context of the child's social functioning, as well as his or her ability to communicate in other ways. As in other areas, the picture of communication in autism is incoherent and difficult to clearly define. What is natural in the development of other children takes years of intense effort to develop in children with autism. The development is disharmonious and its course is often extremely difficult to predict.

Problems related to communicating with the child are a significant source of stress experienced by the parents. They result in the feeling of inability to understand one's own child and being helpless in contact with that child. Therefore they can lead to problems often observed in parents, such as depression (resulting from the lack of control over events) and the burn-out syndrome, which make caring for the child significantly more difficult.

It is a commonplace to say that the ability to communicate with others effectively determines to a large extent the quality of our lives. Therefore the primary goal is to focus therapeutic and educational efforts on supporting the existing and developing new abilities of children with autism to communicate with other people. The improvement in the child's communication skills is essential for many parents (Gray, 1994). Ambiguities regarding the mechanisms of developing language impairments make effective intervention difficult. Nevertheless, the attempts to develop the ability of communicating with others – whether by speech or other means of communication – often bring positive results. Especially important are the efforts undertaken with very young children who learn to be with other people in the course of interactive play. For the child and his or her family, the process of communication is of crucial importance, therefore it must remain at the center of attention of experts working with those families.

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