The Communicative Skills Correction Technology of Children with Autistic Spectrum Disorder in the Crimea

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Abstract

The communicative skills correction technology in children with autism spectrum disorder is considered. In the Crimea centers and funds which provide support and assistance to families raising children with special developmental features, in particular autism, are being analyzed. The results of a communicative skills correction study in children with autism spectrum disorder are presented.

Keywords: *Technology, autism spectrum disorder (ASD), preschool age, communicative skills correction, health camp, Crimea.*

Introduction

In recent decades, the number of children with impaired mental development, particularly with autism spectrum disorder (ASD), has increased significantly at the national and regional levels.

«Several decades ago, there was one resident with autism spectrum disorder per 10,000 inhabitants. In 1995, there was already one person with autism per 5,000 people. In 2017, there was one person with autism spectrum disorder... the autistic spectrum is already prominent among 50 people» [1]. The earlier such people are assisted by specialists, the more likely their socialization will be. The growth dynamics of people with ASD and the need to correct their communication skills from early childhood predetermined the relevance of our study.

Among the scientists who studied the phenomenon of ASD, we can mention the works of E. S. Ivanov, E. R. Baenskaya, M. M. Liling, O. S. Nikolskaya, V. Bettelheim, U. Frith, L. Wing, who note that one of the "main violations preventing successful adaptation and socialization of an ASD child is its underdevelopment"[5]. Nevertheless, it is important to consider the technology of corrective actions and the creation of conditions for the development of communication abilities of children with ASD for their successful socialization. At the same time, the scientific literature reveals a lack of research on this problem, especially at the regional level. In this regard, the purpose of our study is to examine the correction of communication skills of children with ASD in the Crimean region and Sevastopol.

Research Methodology. Nowadays, according to children's neurologist of the Ministry of Health and Social Development, Professor A. Petrukhin, autism is among the most common disorders in Russia. The first works on the need for specially organized assistance to children with this type of dysontogenesis in Russian psychology can be considered the work by G.E. Sukhareva in 1955, which examined autism disorders in childhood schizoidia. In 2010, the main provisions of the "Special Federal State Standard for Primary Education and School System for Children with Developmental Disabilities of the Autistic Spectrum" were published. The document appeared due to the activity of O.S. Nikolskaya[9] and was prompted by the requirements of the reform of the education system in Russia.

According to Maureen Durkin, PhD in epidemiology, Professor of Public Health and Pediatrics (USA), «recent studies of the prevalence [in Russia] of eight-year-old children show that the number of cases of ASD can be 1.5% or even 2%» [4]. Among other facets of the problem in this area, apart from revealing the fact of autism in the Russian population, it should be noted that 92% of 100% of people with ASD in the US are adapted, while in Russia only 10% are adapted[3]. The third facet of the problem is that autism in adults is not recognized in Russia. Without knowing how many children in Russia

have autism spectrum disorders, it is impossible to build a literate system of state assistance to these children in health care, education, and social protection.

Modern scientists believe that ASD does not depend on a person's ethnopsychological peculiarities, social conditions of his life, his material well-being. At the heart of a child's adaptation in the process of socialization to the requirements of life in society is the degree of development of his or her communication abilities. «The main characteristic of the disorder is the permanent deficiency in social communication and social interaction. The main deficit in people with autism spectrum disorder is the skills of divided attention and reciprocity in contact»[2].

Due to the lack of social contacts in children with ASD, the emergence of difficulties in communicating with their loved ones and the world around them, an increase in primary lack of communication skills is formed due to the effect of «snowball». The speech function, the holistic picture of the world, and the sense of meaning are formed in a distorted way. «Echolalia, blurred speech, chanting pronunciation, speech with shorthand, a peculiar voice intonation with a predominance of high tonality, long naming of oneself in the second and third persons, absence of words in expressive speech that designate people close to the child, autostimulations realized in citing poems, songs, quotations, etc.».[6].

T. Grandin and M. Scariano note that such a child is limited by the fact that he can only build his relationship with the world around him through an adult. «Having lost contact with their emotional donor, translator, and arranger of meanings around them, such a child stops developing and can regress»[8]. By the period of enrollment in school, children with ASD show "a pronounced cognitive deficit, non-formation of arbitrary forms of activity, specificity of perception, thinking, and speech"[7], "in expressive speech, there is a predominance of a nominal vocabulary over the predicative one" [3].

The most competent assistance can be provided to the child in special centers for correction of communication skills disorders. In Russia, the First Federal Resource Center for Supporting Children with ASD and their Families was opened in 2016. Its main goal is to develop a system of comprehensive assistance to children with autism spectrum disorders.

On the other hand, there is the Regional Center for Autism, a unique school in St. Petersburg, where parents from all over Russia bring their children. The peculiarity of this Center is that it already works with speaking, adult children, who are prepared for the stage of self-determination. However, ASD children from preschool age who are not yet speaking cannot determine their interaction with the surrounding reality, and are not given due attention.

There are no specialized centers for developing communication skills for children with ASD in remote towns. All this creates a need to open new centers to improve the current situation. When searching for a location for a specialized center for developing communication skills for children with ASD, in our opinion, it is necessary to take into account whether there is a need for such a center in the region or whether the center already exists. On the other hand, it is important to take into account the climatic conditions, which should be aimed at creating favorable conditions that would enhance the possibilities of the corrective programs used.

Research results and Discussion. In this regard, let us consider the opportunities that the Crimean peninsula offers to solve the problem. Here, thanks to climatic conditions are enriched both physical and mental, and social health, which for a child with ASD, primarily manifested in the mastery of speech skills and basic communication. Crimea as a natural object provides the possibility of using complex therapy, parts of which are climatotherapy, landscape therapy, and aromatherapy. In a combination of mountain and sea air, phytoncides of medicinal plants and herbs: aromas of juniper, pine, arborvitae, lavender, sage, lemon wormwood, health improvement of spirit and body of the child, its hardening, which in turn leads to the strengthening of all components of health. Healing air, warm sea, the unique beauty of nature has a beneficial effect on the emerging body of the child: the child feels comfortable and has positive emotions; the result is a successful consolidation of skills learned by a specially designed program.

Now in Sevastopol, just over 100 people with ASD have been identified. But, according to the head of the organization «Special Children» A. Menanova, they «do not receive the quality assistance they need»[10].

Starting from 2017, Crimea began to open centers to work with children with various developmental features: the M. Lynskayacenter[11] and the centers of

"Territory of Speech" in Simferopol and Sevastopol. The latter's work is based on the method of T. Gruzinova and E. Gurina and is aimed at children with communicative disorders ranging from lack of speech to speech delays of various genesis (sensomotoralalia, autism spectrum disorders, dysarthric disorders), and includes three areas: ABA-therapy (Applied Behavioral Analysis), individual work with a neuropsychologist (neurogymnastics), game speech therapy. A distinctive feature of the centers is the use of author's innovative technologies contributing to the development of communication in children with ASD.

Our research was carried out on the basis of a speech therapy center «Territory of Speech» in the Crimea at the summer health camp «We're together». During the life of the student in the camp is communicative intensity (14 days). Group sessions are held in groups of up to 6 people with children 5-6 years old, the purpose of which is to acquire and develop skills to interact with peers in a safe environment. In individual sessions, a complex interaction with the following specialists is used: a speech therapist to practice speech skills; a neuropsychologist who performs neurogymnastics to restore normal brain function in a child; and an ABA-therapist.

During the two weeks of stay in the camp, the whole range of activities allowed to intensify mental processes, contributing to the development of communication skills of children of preschool age. Specially organized «parenting» events were held daily for parents.

Meetings» under the guidance of a psychologist consultant, as well as «Family Soft School» for parents and children by the method of E. Glushkova. The basis of the school's technology was the use of game exercises that develop flexibility, plasticity of the child, his or her ability to master his or her body and be active, perceptive, and adequate in any situation.

The peculiarities of the site where the psychocorrection was carried out required its creative improvement, as a result of which we developed and implemented the author's technological elements of the psychocorrection program for the development of communicative skills of preschool children with PAC. The first block of the program consisted of individual lessons with a game speech therapist according to the method of T. Gruzinova; the second block consisted of creative elements of the psychologically corrective program developed by us:

– Group lessons to develop communicative interaction;

It took two weeks, two hours a day. The following materials were used: pyramid, peg top, bubbles, balloons, chalk board, cards, napkins, grains, water. The sequence of corrective actions in the lessons is given below.

1. Children sit in a circle. Behind each child sits a tutor. The whole process is managed by the leader of the communication group.
2. The leader of the group gives the following instructions: "Who should I give the bubbles to?" (or any other kind of material).
3. The leader looks carefully at which of the children took the initiative in the form of a gesture request, a vocal request. If the children cannot ask for it themselves, the tutor does it for the child with a physical prompt.
4. The child who has asked the presenter is given an object for manipulation.
5. All children command the child by name (for example: the presenter gave N bubbles): N, "blow". Execution of the command is based on the capabilities of the child: if the child can not address the N by name and does not look at him, the tutor helps the child by turning his head and pointing to the N.

If the child does not speak or imitate a gesture, the tutor helps him with a physical clue. This happens in the following way: the tutor takes the child's hand, puts it on his lips and makes a verbal gesture "blow". As time goes by, the hint becomes weakened and, as a result, the child can give instructions to the participant on how to communicate. Each child has the opportunity to manipulate any presented leading object.

At the end of the communication group training, each participant is trained to give instructions to the other and perform them independently;

- Yard games - bodily, visual, audio communication with the purpose of

"See me, notice me." Children in individual games learned to see each other, notice each other and interact with each other through different channels of perception. This is the direction of psychocorrective work combined and developed all aspects of communication. An example of author's yard games is presented in Table 1.

Table 1: Examples of copyright pickup games

Game Title	Accompaniment	Game participants	Actions of the game participants
Playhouses and cards	The active melody in major tone is switched on.	1. Group Leader 2. Tutors 3. Kids.	The presenter places the playhouses of four basic colors (green, yellow, and red, blue) in any part of the room. While the music is playing, the children run in a chaotic direction. When the music stops, the presenter raises a card of any color and gives instructions: find a playhouse like this. Each participant independently or with the help of a tutor finds a playhouse of the corresponding color.
Flower Bees	The active melody in major tone is switched on.	1. Group Leader 2. Tutors 3. Kids.	The presenter distributes hats with the image of bees to all children, and then spreads flowers sewn from fabric on the lawn (fabric of green color). Flowers have the same appearance and are equal to the number of children. While the music is playing, children run in a chaotic direction. When the music stops, each child finds a free flower for himself or herself or with the help of a tutor and becomes on it. Then the game can become more complicated depending on the possibilities of the group as a whole. The instruction is added: Remember, where your flower is, and when the music is over, find it.

- Creative workshop.

The creative workshop implied the development of small and large motors, the development of skills for independent creative activity. Creative workshops based on the elements of ART-therapy were conducted as follows. Every day the theme was chosen from what the children saw with their own eyes in the correctional camp: mountains, rocks, sea, plants. Then the trainees took seats at the table next to the tutor and tried to display what they saw with a brush on canvas or a plastic on a board.

Each learner gave out materials to others. For example, if he gave out child N, he would go with a piece of paper, and all the other students, according to their abilities, would ask for a piece of paper for themselves. Someone would do it vocally, someone would gesture, bending their palm. If the child did not have speech skills at all and could not ask with a gesture, the tutor gave a physical clue. Thus, the trainees gave out all the materials to each other, and they communicated based on their communication skills: vocally or by gestures, independently or with a physical clue. An important element of this communication was eye to eye contact. «Eyes» followed by the presenter and tutor. After all the materials had been distributed to the student, the presenter gave the instruction: «cut» and showed the verb with a gesture (he collected his index and middle finger, depicting scissors). During the instruction, the tutors from time to time reminded the child to 'cut' vocally and with a gesture to reinforce the skill and automate it.

Every day the creative workshop ended with a finished work, which was hung in a special room for creativity. All children had an opportunity to come to the hall, find their drawing and show their parents the element of their creativity. An opportunity was provided to consolidate the learning process with positive emotions: a manifestation of joy from the results of their creative activity and the creative work done.

In general, children from families that participated in the work of the «We are together» remedial camp received positive results, as shown in table 2.

Table 2: Results of children with ASD who underwent «intensive» summer camp in Crimea

Name	Age	Diagnosis	Pre-intensive course performance	After-intensive course performance (new elements)
1	5 years 2 months	ASD	Requests:0 Indicative gesture:- Sounds arbitrary:- Sounds involuntary: P,B. Words:-	Requests:1 (give - gesture) Indicative gesture:+
2	5 years 9 months	ASD	Requests:0 Indicative gesture:- Sounds arbitrary:- Sounds involuntary: P,B. Words:-	Requests:1 (give, open - gesture) Indicative gesture: +
3	6 years	ASD	Requests: 1 (give – vocally) Indicative gesture:- Sounds arbitrary: “Papa” (Dad) Sounds involuntary: B,D. Words:-	Requests: 3 (open, close, blow - with gestures).
4	6 years 2 months	ASD	Requests:0 Indicative gesture:- Sounds arbitrary:- Sounds involuntary: P,B. Words:-	Requests:2 (give, water - in gestures). Indicative gesture:+
5	5 years 7 months	ASD	Requests: 1 (give – gesture) Indicative gesture: + Sounds arbitrary:- Sounds involuntary: H,P. Words:-	Requests: 1 (give - vocally)
6	5 years 10 months	ASD	Requests:0 Indicative gesture:- Sounds arbitrary: Ba Sounds involuntary: P. Words:-	Requests:1 (give - gesture) Indicative gesture:+ Sounds arbitrary: P
7	5 years 6 months	ASD	Requests:0 Indicative gesture:- Sounds arbitrary: Vi Sounds involuntary: Di. Words:-	Requests:1 (give - gesture + vocal) Indicative gesture: + Sounds arbitrary: D.
8	5 years 4 months	ASD	Requests: 2 (give, open – gesture) Indicative gesture: + Sounds arbitrary: - Sounds involuntary: Pa. Words:-	Requests: 2 (give, open -vocally)
9	5 years 8 months	ASD	Requests: 0 Indicative gesture: + Sounds arbitrary: Ma Sounds involuntary: P,D. Words: Mama (Mother)	Requests:1 (give - gesture + vocal) Sounds arbitrary: P, D

Name	Age	Diagnosis	Pre-intensive course performance	After-intensive course performance (new elements)
10	6 years 2 months	ASD	Requests: 0 Indicative gesture:- Sounds arbitrary: P Sounds involuntary: B. Words:-	Requests:1 (give – gesture) Indicative gesture: +
11	5 years 9 months	ASD	Requests: 1 (open – vocally “aka”) Indicative gesture: + Sounds arbitrary: M Sounds involuntary: D. Words:-	Requests: 1 (open vocally “aka + gesture”)
12	6 years	ASD	Requests: 0 Indicative gesture: + Sounds arbitrary: Mi Sounds involuntary: Ti. Words:-	Requests: 2 (open, give - gesture)
13	5 years 11 months	ASD	Requests: 1 (give – vocally) Indicative gesture: + Sounds arbitrary: Give Sounds involuntary: P,B. Words:-	Requests:1 (give - vocal + gesture) Sounds arbitrary: P, B
14	5 years 10 months	ASD	Requests: 0 Indicative gesture:- Sounds arbitrary:- Sounds involuntary: M,P. Words:-	Requests:2 (give, water - gesture) Sounds arbitrary: M, P
15	5 years 6 months	ASD	Requests: 1 Vkluchi (Turn on) Indicative gesture: + Sounds arbitrary: Ku, Chi, Chu Sounds involuntary: P,B. Words:-	Requests:2 (give - vocal, blow - gesture) Sounds arbitrary: P,B

The data in Table 2 are the result of a comprehensive impact on communication skills development for children with ASD.

Conclusion

Due to a properly organized and implemented program, each child has received positive results, which will later be consolidated to automatism and applied in life. So, as a result of the educational development program in the summer camp all its participants, children with ASD who came with their families from different regions of Russia, achieved results. Let us cite the parents’ opinion about the summer camp program: “We are happy: the impossible has turned out to be real”. Of course, it is necessary to have more such centers so that all families with children with ASD could, with the help of the correctional programs of these centers, develop their children and improve their worldview, peace and harmony of families.

It is envisaged to continue further research in order to improve the technology considered and to create conditions for children with ASD to achieve results for everyone.

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