

## **SENSORY INTEGRATION DYSFUNCTION IN CHILDREN WITH AUTISTIC SPECTRUM DISORDER**

**Berikova Akbota**

Master's student of Karaganda University named after Academician E.A.Boketov, Kazakhstan, Karaganda

**Takuova Zarina**

Master's student of Karaganda University named after Academician E.A.Boketov, Kazakhstan, Karaganda

**Zhakibaeva Aruzhan**

Senior Lecturer at the Department of Foreign Languages, Karaganda University named after Academician E.A.Boketov, Kazakhstan, Karaganda

From the moment a person opens the door to the world, he develops only under the condition of constant stimulation from his body and the environment. Every second we receive a huge amount of information from the senses to our brain. The brain must organize it, select the most important and necessary things, and remove unnecessary things from sensory signals. We call this process sensory integration. [1]

Sensory integration is an unconscious process that occurs in the brain and organizes information, sensations received through the senses.

Children with autistic spectrum disorder are a spectrum of psychological characteristics that characterize a wide range of abnormal behavior and difficulties, social interaction and communication, as well as limited interests and frequently repeated acts of behavior. [2]

One of the main features in the development of children with autistic spectrum disorder is a disorder of sensory integration, in which the process of feeling and perception is preserved, but there is no understanding of the received signal.

No part of the central nervous system works on its own: information is transmitted from one part of it to another. Touch helps to see, vision-to maintain balance, balance — to feel the position of the body in space and move, movement helps to read. The brain needs stimulation, which excites the brain and causes functional activity in it. In this way, the activities of breathing, eating, walking, speaking, reading, etc. are carried out. [3]

In children with autistic spectrum disorder, there is a distortion of the process of perceiving sensory information, which leads to many problems in learning and behavior. Such children are distinguished by the lack of the ability to integrate sensory information coming from different senses and, as a result, distortion of the picture of the real world. Children with sensory integration dysfunction have a multichannel nature of perception: they distinguish from a wide range of sensory signals an individually affective important stimulus for them, as a result of which the world around them seems chaotic to them. [4]

Sensory integration dysfunction is a condition in which signals from different senses are not translated into an appropriate response, are not organized into an appropriate behavioral response.

Sensory integration dysfunction can occur in two cases:

1. if a child has hypersensitivity he takes a lot of information from the environment and his brain tries to analyze excessive information;
2. at the moment when a child lacks sensuality, he does not receive enough information from his environment, becomes a deficiency.

In the absence of interpretation, the child may not understand the importance of the signal, which can even lead to the termination of his physical life. [5;6]

There are three types of "poor-quality processing of normal sensory signals" that are common in children with autistic spectrum disorder:

1. the "registration" of the brain is a disturbed sensory signal, so the child does not pay attention to one thing, but perceives it too much to another.
2. a pronounced violation of sensory signals, especially vestibular and tactile modulation, which causes the development of gravitational uncertainty and sensitivity.
3. dysfunction of the brain structures responsible for inducing action: interest in work, which is usually considered constructive and very useful, is suppressed.

Thus, sensory integration dysfunction is manifested through the limitations of the behavioral spectrum: hyperfunction - in the form of sensory protection, hypofunction - in the form of sensory autostimulation (Table 1). [7]

**Table 1.**

**Manifestations of sensory integration dysfunction**

<b>System</b>	<b>Hyposensitivity</b>	<b>Hypersensitivity</b>
Vestibular system	The need to swing back and forth, rotate, run and "move" without a certain direction	Movement-related activity as participating in sports quickly while driving
Proprioceptive system (feeling one's own body)	1. excessive intimacy - constantly being too close to other people 2. poorly understands the concept of personal body space, often collides with other people.	Problems in fine motor manipulative activities (buttons, lacing) to look at things, turn with all the
Olfactory system (smell)	1. Some people do not smell and do not even notice a strong smell 2. Some people may lick things.	1. high sensitivity to odor reactions. 2. problems with taste 3. dislike for animals and use strong-smelling shampoo, de toilette, etc.
Visual system (vision)	1. they perceive objects darker than their actual color, poorly distinguish the lines and contours of objects. 2. difficulty throwing and holding objects, inflexibility	1. cases of visual perceptual when bright light and objects "cut" the eyes 2. concentration of attention on details, as opposed to full the plot
Audio system (hearing)	1. only one ear hears sounds, the other ear hears only partially or not at all 2. a person does not recognize certain	1. the noise volume is surrounding sounds are distorted.

	<p>sounds</p> <p>3.likes noisy places, kitchens, deliberately knocks on doors or things.</p>	<p>2.lack of the ability to "disc ambient noise - difficulties concentration</p> <p>3.in some, the hearing t reduced, which makes th more sensitive to stimuli, they can better hear a lo conversation</p>
Tactile system (touch)	<p>1. Strong squeezing of other people.</p> <p>2.very high pain threshold-temperature/feel pain poorly.</p> <p>3.uses self-harm (autoaggression).</p> <p>4.he enjoys lying on top of heavy objects.</p>	<p>1.Touch can be painful feeling of discomfort, wh cases leads to a complete touch, which leads to a ne on communication with o</p> <p>2.does not like to wear on hands on his pa</p> <p>3.problems with head w combing hair</p> <p>4.prefers certain types o fabrics.</p>

Summarizing the above, it should be noted that the features in behavior and activity inherent in children with autistic spectrum disorder are often directly related to their sensory experience. Sensory integration dysfunction is explained by "strange" behaviors in children with autistic spectrum disorder: stereotypes, rituals, self-stimulation, autoaggression, echolalia. With such "protection", the child will be able to reduce the pain of a serious injury, feel control over the situation and achieve safety. For this reason, it is advisable to develop sensory skills in the child at an early age.

### List of references:

1. Ayres E. Jean. Rebenok and sensorineural integration, memorization of the hidden development problem. - M.: Terevinf, - 2009. - P. 268.
2. Gilberg, K. autism: medical and pedagogical aspects / K. Gilberg, T. Peters. SPB.: Ispip, -1998. - P. 124.
3. Zheltikova E. V. Sensornaya integration in the work with children with true. URL: <https://nsportal.ru/nachalnaya-shkola/psikhologiya/2019/05/07/sensornaya-integratsiya-v-rabote-s-detmi-s-ras>
4. Kisling Ulla. Sensorna integration in the dialogue: take care of the child, solve the problem, help solve the problem /Ulla Kisling; Ed. E. V. Klochkovoy; [per. with the NEM. K. A. Sharr]. - M.: Terevinf, 2010.
5. Kranowitz, K. S. Razbalanized Rebenok / K. S. Kranowitz – St. Petersburg: editor, – 2012. - p.396.
6. Spitzberg, I. L. correction of the individual development of sensory systems in children with the syndrome of rannego child autism / I. L. Spitzberg // Almanac ICP Rao – M., 2005.
7. Chulkova R. N. dysfunction of sensory integration in children of the autistic spectrum. URL: <https://cyberleninka.ru/article/n/disfunktsiya-sensornoy-integratsii-u-detey-s-rasstroystvami-autisticheskogo-spektra>

