

The method of sensory integration in the therapy of children with autism

Agnieszka Micek,^{1*} Barbara Kmiecik-Niedziela^{2,3}

¹ Department of Nursing Management and Epidemiology Nursing, Faculty of Health Sciences, Jagiellonian University Medical College, Krakow, Poland

² Rehabilitation Centre for Children with Developmental Age Disorders at Association of Parents and Friends of Disabled People "Joy" in Dębica, Poland

³ Primary School No. 5 in Dębica, Poland

Article history

Received: 09.01.2021

Accepted: 25.01.2021

Published: 05.03.2021

DOI:

10.5604/01.3001.0014.7870

Abstract

Children with autism often have difficulties with registering and interpreting information received from senses. Inadequate response to signals coming from senses, commonly encountered among them, may be associated with restricted stereotyped behaviours and social deficits, affecting their relationships, education and daily life activities. Children with autism may have impaired sensory perception, show hypersensitivity to environmental stimuli manifested by fascination or anxiety, e.g. they may feel distress due to constant quiet noise. Researchers have been studying the impact of sensory processing disorder on the daily functioning in children with autism for decades. The sensory integration theory has evolved over the years, some strategies directed on therapy of senses have been evaluated and used as a complementary method of treatment in this population. However, controversy over this concept sometimes arises, especially in the lay press. Therefore, there is still a need for reflection on the management of children with autism spectrum disorder (ASD) in the context of sensory integration therapy. In this target group, it is particularly important to undertake interventions aimed at improving self-regulation, receiving information from the world of the senses and everyday functioning.

Keywords: autism, sensory integration, developmental disorders

The term autism comes from the Greek *autos*, which means self. Autism is a pervasive developmental disorder that manifests itself in abnormalities in receiving stimuli from the environment. It was defined as a separate disease entity in 1943 year. Autism affects functioning in everyday life, may be associated with balance problems and can lead to serious developmental disorders of multifactorial etiology. Its medical diagnosis is based on the assessment of attitudes and behaviours in three areas. The deficits within these areas, called the „triad of impairments“ in autism, consist of: (i) dysfunctions in social development, (ii) difficulties in verbal and non-verbal communication, (iii) the presence of rigid patterns of activity, interests and repetitive stereotypical behaviours (e.g. repeat the same words or phrases, the so-called echolalia). In a broader sense, we refer to autism spectrum disorder which includes Asperger's syndrome or childhood disintegrative disorder. Autism is much more common (about 4 times) among boys than among girls and its

symptoms differ between gender, which may result in late diagnosis, especially in girls. Diagnostic and Statistical Manual of Mental Disorders (DSM-V) developed and published by American Psychiatric Association point out manifestation of atypical sensory behaviours, such as hyperreactivity and hyporeactivity in the reception of sensory stimuli, as those which may indicate the presence of autism spectrum disorder [1].

Children with autism have an insufficiently or excessively sensitive sense of smell, hearing and sight, usually they see much better than the average person at longer distances (even three times), but the attempt of focusing the eyes on another person's face may make them feel fear or anger. ASD may be also associated with avoiding touching and hugging with relatives. Other children suffering from autism, in turn, have a disturbed deep feeling (proprioception) and like to cuddle or squeeze through tunnels, trying to ensure a strong, firm pressure [2].

Persons affected by ASD may feel disproportionately high level of anxiety, stress or aggression when they come into contact with a crowd, hear intense noise or experience an excess of stimuli [3]. C.H. Delacato developed the concept in which apart

*Address for correspondence: agnieszka.micek@uj.edu.pl

from the aforementioned hyperreactivity and hyporeactivity, the additional category of disfunction in children suffering from ASD has been distinguished, namely a white noise [4]. In children classified to it, the sounds such as blood noise or heartbeat may be perceived with increased intensity and the nervous system may create interference or noise even in absence of real external causative factors.

Stefan Dzikowski, a German therapist when started using sensory integration therapy in children with autism in 1984/85, was moving in a completely new area. On the foundation's website Dom Rain Mana in 2008 appeared an article written by Anna Różalska entitled Sensory integration therapy as a part of the broadly understood help for persons with autism (reprinted in 2017). She summarized the opinion of Dzikowski on the effect of the new method of sensory therapy on the entire therapeutic process [5]. He formulated his thoughts from the perspective of 10 years of dealing with autistic children and applying theory developed by A. J. Ayres [6,7]. Dzikowski noticed a number of positive changes in children affected by ASD and resulting from work on the processes of sensory integration and he assessed the effect of sensory integration therapy as significantly exceeding the achievements recorded without using it. Children started to enjoy more from therapeutic classes, imitate the actions of others spontaneously and move away from stereotypes. They began to establish and maintain eye contact, show their needs and search for physical closeness. The changes in the therapeutic approach focusing on the mechanisms that trigger symptoms rather than on the symptoms alone, have resulted in the intensification of contacts with children, thus one of the key goals when dealing with people affected by autism spectrum disorder has been achieved. Dzikowski pointed out that sensory integration therapy does not treat autism and is not able to eliminate developmental deficiencies without training the individual skills using another methods, but every child benefits from it. Indeed, it prepares for the next stages of therapy, enables more effective learning and better functioning in everyday life, which improves the child's integration processes, especially under the active and conscious parents' participation.

National Professional Development Center in Autism Spectrum Disorders (NPDC) mentions the physical exercises among the scientifically proven therapeutic techniques, whereas broadly understood physical activity, from passive to active exercises, from gross to fine motor skills, is the essence of sensory integration

therapy. After a few months, a well-conducted sensory integration therapy increases the child's physical fitness, and then improves emotional functioning, visual and auditory functions, active speech, concentration, calms down, and influences on improving achievements in kindergarten and school [5].

In the discussion on the role of scientific evidence indicating the effectiveness of therapeutic interventions aimed at supporting child development, it is worth to recall the voice of Jacek Kielin, the creator of the „Zone of Good Emotions“, long-term director of a therapeutic kindergarten, author of guides for parents and educators of children with intellectual disabilities.

Jacek Kielin cited a study conducted by Harvard University with a 75-year of follow-up, in which the answer was searched for to the question what makes people feel happy. The good relationships with other people was found the most important. Kielin concluded: „If you manage to bond with a person with autism, he or she will be healthier and happier, like everyone else.“

References

- [1] Patyk K, Borkowski G. Zasady tworzenia przyjaznego środowiska dla osób z autyzmem. In: Patyk K, Panasiuk M, eds. *Wsparcie młodzieży i dorosłych z zaburzeniami ze spektrum autyzmu*. Gdańsk: GWP; 2017.
- [2] *Świat zmysłów autystycznego dziecka*. Senso-Rex. <https://senso-rex.com/pl/integracja-sensoryczna-u-dzieci-autystycznych/>. Published May 15, 2017. Accessed May 15, 2017.
- [3] Charbicka M. Wykorzystanie metody integracji sensorycznej w terapii dzieci z autyzmem. *Terapia Specjalna Dzieci i Dorosłych*. 2018;1:19-23.
- [4] Delacato CH. *Dziwne, niepojęte. Autystyczne dziecko*. Warszawa: Fundacja Synapsis; 1996.
- [5] Różalska A. *Terapia Integracji Sensorycznej jako część szeroko rozumianej pomocy osobom autystycznym*. Based on: Stefan Dzikowski, Gdańsk; 1995. Dom Rain Mana <https://www.domrainmana.pl/terapia-integracji-sensorycznej-jako-czesc-szeroko-rozumianej-pomocy-osobom-autystycznym/>. Published 2008, updated November 8, 2017. Accessed November 8, 2017.
- [6] Ayres AJ. *Sensory integration and learning disorders*. Los Angeles: Western Psychological Services; 1972.
- [7] Ayres AJ. *Sensory integration and Praxis tests: SIPT manual*. Los Angeles: Western Psychological Services; 1989.

Metoda integracji sensorycznej w terapii dzieci z autyzmem

Abstrakt

Dzieci dotknięte autyzmem często mają trudności z rejestrowaniem i interpretowaniem informacji odbieranych przez zmysły. Powszechnie spotykane wśród nich nieadekwatne reagowanie na sygnały płynące ze świata zmysłów może wiązać się z ograniczonymi stereotypowymi zachowaniami i deficytami społecznymi, wpływającymi na ich relacje z innymi, edukację i codzienną aktywność. Dzieci z autyzmem mogą mieć zaburzoną percepcję sensoryczną i ujawniać nadwrażliwość na bodźce zewnętrzne, objawiającą się fascynacją lub lękiem, np. mogą odczuwać niepokój z powodu ciągłego cichego hałasu. Naukowcy od dziesięcioleci badają wpływ zaburzeń przetwarzania sensorycznego na poziom codziennego funkcjonowania dzieci z autyzmem. Teoria integracji sensorycznej w odniesieniu do tej populacji, ewoluowała na przestrzeni lat, oceniono niektóre strategie terapii zmysłów i zastosowano je jako wspomagającą metodę leczenia. Jednak czasami pojawiają się kontrowersje wokół tej koncepcji, zwłaszcza w prasie świeckiej. Dlatego wciąż potrzebna jest refleksja nad postępowaniem z dziećmi dotkniętymi zaburzeniami ze spektrum autyzmu w kontekście terapii integracji sensorycznej. W tej grupie docelowej szczególnie ważne jest podejmowanie interwencji mających na celu poprawę samoregulacji, odbierania informacji ze świata zmysłów i codziennego funkcjonowania.

Słowa kluczowe: autyzm, integracja sensoryczna, zaburzenia rozwojowe
