



HYPER TACTILE DYSFUNCTION IN CHILDREN WITH AUTISM

**Dr. Sheila
Christopher**

Dean of Research and Publication & Associate Professor in Rehabilitation Science
Holy Cross College (Autonomous), Tiruchirappalli – 620 002, Tamil Nadu, INDIA

ABSTRACT Autism is a lifelong developmental disability that affects how people perceive the world and interact with others. Autistic people see, hear and feel the world differently to other people. A Descriptive and Qualitative study on “Hyper Tactile Dysfunction in Children with Autism” was carried out to study the presence of Hyper Tactile Dysfunction in children with Autism in various tactile components. The Sensory Processing Disorder Checklist (hyper tactile dysfunction) by Kranowitz (1995) was used for the purpose of this study. Data was collected from 3 special schools by using direct observation, parental interview, interaction with special educators and care givers. Data was descriptively analyzed. Children with tactile dysfunction experience difficulty in eating, dressing, clothing, interpreting information, etc. Consequently, the child's primary problem (tactile dysfunction) limits many kinds of everyday skills include Tactile perception, Body awareness, Motor planning, Visual perception, Academic learning, Emotional security, Social skills, etc.

KEYWORDS : Autism, Sensory Processing, Sensory Dysfunction, Hyper Tactile Dysfunction

Autism was first identified in 1943 by Dr. Leo Kanner (1943) and is listed in the DSM IV (Diagnostic and Statistical Manual of Mental Disorders) as two of the five developmental disorders that fall under the autism spectrum disorders. The others are Rett Syndrome, PDD NOS (Pervasive Developmental Disorder), and Childhood Disintegrative Disorder. All of these disorders are characterized by varying degrees of impairment in communication skills and social abilities, and also by repetitive behaviors.

SENSORY DYSFUNCTION

Our senses give us information; we need to function in the world. Senses are directed by sense organs (or) sensory systems to the body. Traditionally we distinguish the following sensory systems, namely Vision, Hearing, Vestibular, Olfaction, Gustatory, Proprioceptive and Tactile. The root cause for Tactile Dysfunction is neurological disorganization in the midbrain region of the brain, which is largely responsible for filtering incoming stimuli, and, may not adequately screen out all extraneous tactile stimulation causing the child to perceive the input as extreme and uncomfortable. **Tactile System:** The tactile system includes nerves under the skin's surface that send information to the brain. This information includes light touch, pain, temperature, pressure and movement of the hairs on the skin. These play an important role in perceiving the environment as well as protective reactions for survival.

The **tactile defensive** individual who experiences this extreme sensory registration can have great distress in daily living. The child may be constantly aware of the clothes on his body to the point of distraction. He may be unable to concentrate on school work because his filtering system is not screening out the feel of the hard chair, the bumps on the pencil, the sharp edges of the paper, the air current blowing through the room, etc. This child may dread art projects that include finger-painting, glue and clay. An autistic child might want to dress from head to toe in soft sweat clothes, even in hot weather, as this prevents his skin from being exposed to tactile stimulation and decrease the sensory invasion of his nervous system. The slightest accidental bump from another person may feel like a threat and he may lash out in defense. It may appear that he is impulsive, hitting others, but no one understands that he is fighting against the perceived raid of his space as interpreted by his brain. He may dislike group games like tag or dodge ball, or holding hands with a partner can be agonizing. He may be afraid of the possibility of being touched by another child. He may want to stand apart from others to prevent being bumped and this prevents him from being able to interact with friends in a normal way. Children with tactile defensiveness (hypersensitivity to touch/tactile input) will avoid touching, become fearful of, or bothered by the following tactile experiences: textured materials/items, “messy” things, vibrating toys, hug, kiss, certain clothing textures, rough or bumpy bed sheets, seams on socks, tags on shirts, light touch, hands or face being dirty, shoes and/or sandals, wind blowing on bare skin, bare feet touching grass or sand.

Many parents report that their children with ASD have abnormal responses to being touched (e.g., being tickled) (Dunn, 2001; Kientz

and Dunn, 1997). Reynolds & Lane (2008) suggested that atypical responses to sensory stimulation are frequently reported to co-occur with diagnoses such as autism, ADHD, and Fragile-X syndrome. Within this small group, tactile over-responsivity was the most common and pervasive form of this condition. A study by Guclu et al. (2007) on “Tactile sensitivity of normal and autistic children” suggested that, many children with autistic spectrum disorders have unusual reactions to certain sensory stimuli. Some children overreact to weak sensory input, but others do not respond negatively to even strong stimuli. The hyper responsiveness to touch which is sometimes observed in autistic spectrum disorders, is not a perceptual sensory problem, but may probably be emotional in origin. Auer & Blumberg (2001) explained that children with sensory processing disorder may be over-sensitive, under-sensitive, craving sensations or some combination of all three.

METHOD

A Descriptive and Qualitative study on “Hyper Tactile Dysfunction in Children with Autism” was carried out to study the presence of Hyper Tactile Dysfunction in children with Autism in various tactile components. Simple random sampling was used by the researcher in the selection of sample. The sample comprised of 30 children with Autism in the age group of 5–15 years. A self-prepared schedule to collect the demographic data of child was used, which elicited responses such as name, age, sex, level of Autism, etc. The Sensory Processing Disorder Checklist (hyper tactile dysfunction) by Kranowitz (1995) has been used for the purpose of this study. Data was collected from 3 special schools by using direct observation, parental interview, interaction with special educators and care givers. Data was descriptively analyzed. A booklet on “Interventions for Tactile Dysfunction” was also prepared. This will help parents and professionals to follow simple practical intervention strategies and suggestions to decrease and cope with tactile dysfunction in children with Autism.

RESULTS AND DISCUSSION

Children who have tactile defensiveness are sensitive to touch sensations and can be easily overwhelmed by, and fearful of ordinary daily experiences and activities. Hyper tactility (Tactile defensiveness) is discussed under five factors - Touch, Proximity and Distance, Clothes, Grooming, Hands and Feet.

Touch

The phrase frequently used by children with Autism "Stop Touching Me!" was referred by Kristyn Crow (2007) in his Symptoms of Tactile Dysfunction. The researcher observed that children who are hyper sensitive to touch have tactile defensiveness, the tendency to react negatively (fight/flight response) and emotionally to unexpected light touch. When Prasanth was softly touched, he responded with, “Oh! No! Get away! Don't touch me!”. Most touch sensations are uncomfortable and children respond with panic. Few children with Autism will react not only to actual touch but also to the anticipation of being touched. Surya's tactile senses are so finely tuned that he is

acutely aware of things that a normal person would not. When he was approached to be touched, he withdrew immediately from the place very swiftly. Gillingham (1991) stated this extraordinary perception as "super ability" of autistic children.

Some children with autism typically avoid unexpected touch, pressure such as gentle kiss, hug, cuddle, and squeeze. A kiss is irritating and the child tries to rub it off. Barlow (2003) research focuses on "kiss cuddle, squeezes the experience and meaning of touch among parents of children with autism attending a touch therapy programme". His findings reflect that children with autism show restricted reaction for natural parental instincts such as cuddles, kisses. For touch and pressure, children with autism respond with vigorous resistance or hostility. Sometimes when an autistic child is touched by somebody, she immediately smells the place of touch and more often takes off her jacket or dress with this spoilt spot and refuses to wear it again unless it is washed. This is the ritualistic routine of Sarah who would not mind changing more than dozen dresses a day!

For some children, solitude is more soothing than a company of friends. Monica and Siddarth dislike group games like dodge ball or Merry-go-Round the Mulberry Bush, or even holding hands with a partner can be agonizing for them. They are also afraid of the possibility of being touched by another child. They always prefer to stand apart from others to prevent themselves from being bumped and this hinders them from being able to interact with friends in a normal way. The slightest accidental bump from another person may feel like a threat and they lash out in defence. It may appear that they are impulsive, hitting others, but no one understands that they are fighting against the perceived raid of their space as interpreted by their brain.

Proximity and Distance

Venkat shows flight response by wrestling his arms and kicks his feet. He screams at others when they come too close. In short he refuses proximity. Children may become fearful, avoid activities, withdraw, or act out as their body responds with a "fight-or-flight" response. It's all about the way in which one's nervous system interprets touch sensations and stimulation. It is natural for a child with autism to react with a "fight back" or "flee" response. Surprise touches, especially when approached from behind, can cause distress and the person may respond with a punch. The child who has these problems probably does not intend to be withholding or withdrawn, but this is the only way his nervous system can handle personal interactions. It was generally observed that fight responses to touch were predominantly seen in boys while flight or escape responses were seen more in girls.

Clothes

Few autistic children refuse to wear certain clothes as they can't tolerate the texture on their skin. Clothes such as belt, elastic pants, hat and shoes are too overwhelming to some children to withstand. Karen hates anything around her neck such as a blouse collar or jewelry. She must have the label tags cut out of every piece of clothing and is very concerned about the "feel" of fabric. Children who are very hyper sensitive to touch refuse to wear undergarments also. Aishwarya wears undergarments only during school time, but as soon as she comes home she wriggles out of her clothes and says "it hurts". People with autistic disorder and their carers report that they are intolerant of certain textures and find wearing certain materials aversive (Rogers et al. 2003; Willey 1999). Aishwarya may be constantly aware of the clothes on her body to the point of distraction. She may be unable to concentrate on school work because her filtering system is not screening out the feel of the hard chair, the bumps on the pencil, the sharp edges of the paper, the air current blowing through the room, etc.

Grooming

When a variety of tactile materials like pressure ball, yo-yo, firm brush, glue, stuffed animals, buttons, Velcro straps are arranged most of the children sit down in their respective places and slowly observe the objects on display. Raja however stands aside and waits until others are seated. Then he moves towards the balcony, he occupies himself with a repetitive behaviour. Raja refuses to touch the materials and he says "it's boring and paining, and therefore he does not like to touch". When unfortunately, he touches, he becomes distressed by seeing his "dirty" hands and keeps washing or wiping his hands frequently. He, like Nisha and Venkat hates to cut his nails, hair and brush his hair.

Hands and Feet

Children with autism refuse to play by using their hand. They are aversive to messy play that is playing with mud, sand, glue, glitter;

poster colours for art work make them very scary. Rekha won't touch anything sticky, slimy, or dirty with her hands. Many children with tactile defensiveness will only use their fingertips when playing with sand, glue, paint, play-doh, food, glitter etc. Consequently, their play is limited and so is their ability to engage in learning experiences.

"The tactile system plays a major part in determining physical, mental, and emotional human behavior" (Kranowitz 1998). This very important system gives us the information that is necessary for us to participate in everyday activities. Inefficient processing of tactile sensations is referred to as tactile dysfunction. Children with tactile dysfunction experience difficulty in eating, dressing, clothing, interpreting information, etc. Consequently, the child's primary problem (tactile dysfunction) is limited many kinds of everyday skills include Tactile perception, Body awareness, Motor planning, Visual perception, Academic learning, Emotional security, Social skills, etc. Because of these puzzling characteristics, many parents and professionals are still unaware of handling children with tactile defensiveness. A study of this kind surely helps them to understand and cope with the specific demands of these children and plan intervention strategies to suit their needs.

References

1. Auer CR, Blumberg SL (2001). Parenting a child with sensory processing disorder. *Journal of Abnormal Child Psychology*, 6(2):126-28.
2. Barlow J, Cullen L (2002). Increasing touch between parents and children with disabilities: preliminary results from a new programme. *Journal of Family Health Care*;12(1):7-9.
3. Dunn, (2001) The sensations of everyday life: empirical theoretical, and pragmatic considerations. *Am. J. Occup. Therapy*, 55 (2001), pp. 608-620
4. Kranowitz, C. S. & Miller, L. J. (1998). *The Out of Sync Child: Recognizing and coping with sensory processing dysfunction*. New York: Perigee.
5. Kientz, M.A. & W. Dunn (2007) A comparison of the performance of children with and without autism on the Sensory Profile. *Am. J. Occup. Therapy*, 51 (1997), pp. 530-537
6. Krakowiak, P., Goodlin-Jones, B., Hertz-Picciotto, Croen, L. A., & Hansen, R. L. (2008). Sleep problems in children with autism spectrum disorders, developmental delays, and typical development: A population based-study. *Journal of Sleep Research*, 17, 197-206.
7. Kanner, Leo. "Autistic Disturbances of Affective Contact." *Nervous Child: Journal of Psychopathology, Psychotherapy, Mental Hygiene, and Guidance of the Child* 2 (1943): 217-50.
8. Reynolds, S., & Lane, S. J. (2008). Diagnostic validity of sensory over-responsivity: A review of the literature and case reports. *Journal of Autism and Developmental Disorders*, 38, 516.
9. Rogers, S. J., Hepburn, S., Stackhouse, T., & Wehner, E. (2003). Imitation performance in toddlers with autism and those with other developmental disorders. *Journal of Child Psychology and Psychiatry*, 44, 763-781
10. Willey LH (1999). *Pretending to be Normal: Living with Asperger Syndrome*. London: Jessica Kingsley.