

Psychomotor Problems in Children: Early Detection of Sensory Disorders and Treatment

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Abstract

This article discusses psychomotor disorders in children, namely when developmental delays in terms of physical, emotional, social and slow communication skills. Disorders of child development can actually be detected from an early age, the development of gross motor skills, fine, cognitive, and language. As for the symptoms that occur when experiencing developmental disorders in children, the body and brain have difficulty processing and responding to sensory stimuli from the environment. Children with Sensory Processing Disorder (SPD) often overreact or overreact in response to touch, sound, or food texture. However, sensory disturbances in children can be reduced and even treated with appropriate therapy. Generally, therapy sessions will focus on ways to help the child engage in activities that they are not normally better at. It also helps them to get used to and accept things that they cannot tolerate.

Keywords: Psychomotor, Sensory Processing Disorder, Therapy

Introduction

Psychomotor Disorders in Children

Developmental delays occur when the child experiences slower physical, emotional, social and communication skills than expected. This condition causes the child to take longer to develop new skills than most other children. Children in the golden age of 0-5 years need to get the attention of their parents, especially when it comes to their growth. Do not be satisfied quickly if at this age the child grows well, usually measured from a normal weight and height. Rough and smooth motor development, speech development, cognitive, and social behavior also need to get equal attention. Children's developmental disorders can actually be detected early, referring to red flags. Both red flags the development of coarse, smooth motor, cognitive, and language.

Rough motor includes haven't been able to roll over five months; Cannot control the head age 6-7 months; Cannot sit upright on the floor 5-10 minutes at the age of 10-12 months; It has not been able to crawl or shrink and is pulled into a standing position at the age of 12-13 months; Have not walked alone or been spoken to at the age of 18-21 months.

Fine motor includes cannot hold the object placed in his hand at the age of 4-5 months; Hands remain clenched tightly until age 4-5 months; Unable to hold an object with one hand at the age of seven months; Cannot move small objects into the glass until the age of 6-7 months; Unable to build three cubes at the age of two; Keep inserting objects into the mouth accompanied by saliva secretions until the age of two years.

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Symptoms of Sensory Disorders in Children

Sensory Process Disorders is a condition where the body and brain have difficulty processing and responding to sensory stimuli from the environment (Miller et al., 2009; Schoen et al., 2009; Dunn, 1997). Some people with SPD are hypersensitive to loud noises or different textured foods, for example; or may be uneasy by the texture of clothing. There are also children who barely respond to external stimuli.

In general, basic human sensory consists of touch, hearing, smell, vision, tasting, proprioceptive (motion between joints) and vestibular (balance).

Sensory Feel

Input obtained from receptors in the skin that can be in the form of touch, pressure, temperature, pain and movement of feathers or hair (Zotterman, 1939). If sensory palsy is impaired it can be indicated by symptoms: (1) Don't want or don't like to be touched; (2) Avoiding crowds; (3) Dislike certain ingredients; (3) Doesn't like her hair combed; (4) Overreacting to small wounds; (5) Don't feel at home with all the dirty stuff.

Sensory Hearing

Input Obtained from sounds outside the body If sensory hearing loss can be indicated by symptoms: (1) Easily distracted to certain voices that for others can be ignored; (2) Afraid to hear the sound of water when flushing the toilet, the sound of vaccum cleaner, hair dryer, the sound of barking dogs and even the sound of clock seconds; (3) Crying or screaming excessively when you hear a sudden sound; (4) It's good to hear too loud noises; (5) Often speaks while screaming when there is a voice he does not like

Sensory Olfactory

Input obtained from the smell or smell that smelled, If sensory smell impaired can be shown with symptoms (Hannum et al., 2020; Hong et al., 2012) : (1) Overreaction to certain odors such as bathroom odors or hygiene kits; (2) Refusing to enter a neighborhood because it doesn't like the smell; (3) Didn't like the food just because of the smell; (4) Always smell stuff or people around it; (5) It's hard to tell the difference between smells.

Sensory Vision

Inputs obtained in the form of color, light and movement captured by the eye. If sensory vision is impaired it can be indicated by symptoms: (1) Crying or closing eyes because it is too bright because it is too sensitive to bright light; (2) Easily distracted by external vision stimulus; (3) Nice to play in the dark atmosphere; (4) Difficulty distinguishing color, shape and size; (5) Write up and down on paper without lines.

Sensory Tasting

Input is obtained from everything that goes into the mouth and tongue. If sensory tasting is impaired it can be indicated by symptoms: (1) Love to picky eater, refuse to try new foods so that they are happier with the food that's it; (2) Don't like or refuse to brush your teeth; (3) Likes to chew food because there are difficulties with chewing, sucking and swallowing; (4) Wheezing; (5) Often put things in the mouth.

Sensory Proprioceptive (Motion between Joints)

Input obtained in the form of muscle and joint movements, due to joint pressure or body movements (Proske & Gandevia, 2012; Stillman, 2002; Van Kan et al., 1993).

If sensory proprioceptive disorder can be indicated by symptoms: (1) Happy jumping activity; (2) Likes to crash or drop the body into a mattress or other person; (3) Frequent self-grazing feet or objects around; (4) Frequent teeth bluffing; (5) Pencil breaks while writing because it's too strong to apply pressure; (6) Seen doing everything with the power.

Sensory Vestibular (Balance)

Inputs obtained from the balance organs located in the middle ear or changes in gravity, motion experience and position in space. If sensory vestibular impairment can be indicated by symptoms: (1) Avoid swing toys, up and down stairs and slides; (2) Dislike or avoid taking escalators; (3) Fear of height; (4) Glad to be swinging until high; (4) It's nice to be thrown in the air.

Treatment provided in the form of sensory integration therapy (SI), namely organizing various sensory information in order to be utilized by the body. This therapy is one of the methods of occupational therapists. Activities in sensory integration therapy are: (1) Developing intellectual, social and emotional abilities; (2) Increase self-esteem; (3) Preparing your body and mind to be better prepared to learn; (4) Can interact positively with the surrounding environment.

Types of Psychomotor Disorders in Children

Cognitive Delay

Cognitive delay can affect intellectual function, impair consciousness and cause difficulties in learning. In addition, children also have difficulty communicating and playing with others. Cognitive delays can occur in children with brain injuries due to infections, such as meningitis, which can cause swelling in the brain known as encephalitis. In addition, down syndrome, can also increase the risk of cognitive delay.

Motor/Motion Delay

Delays in motor skills will interfere with the child's ability to control muscles in the arms, legs, and hands. Delays in motor development in infants are characterized by symptoms of difficulty rolling or crawling. While older children will find it difficult to do basic work such as holding small objects or brushing their teeth. Motor delays in children can be caused by achondroplasia, a genetic condition that causes shorter limbs that affect muscles, such as cerebral palsy or muscular dystrophy

Social, Emotional, and Behavioral Delays

Social, emotional, and behavioral delays are caused by brain differences in processing information, or reacting to the surrounding environment. As a result, the child's ability to learn, communicate, and interact with others will be impaired.

Speech Delay

Often children with developmental delays will experience receptive and expressive speech delays. Receptive language disorder is a condition in which a child has difficulty understanding the words spoken by others. Children become difficult in identifying colors, body parts, or shapes.

Meanwhile, other children also experience expressive language disorder characterized by a lack of vocabulary and complicated sentences for children their age. Children become slower in speaking, speaking, and making sentences.

This delay can occur due to physiological causes, such as brain damage, genetic syndrome, or hearing loss. In addition, speech delays can also be caused by environmental factors such as lack of stimulation.

Factors that Affect Children's Sensory Disorders

Sensory disorder or better known as Sensory Processing Disorder is a condition in which the brain has difficulty receiving and responding to information entering through the senses. This disorder usually occurs in children and looks like a developmental disorder of the autism spectrum disorder. Therefore, there needs to be Early Detection of Sensory Processing Disorder. Children with this disorder are more sensitive in sensing things that happen in their environment, such as the touch of rough shirt fabric and beach sand can already cause irritation to the skin, or hypersensitivity to light and sound. Genetic and environmental factors from prenatal to birth turned out to hold important influences. Poor prenatal conditions such as nutritional and emotional conditions of the mother are less optimal coupled with birth risk factors such as birth weight and prematurity, causing higher risk factors for the occurrence of this disorder.

Developmental delays can be caused by a variety of factors. As published in Raising Children, developmental delays can occur due to genetic conditions such as down syndrome or due to complications during pregnancy and childbirth, such as preterm birth. But in many cases, the cause of developmental delays is unknown.

Here are some of the things that are considered to be potential causes: (1) Children born to parents with autistic spectrum have a higher risk of sensory disorders; (2) Asperger's and autism are thought to increase the risk of sensory disorders in children; (3) Traumatic birth injuries in the upper neck and brain stem area. For example, falling during infancy or imperfect development due to the use of baby walkers, jumpers, or excessive car seats as a baby.

Efforts to Treat Sensory Disorders in Children

Sensory Disorders, commonly known as Sensory Processing Disorder (SPD), is a condition in which a child's sensory signals are not interpreted as an appropriate response. Children with SPDs often overreact or overreact in response to food touch, sound, or texture, however, sensory disorders in children can be reduced and even addressed with proper therapy. Generally, therapy sessions will focus on how to help the child to be able to do activities that they usually do not master better. It also helps them to get used to and accept things they can't tolerate.

Based on the results of the study, 5 - 16 percent of children in the United States suffer from SPD. Unfortunately, not all doctors understand SPD, because it is not included in the list of Diagnostic and Statistical Manual of Mental Disorders.

SPD is often found in children with autism, Attention Deficit Hyperactivity Disorder (ADHD) or other disorders. The American Academy of Pediatrics said in a 2012 policy statement, that it remains unclear whether children with sensory problems have different conditions, or whether they are symptoms of developmental and other behavioral disorders.

Children who experience sensory integration or sensory processing disorder will understand the environment in different ways, both hypersensitivity (very sensitive) and insensitive (hyposensitive).

Table 1. Effort to treat children based on their disorders

Disorder	Treatment
Sense of Taste	<ol style="list-style-type: none"> 1. Brushing the child's body with a special brush (can be done at home or therapy place). However, it is worth noting the difference in pressure when brushing for hypersensitivity children (feeling pain despite being touched normally) and hyposensitive (not feeling anything even if pinched or hit). 2. Wipe the body with a sponge moistened with warm water or cold water. 3. Massaging her body 4. Sleep on your back/perch on top of the gym ball 5. Play with jagged balls 6. Play playdough
Auditory Sense	<ol style="list-style-type: none"> 1. Do music therapy. For hypersensitivity children can be by listening to music soft to loud (low to high volume). For hyposensitive children with music therapy loud to soft (high to low volume) 2. Playing whispers
Sense of smell and taste	<ol style="list-style-type: none"> 1. Oral massage (tasting) 2. Oral brush (tasting) with textured brush according to its stages 3. Prevent children from sharp odors
Sense of vision	<ol style="list-style-type: none"> 1. Snoezelen therapy or multisensory stimulation therapy in the form of light movement 2. Combination with brain gym (focus and concentration of eye contact) 3. The room is given a distraction. For hypersensitivity children: from an empty room to a lot or a mess. For hyposensitive children: from a messy room to an empty one.
Proprioceptive Sense	<ol style="list-style-type: none"> 1. Brushing the child's body 2. Play with the gym ball 3. Learn to lift a chair 4. Pushing a seat or a weighted object 5. Crawling or creeping with a load on his back 6. Push the walls with your hands and feet in turns.

In addition, there is also in the treatment of children with special needs conducted speech therapy and sensory integration. Speech therapy is used to treat children with communication disorders it is often detected late speech. Therefore, speech therapy is required by practicing children's speech so that the child can communicate with the community. This therapy is to train children skilled in using encoding system in the form of the ability to use organs to talk, move arms and other bodies, and facial expressions. While in the knowledge of the child is expected to be able to understand about how to

pronounce the entire language correctly, evaluate his own speech based on visual observation, auditory, and kinesthetic. As for the expected attitude of the child to behave well towards others so that the child's emotions develop balanced. Sensory integration therapy is a neurological process that organizes sensory from a person's body and from the environment. This organization will allow the body to respond effectively to its environment. The therapy also integrates sensory information to be used through sensory (touch, consciousness, body movement, balance and gravity, tasting, vision and hearing), memory and knowledge. All of it is stored in the brain to produce a meaningful response.

Conclusion

Sensory Process Disorders is a condition where the body and brain have difficulty processing and responding to sensory stimuli from the environment. This can be seen from the symptoms shown such as not wanting to be touched, avoiding crowds, overreacting, fear of hearing loud noises, and crying because of the brightest. These types of disorders in children can be subjected to cognitive lag, motor delays as well as social and emotional delays. Therefore, it is necessary to handle in accordance with the disorders experienced by children in the form of self-therapy and routine therapy in hospitals, namely speech therapy and sensory integration.

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