



BACKGROUND

Hippotherapy, or ‘therapy with the help of a horse’ is derived from the Greek word “hippos” meaning horse (Granados & Agis, 2011). A horse’s movement provides a patient with proprioceptive and vestibular input (Palaestra, 2008). The awakening of these two systems allows one the ability to focus on a task and follow directions (Palaestra, 2008). With these systems awake and the child alert and focused, it allows a therapist the ample opportunity to introduce a child to various activities to enhance their engagement and functional independence. A therapist can allow a child to develop their tactile, vestibular, and proprioceptive senses during a hippotherapy session, all which provide a child with the foundation needed for their health (Granados & Agis, 2011). Normal developing children are born with an intact and complete sensory system that continues to develop throughout their lives (Fazlioglu & Baran, 2008). However, some children with developmental disabilities, such as autism, have an affected sensory system requiring the need of sensory integration interventions to improve modulations and regulation of mental, physical, and emotional behavior (Fazlioglu & Baran, 2008).

PROGRAM DETAILS

A sensory box program to enhance hippotherapy sessions will be administered by licensed occupational and speech therapists in a sanded arena with the use of 8, handmade sensory boxes, placed parallel on the walls. The sensory boxes are adjustable on the wall to allow all individuals to interact with them. The sensory boxes are each filled with a different texture such as soft and smooth (fur) to hard and rough (turf grass). The sensory boxes are to be used within each session, but which sensory boxes to be used will be up to the discretion of the therapist based on the needs of the child. The boxes are to be used in sessions while the child is on horseback to provide them with sensory input, awakening and alerting their senses and enhancing their ability to better adapt to them. This leads to increased functional and sensory development.

FOCUSED QUESTION

Does the use of sensory boxes in hippotherapy sessions improve a child’s level of independence in both functional and sensory needs?

IMPLEMENTATION

- Children will have been receiving hippotherapy services for at least 1.5 months without the implementation of sensory boxes in sessions.
- A short 5 question survey (as pictured below), focusing on the independence level of the child’s functional and sensory needs will be given to the family members/caregivers of the child before the use of the sensory boxes.
- Sensory boxes will be implemented in sessions for at least 1.5 months, or about 6 sessions.
- The same 5 question survey as given before the sensory box implementation, will be given after the use of the sensory boxes to track the impact on the child’s functional and sensory needs.

Survey on Hippotherapy

- In the last 1.5 months, how often has your child sought out sensory input? Sensory input meaning oral (putting things in/around mouth), vestibular (spinning, jumping, climbing), proprioceptive (crashing into walls, needing deep pressure), tactile (touching various items that are soft, hard, etc.), visual (fixating on item such as car wheels spinning), olfactory (smelling every item).
 - Everyday, if so about how many times _____?
 - 2-5 times a week
 - About 1 time a week
 - Occasionally or rarely
 - Never
- In the last 1.5 months, how often has your child avoided sensory input?
 - Everyday, if so about how many times _____?
 - 2-5 times a week
 - About 1 time a week
 - Occasionally or rarely
 - Never
- In the last 1.5 months, how often has your child had a tantrum/breakdown for a reason you could not understand or they could not articulate why?
 - Everyday, if so about how many times _____?
 - 2-5 times a week
 - About 1 time a week
 - Occasionally or rarely
 - Never
- In the last 1.5 months, how often has your child been able to tell you how they feel, angry, upset, tired, happy, etc.?
 - Everyday, if so about how many times _____?
 - 2-5 times a week
 - About 1 time a week
 - Occasionally or rarely
 - Never
- In the last 1.5 months, how would you rate your child’s independent level during functional tasks, grooming, dressing, bathing?
 - Totally dependent on caregiver
 - Requires about 75% of assistance from caregiver
 - Requires about 50% of assistance from caregiver
 - Requires about 25% of assistance from caregiver
 - Totally independent

PROJECTED RESULTS

According to the research that supports the positive outcomes of both hippotherapy and sensory integration, it is projected that combining the two therapy methods will lead to positive outcomes. By combining these two interventions together it is assumed based on the results of the individualized interventions, that a child should show increased independence in functional activities. This includes performing activities of daily living (ADLs) with decreased need of assistance from others.

It is also projected that children with both hyposensitive and hypersensitive sensory needs will be able to better regulate their sensory systems independently. The children will be able to articulate their sensory needs to help regulate their sensory systems independently; aiding in the increased independence in functional ability.



BOTTOM LINE FOR OT

Occupational therapists have a specific skill set developed through education and experience which allows them to work with children with a variety of developmental disabilities to enhance their sensory regulation.

Occupational therapists also have the knowledge to use tools and interventions accessible to them to enhance a treatment session. Using a horse in a hippotherapy session as an intervention method to awaken a child’s proprioceptive and vestibular systems with movement to elicit an arousal state while introducing sensory interventions will allow for enhanced sensory integration (Quest Therapeutic Services, 2020).

Enhanced sensory integration can allow a child to perform better mentally, physically, and emotionally to increase independence in functional tasks such as grooming, bathing, and dressing (Al-Shirawi & Al-zayer, 2018). Thus allowing a child to live a more independent life.

When a child is able to live more independently, despite a disability, it gives them a greater sense of accomplishment and freedom and enhances other areas of their lives such as social communication (Granados & Agis, 2011). It also decreases the burden of family and caregivers (Granados & Agis, 2011).

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