What are the effects of occupational therapy interventions based entirely on Sensory Integration (SI) theory on children that are diagnosed with Autism Spectrum Disorder (ASD)?

Sensory integration strategies are often used in fragments or parts during treatment for children diagnosed with Autism. Little research has been done on treatment sessions that are grounded in sensory integration with all therapeutic intervention falling under the theoretical framework of sensory integration.

1. Ask: Research Question
   In children that are diagnosed with ASD, what is the effect of true SI therapy compared with standard occupational performance therapy?

2a. Acquire: Search Terms
   Patient/Client group: Autistic Disorder; Child Developmental Disorders, pervasive
   Intervention: Occupational Therapy; Sensory Integration
   Comparison: Standard Occupational Therapy
   Outcome(s): Activities of Daily Living; Attention; Social Participation; Adaptation, Psychological; Play and Playthings; Personal Autonomy; Self Care; Interpersonal Relations

2b. Acquire: Selected Articles
   Case-Smith & Bryan (1999): A non-randomized, multiple baseline single subject, AB design. It examined the use of sensory integration techniques on non-mastery/mastery play, non-engaged behaviors, and adult and peer interaction.
   Linderman & Stewart (1999): Single case study, non-randomized, AB design. It examined therapy based on SI during in-home OT interventions to see if it would improve performance in client/family-identified goals.
   Pfeiffer et al. (2011): Randomized control study of 37 children from the ages of 6-12 diagnosed with Autism. A fine motor skills group was compared to an SI based group using the goal attainment scale.
   Watling & Dietz (2007): A one way repeated measures ABAB design. The study was done with children ages 3 to 4 years old comparing sensory integration with free play therapy.

3a. Appraise: Study Quality
   Case-Smith and Bryan (1999): Suggestive: The study was based on a small population.
   Linderman & Stewart (1999): Inconclusive: Interventions were not documented; validity was affected due to concurrent interventions, possible contamination, very small population.
   Pfeiffer et al. (2011): Suggestive: Intervention was effectively described and is easily replicated, but there are numerous flaws in the study design and no accounting for drop out.

3b. Appraise: Study Results
   The studies showed that SI based therapy brought about positive results in participation and a decrease in negative behaviors in children with Autism. Although there were improvements participation, what they could be attributed to was unclear because details about the activities used in practice that constituted SI were not mentioned in the majority of the articles. Therefore, there was no measure of the consistency of the SI therapy used across the studies. Although the studies demonstrated strong preliminary results, improved study designs and more detailed descriptions of the SI therapies are needed to make a concrete argument for the use of SI therapy as an effective treatment of ASD.

4. Apply: Conclusions for Practice
   If the therapist is educated in, and comfortable with, performing SI based therapy it is something that should explored if applicable to the child. However, without concrete evidence, it should not be the only therapy method used during intervention.

References

Reviewers: Aditi Brahmbhatt, Samruddhi Ghaisas, Yao Leung, Kristin Palmer, Priscilla Park, Maytal Shvartz, Jamie Wolf
Date completed: April 25, 2011

? Unclear: Further research is needed to determine if SI therapy is effective for improving behavior in children with Autism.