Intervention & Effectiveness Paper

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In the process of moving toward an evidence-based world, we all bear responsibility to ensure that we are generating evidence for practice (Forsyth et al., 2005). Occupational therapists rely on theories to guide practice. Sensory integration is a widely used theory to guide interventions and assessments to address deficits in sensory processing which can lead to difficulty engaging in meaningful occupations (Schaaf & Davies, 2010). I frequently use interventions based on the principles of Ayers Sensory Integration (ASI) and the Sensory Therapies and Research Frame of Reference (STAR). ASI is based on the theory that an individual’s sensory systems interact and engage with the environment while striving for an adaptive response (Kuhaneck et al., 2023). STAR theory is based on ASI and a theory of problem solving, family priorities, engagements & relationships as noted in “The Star Treatment Approach” (2024).

 Importantly, sensory integration techniques are widely used in the early intervention setting. An intervention based on sensory integration principles in the early intervention setting occurs after a comprehensive evaluation is completed. The Infant & Toddler Sensory Profile-2 and the Sensory Processing Measure are two assessment tools commonly used to determine sensory deficits and the impact of those deficits on the child’s daily activities. An early intervention session for a child who is a proprioceptive and vestibular seeker would involve activities such as jumping on a trampoline, brushing and joint compressions (which is more recently called the Deep Pressure and Proprioceptive Technique), swinging in a sensory pod swing, and wrapping the child’s body in a yoga mat for deep pressure. Environmental supports such as the use of a visual schedule may be used to ease transitions and help the child stay on task. The occupational therapist would work on engagement, interacting with the child, and modeling language during pretend play activities such as filling up a toy grocery cart with pretend food. The OT allows the child to lead selection of activities. After several minutes of active sensory motor play, the child works on using tongs to retrieve toys from a sensory bin filled with pinto beans to address sensory and fine motor concerns. At the end of the session, the child assists with OT with putting away the activities for additional proprioceptive input.

 The sensory intervention would address goals or outcomes written on the child’s Individualized Family Service Plan (IFSP) addressing attention to task, interaction with others, fine motor accuracy, and using utensils. The proprioceptive activities such as brushing and joint compressions, jumping on a trampoline, and being wrapped in a yoga mat all help to improve body awareness, attention to task, and engagement. Swinging in a sensory pod swing in a calm, linear fashion helps to regulate the child’s nervous system and improves attention span and engagement. Using tongs to retrieve toys from a sensory bin works on fine motor coordination which will improve accuracy with using utensils at mealtime.

 Outcomes in the early intervention setting are measured by goals written on the IFSP, using standardized assessment tools to determine progress, observations from parents and therapists documented on intervention notes, during collaboration with various disciplines during team meetings, and when the Child Outcome Summary Form (COSF) is administered. The COSF is a rating scale that measures the child’s progress when entering the program, at each annual eligibility meeting, and upon exit from the program. I feel that these measures help to ensure that the services are relevant and meaningful to families. The COSF is an important outcomes measure in the early intervention setting because it is a qualitative scale and yields information that helps secure federal funding based on the principles of improving participation, enhancing functioning in all areas of development.

 As an occupational therapist practicing in the early intervention setting, constraints from the job such as daily travel to various counties, documentation and scheduling demands, lack of time to spend on conducting research in the field or even to conduct a lengthy systematic review of a pertinent topic. In order for me to justify the effectiveness of sensory based interventions in this setting, I rely on current research and standardized assessments. Standardized assessments such as the Infant and Toddler Sensory Profile-2 provide a norm-referenced measure of progress for children in the early intervention population and have high rates of reliability and validity which justifies the use of sensory interventions in this setting. There is moderate to limited evidence in the literature on Ayers sensory integration (ASI) or sensory integration strategies (Schoen et al., 2018). However, Ayers Sensory Integration (ASI) is described in the literature as meeting the criteria for evidence-based practice in children 4-12 years old (Schoen et al., 2018). While the early intervention program serves children under 3 years of age, and not in the 4-12 age range described in the systematic review, anecdotally many children respond well and benefit from the sensory integration strategies. Sensory activities can improve engagement but there is limited evidence of its use in this population. I feel that level 3A research such as systematic reviews of case control studies or 3B research such as individual retrospective case control studies or cohort studies are sufficient to support the use of sensory strategies in this setting. Cohort studies track individuals over times and provide information about effectiveness and real-world applications (American Occupational Therapy Association, 2024). Case control studies may be prone to bias, but they provide useful data and compare outcomes of individuals with sensory processing issues after intervention to individuals without sensory processing issues (Passarello et al., 2022).

In summary, evidence-based practice is important to guide occupational therapy practitioners in selecting interventions and improve patient outcomes. Sensory integrative interventions are evidence based because they are derived from research studies measuring the effectiveness of sensory interventions, continuing education workshops which are based on research, and supported by norm-referenced standardized assessments with high inter-rater reliability and construct validity. While there is limited research on sensory integration strategies, I feel that level 3A-3B research is adequate to support the use of sensory strategies in this setting.

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