An Interprofessional, Tailored Behavioral Intervention for Sleep Problems in Autism: Use of Sensory Data to Inform Intervention

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An Interprofessional, Tailored Behavioral Intervention for Sleep Problems in Autism: Use of Sensory Data to Inform Intervention

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Background
Prevalence of ASD has increased to 1 in 68 children (CDC, 2014). Chronic severe insomnia (sleep disturbance) is one of the most common co-occurring conditions in children with ASD (60-80%) (Liu et al., 2006; Souders et al., 2009; Wiggs & Store, 2004).

Causes are multi-factorial including behavioral, biological and cultural mechanisms (Kotagal & Broomall, 2012; Malow & McGrow, 2008). Parents report that both sensory sensitivities (to the environment) and anxiety may be contributing factors (Souders et al., 2009).

Occupational therapists can address these factors and help improve sleep quality by implementing sensory and environmental strategies.

Purpose
The purpose of this poster is to demonstrate how Sensory Profile data informed occupational therapy sleep interventions for two participants as part of an Interprofessional Tailored Behavioral Intervention study.

Methods
Comparative Effectiveness Design
Eligibility Criteria:
- Autism Dx (ADOS)
- Insomnia (CSHQ, Articrapy)
- Ages: 6-10

Case 1: Male, 9 years-old
Pre Intervention Sleep Behavior
- Sleeps with parents
- Increased sleep latency (28 minutes to fall asleep)
- Wakes during night/restless (477 sleep minutes; 117 wake minutes)
- Wakes at 5am

Sensory Profile Subscales
- Oral Sensory Processing: 
  - Sensory processing related to endurance/pace
- Vestibular Processing: 
  - Sensitivity; Distracted around high levels of noise
- Touch Processing: 
  - Sensitivity to tooth-brushing and some fabrics; Seeking behaviors for certain textures
- Multi-Sensory Processing: 
  - Attention difficulties; Unaware in busy environment; Hangs on people or objects
- Auditory Processing: 
  - Quiet sleep environment
- Visual Processing: 
  - Heavy blanket; Calming Module activities during hour before bed: Observing Your Breath, Yoga Poses for Insomnia, Progressive Muscle Relaxation

Specific behaviors noted from parent report on Sensory Profile
- Decrease stimuli in sleep environment (minimal toys)
- Decreased waking during night (511 sleep minutes)
- Decreased sleep latency (21 minutes)
- Sleeps in own room
- Early bedtime/early wake time

Other
- Use of visual schedule; Use of verbal cues
- Relaxation
- Parent education
- Use of visual schedule and behavioral intervention

Strategies used to improve sleep
- Use of visual schedule and calming strategies
- Calming activities
- Modulation of movement affecting activity level
- Modulation related to body position and movement
- Modulation related to body position and movement; Rigid rituals and routines; Use of visual schedule; Relaxation

Case 2: Male, 8 years-old
Pre Intervention Sleep Behavior
- Sleeps in own room with mom
- Increased sleep latency (47 minutes to fall asleep)
- Decreased waking during night (485 sleep minutes; 65 wake minutes)
- Wakes at 5-6am with dad

Sensory Profile Subscales
- Oral Sensory Processing: 
  - Smell; Non-food objects
- Vestibular Processing: 
  - Movement seeking behaviors
- Touch Processing: 
  - Attention difficulties; Unaware in busy environment; Hangs on people or objects
- Multi-Sensory Processing: 
  - Decrease stimuli in sleep environment (minimal toys)
- Auditory Processing: 
  - Sensitivity; Distracted around high levels of noise
- Visual Processing: 
  - Simple visual schedule; Use of verbal cues

Specific behaviors noted from parent report on Sensory Profile
- Decrease stimuli in sleep environment (minimal toys)
- Decreased waking during night (511 sleep minutes)
- Decreased sleep latency (21 minutes)
- Sleeps in own room
- Early bedtime/early wake time

Strategies used to improve sleep
- Use of visual schedule; Use of verbal cues
- Calming activities
- Modulation of movement affecting activity level
- Modulation related to body position and movement
- Modulation related to body position and movement; Rigid rituals and routines; Use of visual schedule; Relaxation

Case 1 Outcomes
- Later bedtime/earlier wake time
- Use of sensory data to modify intervention
- Decrease problems withvisual stimuli
- Decrease problems with auditory stimuli

Case 2 Outcomes
- Later bedtime/earlier wake time
- Use of sensory data to modify intervention
- Decrease problems with visual stimuli
- Decrease problems with auditory stimuli

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