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USING GROUPS TO IMPROVE KNOWLEDGE OF SENSORY PROCESSING AMONG TEACHERS AND PARENTS

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LEARNING OBJECTIVES

1) Discuss two curricula and delivery models related to parent/teacher training to improve understanding of sensory processing.
2) Recognize strengths of using group approaches to parent/teacher training to improve understanding of sensory processing.
3) Identify ways to measure improvement in parent/teacher knowledge of sensory processing.
5 BACKGROUND

- Increased acceptance and awareness of SPD in typical and atypical children (ASD)
- Increased demand for services, resources, and intensive interventions
- Gaps in the literature related to parent/teacher training related to SP, SPD and intervention approaches.
  - Existing research
    - Condition specific
    - Behavioral management
    - Delivery e.g. face to face, group, multimedia

6 DELIVERY

- Group based (with children)*
  - Pro's
  - Con's
- Group based (without children)*
  - Pro's
  - Con's

- Face to face as a part of routine intervention (traditional)
  - Pro's
  - Con's
- Multimedia
  - Pro's
  - Con's
7  GENERAL INSTRUCTIONAL PROCESS

Targeted Learner  Focused Objectives  Content  Delivery Method  Frequency of Delivery  Instructional Interventions (activities)  Evaluation
• Formative  • Summative  • Pre/post

8  CURRICULUM

• Overview of the subtypes
• Symptoms
• Discriminating between behavior and sensory processing related behavior
• Discussion topics for clarification and reflection with parents and/or teachers
• Intervention via sensory diet activities or A SECRET Reasoning approach
• Homework, follow up/feedback, and reflection
• Assessment/outcomes
## NOSOLOGY OF SENSORY PROCESSING

<table>
<thead>
<tr>
<th>Sensory Processing Disorder</th>
<th>Sensory Overresponsivity</th>
<th>Sensory Underresponsivity</th>
<th>Sensory Seeking/Craving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensory Modulation Disorder</td>
<td>Sensory Based Motor Disorder</td>
<td>Dyspraxia</td>
<td>Postural Disorders</td>
</tr>
<tr>
<td>Sensory Discrimination Disorder</td>
<td>Visual</td>
<td>Auditory</td>
<td>Tactile</td>
</tr>
</tbody>
</table>

## DISCUSSION OF SYMPTOMS

- Provide examples that highlight symptoms
  - Direct observation
  - Video (preferred)
  - Participant examples
11 DISCUSSION

• In between topics insert
  • Review video examples
  • Provide discussion cues (questions, follow up prompts, etc.)
  • Allow for learners to ask additional questions or reflect upon their interpretation of materials, their child’s behavior, etc.

12 INTERVENTION

• Determine intervention approach to teach based upon learners needs and characteristics
  • Sensory diet activity protocols – learners who need more procedures and schedules to follow in order to be successful
  • A SECRET - for learners who are responsive in reasoning in a way similar to that of a therapist.
13 SENSORY DIETS

- Sensory Diets
  - Just as food is nourishment for the body, sensory input is nourishment for the brain. A sensory diet provides nourishment for the brain for children with Sensory Processing disorders (Case-Smith, 1996).
  - Aim is to provide the optimal combination of sensations at the appropriate intensities for an individual child.
  - Structured delivery and planning supports child and caregiver.
  - For most typically developing children, the sensory diet does not require conscious monitoring by caregivers. The environment continuously feeds the child in a variety of nourishing sensations in the flow of everyday life.

14 SENSORY DIETS

- Assumptions
  - The sensory diet is comprised of:
    - tactile
    - vestibular
    - proprioceptive
    - oral
    - Auditory
    - Visual
    - Olfactory/gustatory
  - nourishment for the child unable to attain this input through self direction.
  - The effects of sensation on overall organization can change and no one type of sensory input is always calming and organizing or always arousing. Much of it is dependent on the overall arousal level of the child at the time the activity is initiated (Williamson & Anzalone, 2002).
15 SENSORY DIETS

• Formal Sensory Diet Programs
  • Include varying levels of active involvement to sensory stimulation to cognitive strategies for active, independent self regulation.
    • SticKids – Muscles, Motion n’ Touch - http://www.stickids.com/
    • Zone ‘n’ - http://www.zoneinproducts.com/
    • Zones of Regulation - http://www.zonesofregulation.com/index.html

16 ECOLOGICAL MODEL OF SENSORY MODULATION

• Sensory Modulation Disorder = physiological/behavioral deficits
• External Dimension’s
  • Culture, environment, relationships, and task
• Internal Dimension’s
  • Sensation, emotion, and attention
• Each internal dimension interacts with each external dimension
17. A SECRET (BAILER & MILLER, 2011; MILLER, 2014)

- Attention
- Sensation
- Emotional Regulation
- Culture/Context/Current Conditions
- Relationships
- Environment
- Tasks

Individual Characteristics (internal influences)

Contextual elements (external influences)

18. ISU Sensory Processing Parent/Caregiver Education Group Topic Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Sensory Processing/Sensory Processing Difficulties</td>
</tr>
<tr>
<td>Week 2</td>
<td>Proprioception/Tactile (touch) Sensory Processing</td>
</tr>
<tr>
<td>Week 3</td>
<td>Vestibular (movement) Sensory Processing</td>
</tr>
<tr>
<td>Week 4</td>
<td>Olfactory/Gustatory (smell/taste) Sensory Processing, Auditory (sound) Sensory Processing, Visual (sight) Sensory Processing</td>
</tr>
<tr>
<td>Week 5</td>
<td>Sensory Seeking or Craving/Intervention Principles</td>
</tr>
<tr>
<td>Week 6</td>
<td>Sensory Diets/ A SECRET</td>
</tr>
</tbody>
</table>
Methods: The Sensory Processing Learning Tool

- Modified version from Gee & Nwora, 2011
- Total of 10 Likert scale type questions.
- Aligned with the sensory channels and SPD subtypes.

20 METHODS: SENSORY PROCESSING KNOWLEDGE ASSESSMENT

- Total of 15 questions
- Aligned with instructional objectives
- Two distractors for each stem
- Symptoms and intervention strategies
21 METHODS: CAREGIVER SELF EFFICACY WITH SENSORY RELATED BEHAVIOR IN ASD

- Modified from Hastings (2009)
- Measuring parenting competency in caregivers of children with ASD.
- 5 Likert scale type questions.
- Inserted the term “sensory” in front of the existing behavior terminology

22 1) Does a caregiver education group increase the knowledge of sensory processing topics in caregivers of children with an Autism Spectrum Disorder?
### RESULTS: PERCEIVED KNOWLEDGE

<table>
<thead>
<tr>
<th>Statistical Test</th>
<th>Z</th>
<th>Asymp. Sig (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensory Processing</td>
<td>-2.414</td>
<td>0.016*</td>
</tr>
<tr>
<td>Vestibular Sensory Processing</td>
<td>-2.379</td>
<td>0.017*</td>
</tr>
<tr>
<td>Tactile Sensory Processing</td>
<td>-2.214</td>
<td>0.016*</td>
</tr>
<tr>
<td>Auditory Sensory Processing</td>
<td>-2.53</td>
<td>0.011*</td>
</tr>
<tr>
<td>Proprioception</td>
<td>-2.384</td>
<td>0.017*</td>
</tr>
<tr>
<td>Visual Sensory Processing</td>
<td>-2.214</td>
<td>0.016*</td>
</tr>
<tr>
<td>A SECRET</td>
<td>-2.379</td>
<td>0.017*</td>
</tr>
<tr>
<td>Sensory Over Responsiveness</td>
<td>-2.388</td>
<td>0.017*</td>
</tr>
<tr>
<td>Sensory Under Responsiveness</td>
<td>-2.375</td>
<td>0.018*</td>
</tr>
<tr>
<td>Sensory Seeking/Craving</td>
<td>-2.388</td>
<td>0.017*</td>
</tr>
</tbody>
</table>

*p value = .05, due to small sample size Bonferroni correction was not applied.
(*) denotes statistical significance

### RESULTS: ACTUAL KNOWLEDGE

<table>
<thead>
<tr>
<th>Pre Post Knowledge Assessment of Sensory Processing</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paired t-test</td>
<td>-4.255</td>
<td>7</td>
<td>.004*</td>
</tr>
</tbody>
</table>

*p value = .05, due to small sample size Bonferroni correction was not applied.
(*) denotes statistical significance
25) **Does a caregiver education group increase their self-perceived caregiving competency?**

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26) **RESULTS: CAREGIVING COMPETENCY**

<table>
<thead>
<tr>
<th>Caregiver Self Efficacy with Sensory Related Behavior in ASD</th>
<th>Wilcoxon Sign Ranks Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question</td>
<td>Z</td>
</tr>
<tr>
<td>How confident are you in dealing with the challenging sensory related behaviours of the child/children with autism you care for?</td>
<td>-2.124</td>
</tr>
<tr>
<td>How difficult do you personally find it to deal with the challenging sensory related behaviours of the child/children with autism you care for?</td>
<td>-2.214</td>
</tr>
<tr>
<td>To what extent do you feel that the way you deal with the challenging sensory related behaviours of the child/children with autism you care for has a positive effect?</td>
<td>-1.59</td>
</tr>
<tr>
<td>How satisfied are you with the way in which you deal with the challenging sensory related behaviours of the child/children with autism you care for?</td>
<td>-2.132</td>
</tr>
<tr>
<td>To what extent do you feel in control of the challenging sensory related behaviours of the child/children with autism you care for?</td>
<td>-2.226</td>
</tr>
</tbody>
</table>

p value = .05, due to small sample size Bonferroni correction was not applied.

(*) denotes statistical significance

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CONTINUED
27  CLINICAL IMPLICATIONS

Clinical implications for this study include the following:

• Increased emphasis of caregiver education within occupational therapy services.
• Increased confidence to implement intervention strategies.
• Implementation in the home may lead to improved therapeutic outcomes.
• Improved caregiver therapist collaboration.

28  REFERENCES


QUESTIONS?

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