Sensory Profile of Young Children with Behavioral Insomnia and Feeding Disorders*

*Sensory profile in infants and toddlers with behavioral insomnia and/or feeding disorders. Sleep Medicine. 2017.

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The impact of BI & FD disorders

- Behavioral Insomnia (BI)
  - Difficulty falling asleep and/or staying asleep
  - 10-30%

- Feeding Disorder (FD)
  - Problematic eating and feeding behaviors
  - 25%

Problematic interactions

As OT’s our main goal is to improve ADL
A common mediator might play a substantial role in these two common conditions

Sensory Profile
Aim & Hypothesis

- **Aim:** to investigate the sensory profile of children with [FD] and children with [BI] in comparison with healthy controls.

- **Hypothesis:** sensory processing difficulties are more common in children with sleep and/or feeding disorders compared with children without such difficulties.
Methods

3 groups of children (7-36 months old):-

- **BI**
  - International Classification of Sleep Disorders (ICSD)

- **FD**
  - Chatoor criteria

- **Controls**
  - Attended the well-care clinics in the metropolitan of TA area for routine periodic medical examinations

**Excluded:**
- Children with chronic medical conditions, Congenital abnormalities / Developmental delays

**Process:** The parents received 2 questionnaires to fill in:
- ✔ Demographic and socioeconomic status
- ✔ Infant/Toddler Sensory Profile (ITSP)
## Results

### Characteristics of study groups and Controls (n=85)

<table>
<thead>
<tr>
<th>Socio-Economic &amp; Demographic Variable</th>
<th>Behavioral Insomnia (n=25)</th>
<th>Feeding Disorders (n=28)</th>
<th>Controls (n=32)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>1.18 ± 0.55</td>
<td>1.31 ± 0.66</td>
<td>1.45 ± 0.74</td>
<td>0.32</td>
</tr>
<tr>
<td>Gender</td>
<td>68</td>
<td>71</td>
<td>47</td>
<td>0.11</td>
</tr>
<tr>
<td>Maternal age (years)</td>
<td>34.7 ± 4.6</td>
<td>33.3 ± 4.6</td>
<td>34.3 ± 4.3</td>
<td>0.53</td>
</tr>
<tr>
<td>Paternal age (years)</td>
<td>37.6 ± 5.5</td>
<td>37.3 ± 7.1</td>
<td>36.6 ± 4.5</td>
<td>0.81</td>
</tr>
<tr>
<td>Maternal education (years)</td>
<td>16.2 ± 3.0</td>
<td>14.6 ± 2.7</td>
<td>16 ± 2.4</td>
<td>0.08</td>
</tr>
<tr>
<td>Paternal education (years)</td>
<td>15.7 ± 2.9</td>
<td>14.8 ± 2.7</td>
<td>16.2 ± 3.2</td>
<td>0.21</td>
</tr>
<tr>
<td>Gestational age (weeks)</td>
<td>38.4 ± 1.8</td>
<td>39.5 ± 1.3</td>
<td>38.7 ± 2.2</td>
<td>0.08</td>
</tr>
<tr>
<td>Birth weight (kg)</td>
<td>3.10 ± 0.51</td>
<td>3.17 ± 0.43</td>
<td>3.15 ± 0.43</td>
<td>0.86</td>
</tr>
<tr>
<td>Number of children</td>
<td>1.76 ± 0.83</td>
<td>2.04 ± 1.26</td>
<td>1.58 ± 0.67</td>
<td>0.19</td>
</tr>
<tr>
<td>Birth order</td>
<td>1.88 ± 0.97</td>
<td>1.75 ± 0.92</td>
<td>1.53 ± 0.76</td>
<td>0.32</td>
</tr>
</tbody>
</table>
Differences between study groups and Control

- Oral Processing score \((p=0.0002)\)
  - Low Sensory Threshold \((p=0.001)\) includes Sensation Avoiding

- Auditory Processing score \((p=0.028)\)
  - Low Sensory Threshold \((p=0.001)\) includes Sensory Avoiding & Sensory Sensitivity
  - Low Sensory Registration \((p=0.027)\)

BI

FD

Difference between study groups: Oral Processing \((p=0.0002)\)
Conclusions

- Young children with either FD or BI were reported to show significantly more sensory difficulties compared with controls (low sensory threshold).

- These differences may partially explain the coexistence of the two disorders and might be the cause of their development.

- Relation between Oral processing and FD at self-explanatory
- Relation between Oral processing and BI is more complicated (sucking behavior?)
- Relation between Auditory processing and FD:
  * Noise could distract
  * Reactivity to noise easier to notice in the young age
  * May reflect the general sensory processing
Limitations & Recommendations

Limitations

- Small study groups
- “Subjective” questionnaires, w/o direct OT clinical evaluation
- Lack of information about parental anxiety

Recommendations

- Parental sensory questionnaire are of great value as a possible target for intervention (in both sleep and feeding disorders)
- Direct OT examination with objective tools
- Expand investigate on these relations