Occupational Therapy based on Ayres Sensory Integration (ASI®) in the Treatment of Retentive Fecal Incontinence

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This case report depicting the Data Driven Decision Making Process was carried out during my participation in the Advanced Practice Certificate in Neuroscience at Thomas Jefferson University.

Data Driven Decision Making

- Systematic, **EXPLICIT** method to guide therapists reasoning
- Focuses on enabling participation – Occupational Therapy’s expertise – and measuring outcomes
- Provides a means to validate practice

Data Driven Intervention Process

(Schaaf, 2014)

Identify Participation Challenges
Describe current level
Choose Theory
Conduct Assessments
Use assessment data to create hypothesis
Describe Intervention
Systematic Replicable
Identify outcomes
Measure outcomes
Display outcomes


Based on work by Sugari, McEwen (2009), Blanche (2006) and conversation with Benevides, Kelly, Hunt, Faller, Freedman, vanHooydonk (2010)
Case Report

This case report focused on a child having difficulty participating in school and leisure outings due to retentive fecal incontinence.

WHAT IS RETENTIVE FECAL INCONTINENCE?

- Fecal incontinence associated with chronic constipation.
- Stool withholding behavior is one of the most common causes (Tabbers, Boluyt, Berger, & Benninga, 2011).

The Client:
3.7 yrs boy with RFI and stool withholding behavior.

- Did not respond to conventional medical management.
- Prior to toilet training no history of constipation.
- At initial OT consultation, defecation sporadic and involuntary and almost always occurred in his clothing during school hours.
- Affecting his and his families participation in social activities.

Participation challenges

- Other children stayed away because of the smell.
- Soiling often occurred at school. M was brought to the bathroom to wait for his mother.
- His parents limited their participation in social outings. Having to plan ahead for possible soiling accidents and having to explain to friends and family M’s toileting issues progressively became a deterrent to participate as a family in social outings.
Assessment

- Refused to use the potty to defecate.
- To urinate; tensed position, little hip flexion, bearing weight on his arms.
- Sometimes hides in a corner of room to defecate in his clothing although a potty has been set up there.
- Withholds stool: can be 2-3 days without a bowel movement. Gastroenterologist ruled out primary GI problems.

Assessment

M’s attitude towards using the potty lead me to consider tactile issues. Mother had also spoken about M being selective to food textures:

➤ **Sensory Profile: tactile score → 62**  
(over-responsivity to tactile input)

Parents and gastroenterologist were worried about overall defecation frequency as well as appropriate potty/toilet use.

➤ **Defecation Log:** (baseline month)  
Total → 16; Potty → 4; Clothing → 12
Hypothesis generation

Over-responsivity to tactile sensations makes it difficult for M to tolerate:

a) contact with the potty
b) feeling the passage of feces in a squatted position

Hypothesis generation

Soiling in clothing is due to:

a) avoidance of sitting on the potty
b) rectal overflow
Measuring Outcomes

• Changes in scores in the tactile subscale of the SP:
  – pre-treatment, 2 weeks post-treatment, 3 month follow-up.

• Changes in monthly defecation frequency:
  – Measured by analyzing the information provided by the parents and school personnel in the daily logs.

• Family participation in social activities/Child’s social participation:
  – Parent report.

Outcomes that are significant to the child and his family

• Increase overall defecation frequency
• Increase frequency of defecation in potty/toilet
• Decrease frequency of defecation in clothing
Intervention:
A 3-pronged OT intervention was developed to address M’s issues.

- **Re-contextualization** of M’s bowel problems.
- **ASI®** : Active, individually tailored sensory motor activities designed to decrease M’s sensory sensitivities that were affecting his toileting behaviors.
- **Direct work in the bathroom** with M to increase acceptance of sitting on the potty.
• Behavior problems in other types of self-care activities such as dressing or feeding have been hypothesized to be related to SOR. (Cermak, Curtin, & Bandini, 2010; Chatoor, 2002; Dunn, 2007; Hazen et al., 2008; Nadon, Ehrmann-Feldman, Dunn, & Gisel, 2011; Schaaf et al., 2010)

• Sensory based approaches such as body massage and positive touch experiences between parents and children have been associated with improved bowel function. (Barlow & Cullen, 2002; Silva, Cignolini, Warren, Budden, & Skowron-Gooch, 2007).
Proximal Outcome: tactile subscale SP

Distal Outcome: defecation frequency
Distal Outcome: Social Participation

- Playing actively in the park with other children.
- Started to toilet independently at school and at home.
- Using public restrooms and learning to wipe himself.
- As a result, the family indicated that they are now able to attend social gatherings and include M in activities with other children.

Discussion and Interpretation

- Sensory integration theory was used to address the underlying issues affecting this child’s ability to acquire age appropriate toileting habits.
Dr. Ayres’s statements concerning over-responsivity to tactile input and its effects on behavior are illustrated:

- Treatment based primarily on influencing basic neurophysiological integration…, and secondarily on intellectual processes will be the most effective approach (Ayres, 1963, p. 225).

Implications for occupational therapy

- Occupational therapists with post professional training in ASI® should be considered as part of the interdisciplinary teams who treat children with RFI and stool withholding behavior in order to correctly diagnose and treat underlying sensory difficulties that can be at the root of the behaviors typical of children with RFI.