Applying Research to Enhance Interventions for Self-Injurious Behavior

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Order of Presentation
- Definition
- Incidence/prevalence of SIB
- A practical view of etiology
- Functional analysis/assessment
- Medical and medication-based interventions
- Behavioral interventions
- Questions & discussion

Definition

- As used in this talk, SIB refers to behaviors displayed by people who have intellectual disabilities
- Repetitive acts by individuals directed to their own body, which result in physical harm or tissue damage.*


Self-Injurious Behavior Trauma Scale (SIT) - Iwata, et. al., 1990

Topographical Classification

Cyclicity
Cyclicity – Implications for Data Collection

Cluster Analysis – (Rojahn, 1986)

<table>
<thead>
<tr>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body to head hits</td>
<td>Ruminating</td>
<td>Stuffing objects in body</td>
</tr>
<tr>
<td>Body to body hits</td>
<td>Bruxism</td>
<td>Pica</td>
</tr>
<tr>
<td>Object to head hits</td>
<td>Inserting fingers in body</td>
<td></td>
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<tr>
<td>Object to body hits</td>
<td>Polydipsia</td>
<td>Aerophagia</td>
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<tr>
<td>Pinching</td>
<td>Aerophagia</td>
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<tr>
<td>Biting</td>
<td></td>
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<tr>
<td>Scratching</td>
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<tr>
<td>Hair Pulling</td>
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Topography & Function

Topography & Medication

Classification by Function

Subtypes of Function
Prevalence of SIB – Vocabulary Primer

- Incidence – number of new cases identified per unit of time.
- Prevalence – the proportion of cases that exist in a population.
- Point-prevalence – the proportion of cases that exist at a specific time.
- Period-prevalence – the proportion of cases that exist over a period.

Prevalence Variables

SIB and Level of Functioning
**Caseload Age Distribution**

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-17</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>18-29</td>
<td>23</td>
<td>21</td>
</tr>
<tr>
<td>30-44</td>
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<td>45-59</td>
<td>33</td>
<td>28</td>
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<tr>
<td>60-73</td>
<td>32</td>
<td>11</td>
</tr>
</tbody>
</table>

**Caseload Levels of Functioning**

- 50% Mild ID
- 15% Moderate ID
- 19% Severe ID
- 15% Profound ID

**Caseload Dual Diagnoses – ID/MI**

**Caseload Prevalence of SIB**

- 25% (33 vs. 13 predicted)
- Period-prevalence counting method
- Includes suicidality as SIB
- Uncommon forms of SIB: throwing self in from of motor vehicles, removing surgically implanted catheters, refusing all nutrients, burning self, paraplegic shaving genital area, using bare hands to collect venomous bugs

**Caseload Prevalence of SIB**

**A Practical View of Etiology**

There are at least as many theories of the etiology of SIB as there are disciplines of psychology. We will focus on those in which the independent variables are observable in natural settings.
Historical Trauma

Dual Diagnosis (ID/MI) & SIB

Genetics & SIB

Value Altering Operations

REINFORCER POTENCY

Establishing operation

Neutrality

Abolishing operation

Establishing Operations for SIB

Positive  Negative

Menstrual discomfort
Otitis media
Bereavement
UTI's

Establishing Operations for SIB

Sleep disturbance
Medication-based Interventions

“The research suggests mixed results of pharmacotherapy for self-injurious behavior compared to more consistent results of pharmacotherapy for aggressive behavior and stereotyped behavior. (Rojahn, et.al, 2008)”

Selective Effects of Medication

Effects of Commonly Prescribed Medications

Functional Analysis/Assessment

Functional Analysis Conditions

Functional Assessment Instruments
Behavioral Recording - ABC

Behavioral Recording - Scatterplots

Behavioral Recording – Conditional Probability Analysis

Example: Conditional Probability Analysis

Behavioral Interventions - DRO

- Perhaps the most widely used type of reinforcement schedule in our field.
- Generally of the form – if a specific targeted problem behavior does not occur within a defined interval, reinforcement occurs when the interval ends.

DRO Interval Determination
DRA and DRI

Teaching Competing Behavior

Noncontingent Reinforcement

DNR Schedules

SIB and Automatic Reinforcement

Risk Management

- The law and SIB
- Standard of practice
- Case acceptance
- Case assessment
- Intervention methods
- Consumer safeguards
DOJ and Woodbridge Developmental Center (2004)

Behavior Programs
- Woodbridge's behavior programs are ineffective and substantially depart from generally accepted professional standards. Standards provide that behavior programs should be: 1) based on adequate functional standards; 2) implemented as written; and 3) monitored and evaluated adequately.
- Many behavior functional assessments were unchanged over periods of many years. In all but one of the 24 cases reviewed, no evidence was found that the functional assessment had been revised or updated based on a lack of progress.
- Woodbridge staff routinely fails to properly implement the formal written behavior programs for residents. On-site review by DOJ revealed that few, if any, staff know how to implement programs properly. Staff interviews revealed significant errors in recall of basic and essential elements of behavior programs.
- Failure to implement behavior programs is largely caused by Woodbridge's failure to train staff adequately. Interviews showed that staff received some classroom training but virtually all admitted that they were not asked to demonstrate competency or understanding on how to implement the behavior programs.

DOJ and Bellefontaine Habilitation Center (2007)

Behavior Programs
- Inadequate behavioral supports
- Inadequate functional assessments - Prior to the initiation of psychological treatment, generally accepted professional standards mandate that facilities such as Bellefontaine conduct an adequate functional analysis. The functional analyses at Bellefontaine substantially depart from accepted professional standards and thus pose a significant threat to the integrity of the entire behavioral treatment program.
- Poor program implementation, monitoring, and follow-up
- Poor staff training
- Inadequate plan revision - We observed a resident who had gauze on his hands because of sores created by self-injurious behavior. The resident had a behavior plan for self-injurious behavior, that was unfortunately last updated in 2003. The plan was obviously not working.

Standards of Practice AABT Task Force (1982)

Multimodal Functional Treatment

Case Acceptance - BACB

Case Acceptance - APA