Sensory Modulation

The impact and outcomes in an Adult Acute inpatient mental health unit

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Objectives of presentation

- To present
  - The research process and methods used
  - Results of the analysis of the patient files as documented by nurses
  - Patients views on usefulness, impact and recommendations for use of sensory modulation therapy
Sensory Modulation

- Defined as the capacity to regulate and organise the degree, intensity, and nature of responses to sensory input in a graded and adaptive manner (McIntosh, Miller, Shyu & Hageman, 1999)
- Sensory Modulation has the ability to calm or alert the individual through the use of different objects.
SENSORY MODULATION USES NINE SENSES

EXTERNAL SENSES

- VISUAL (colour changing light ball, pictures, spinning tops)
- AUDITORY (music)
- GUSTATORY (chuppa chups)
- OLFACTORY (scented hand creams and body washes, essential oils)
- TACTILE (showers, heat packs, soft blankets, stress balls)

Sensory input from the external senses affects nervous system only while the person is engaged with the activity. It does not last long after the sensory input ceases (Wilbarger, 1995; Williams & Shellenberger, 1996).
INTERNAL SENSES

- VESTIBULAR (balance – mandalas, Swiss ball)
- PROPRIOCEPTIVE (muscle, joints – balls, chair exercises)
- DEEP PRESSURE TOUCH (weighted blank and vest, massage).
- ORAL MOTOR (chuppa chops, pop top drinks)

The internal senses provide the strongest powerhouse of lasting influence on regulation of the sensory responses. Internal sense calm, organise as well as alert.

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Research Process
Objectives of the research project

- To identify the range of situations in which sensory modulation can be effectively used in an acute mental health setting.

- To explore experiences of patients who had received sensory modulation therapy.
Stages of the project

- Ethics approval gained 8th August 2012
- Staff education sessions (August 2012)
- File audits (September 2012 – March 2013)
- Patient Interviews (September 2012 – March 2013)
- Staff questionnaire (March 2013)
Data gathering methods

- Semi-structured individual interviews with patients
- Staff questionnaire
- Audit of patient files to identify where sensory modulation was used.
Data analysis methods

Qualitative
- Identification of themes from file audits and patient interviews.

Quantitative
- Frequencies of psychiatric diagnosis, sensory objects used, time and effect.
File Audits
For 67 patients there were 157 entries of sensory modulation therapy recorded in the clinical file.

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>% Entries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia and other psychotic disorders</td>
<td>57.3</td>
</tr>
<tr>
<td>Bipolar Affective Disorder</td>
<td>24.8</td>
</tr>
<tr>
<td>Depression</td>
<td>8.3</td>
</tr>
<tr>
<td>Adjustment Disorder</td>
<td>3.8</td>
</tr>
<tr>
<td>Dysthymia</td>
<td>2.5</td>
</tr>
<tr>
<td>Situational Crisis</td>
<td>1.3</td>
</tr>
<tr>
<td>PTSD + Cannabis Dependence</td>
<td>0.64</td>
</tr>
<tr>
<td>Borderline Personality Disorder</td>
<td>0.64</td>
</tr>
<tr>
<td>Delusional Disorder</td>
<td>0.64</td>
</tr>
</tbody>
</table>

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Uses identified through thematic analysis of file audits

<table>
<thead>
<tr>
<th>Categories</th>
<th>Subgroups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulate Emotions</td>
<td>Anxiety, Irritable, Labile, Distress, Fear, Feeling Flat, &amp; Frustration</td>
</tr>
<tr>
<td>Induce Relaxation</td>
<td></td>
</tr>
<tr>
<td>Self - Initiated</td>
<td></td>
</tr>
<tr>
<td>Manage Difficult Thoughts</td>
<td>Thought Form &amp; Thought Content</td>
</tr>
<tr>
<td>Reduce Self Harm</td>
<td></td>
</tr>
<tr>
<td>Offered &amp; Not Used</td>
<td></td>
</tr>
<tr>
<td>Provide Comfort</td>
<td></td>
</tr>
<tr>
<td>Reduce Unwanted Physical Sensations</td>
<td>Physical, e.g. pain, breathing, &amp; Sedated</td>
</tr>
<tr>
<td>Boredom</td>
<td></td>
</tr>
<tr>
<td>Reduce Unwanted Behaviour</td>
<td>Agitation, Restless, Unable to settle for bed, Inappropriate behaviours, To keep active</td>
</tr>
</tbody>
</table>
Frequency of uses for sensory modulation
Emotions

Anxiety 54.2%
Distress 20.3%
Irritable 6.8%
Labile 3.4%
Fear 3.4%
Frustration 8.5%
Feeling Flat 1.7%
Difficult emotions 1.7%

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Diagnoses of entries where anxiety was identified as the reason for use.
Anxiety: Objects Used

- Lavender Pot
- TV
- Newspaper
- Scented Face Wash
- Weighted Blanket
- Pop Tops
- Soft Toy
- Optic Fibre Lamp
- Lip Gloss
- Music
- Massage
- Warm Shower
- Basketball/Soccer Ball/Football
- Gym Ball
- Weighted Vest
- Soft Blanket
- Stress Ball
- Vibrating Pillow
- Writing/Drawing/Colouring
- Lollipop
Behaviours

- Agitation: 55.6%
- Restless: 22.2%
- Unable to Settle for Bed: 2.8%
- Inappropriate Behaviours: 2.8%
- To Keep Active: 16.7%

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Diagnoses of entries where agitation was identified as the reason for use

- Mania (Bipolar Affective Disorder & Acute Psychotic Episode) 55%
- Bipolar Affective Disorder 10%
- Depression (Bipolar Affective Disorder & Major Depression) 10%
- Schizoaffective Disorder 10%
- Psychosis (Relapse Psychotic Symptoms & Drug Induced Psychosis) 15%
- Adjustment Disorder 5%

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Agitation: Objects Used

- Warm Shower
- Pillow Massager
- Weighted Vest
- Gym Ball
- Weighted Blanket
- Lollipop
- Drawing/Colouring/Painting
- Soft Blanket
- Music
- TV
- Stress Ball
- Football/Soccer Ball/Basketball
Diagnoses of entries where therapy was self-initiated by patients

- Mania (Bipolar Affective Disorder & Acute Psychotic Episode) 44.4%
- Schizophrenia 11.1%
- Schizoaffective Disorder 22.2%
- Adjustment Disorder 11.1%
- Severe Depression 11.1%
Requested/Self – initiated: Objects Used

- Soft Blanket
- Scented Oils & Massage
- Hacky Sack
- Body Wash
- Lollipop
- Puzzles
- Weighted Vest
Comparison of time engaged in therapy for anxiety, agitation & self-initiated

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Comparison of recorded effects for anxiety, agitation & self-initiated

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Offered & Not Used

- Patient unable to
- Patient rejected
Reasons patients were unable to participate

- Decrease in concentration
- Disorganised behaviour
- Patient refusing S.M therapy. Too unwell to contemplate, any discussion only exacerbates/agitates patient.
Patient Interviews
Interview Questions

1. How did you feel before using the sensory modulation equipment?
2. Did you notice any change in how you felt after using the sensory modulation equipment?
3. If yes, what?
4. Think about a time you used sensory modulation equipment. Describe the situation. How did you feel? What object did you use? What was the effect?
5. What suggestions do you have about how sensory modulation therapy could be improved?
Q.1 Patient’s reasons for using sensory modulation

Patient reasons for using sensory modulation

- Emotion: 50%
- Physical sensations: 16.7%
- Activity: 16.7%
- Boredom: 5.6%
- Unclear: 11.1%
Emotions

- Anxious: 33.3%
- Tense: 22.2%
- Angry & Upset: 11.1%
- Feeling Low: 11.1%
- Unhappy: 11.1%
- Sad: 11.1%

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Q. 2 Did you notice an effect after using sensory modulation therapy?

Yes:

1. Especially after listening to music in my room
2. Heart rate steadies
3. Breathing becomes easier
4. Legs become stronger
5. You become more mindful and trustful
6. Start to believe in yourself
7. It helped relax, calm, helps get to sleep
8. Got frustrated with bubbles, wouldn’t blow properly – expending all this breath

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Q.3 Patient reported effects of sensory modulation therapy

- Reminder of past experience/feelings
- Decrease in anxiousness
- Time out
- Content
- No difference
- Frustrated
- Increase in self belief
- Increase in mindfulness & trustfulness
- Freedom
- Feels good
- Takes the Edge off
- Attention/Focus
- Physical Difference
- Relaxed/Calming
Q.4 Objects patients reported using

- Scented face cloths
- Guided imagery
- Bubbles
- Eggshell Mattress
- Walking
- Gardening
- Chair exercises
- Body Wash
- Soccer ball / Basketball / Football
- Relaxation techniques
- Therapy program
- Pop Tops
- Lollipop
- Jelly Ball
- Bocce
- Drawing / Colouring / Painting
- Board games / Puzzles
- Soap
- Weighted blanket
- Self Massager
- Music
- Stress ball
- Gym Ball
### Q.4 Object specific effects

<table>
<thead>
<tr>
<th>Object</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lollipops</td>
<td>The sucking motion helps with the feelings of having a heart attack. The flavour has to be right though.</td>
</tr>
<tr>
<td>Water bottle (pop tops)</td>
<td>They just help, the sucking motion helps with the feelings of having a heart attack</td>
</tr>
<tr>
<td>Chewing Gum</td>
<td>Didn’t work, it was too sweet.</td>
</tr>
<tr>
<td>Weighted Blanket</td>
<td>Calming, just the weight of it.</td>
</tr>
<tr>
<td>Drawing/Colouring/Painting</td>
<td>Feel happier within self.</td>
</tr>
<tr>
<td>Gym Ball</td>
<td>Use them round the table. Can be a fun activity when patients get a bit tight, releases the intensity of it.</td>
</tr>
<tr>
<td></td>
<td>Sat on one and felt out of place</td>
</tr>
<tr>
<td></td>
<td>When feeling anxious rock on gym ball, helps reduce anxiety</td>
</tr>
<tr>
<td></td>
<td>Legs shaking, needed distraction, rocking on gym ball makes them feel better</td>
</tr>
<tr>
<td>Weighted Vest</td>
<td>Felt too heavy, was oppressive.</td>
</tr>
<tr>
<td></td>
<td>Stress management and improves self esteem</td>
</tr>
<tr>
<td>Guided Imagery</td>
<td>Think of candles and calm</td>
</tr>
</tbody>
</table>

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Q.4 Object specific effects cont.

<table>
<thead>
<tr>
<th>Object</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bocce</td>
<td>Play about once a day, more focused.</td>
</tr>
<tr>
<td>Soap</td>
<td>The sense of smell creates happy thoughts.</td>
</tr>
<tr>
<td>Gardening/weeding</td>
<td>Wanted to be stimulated allowed me to be creatively destructive</td>
</tr>
<tr>
<td>Walking</td>
<td>Is good for my back, good to keep fit</td>
</tr>
<tr>
<td>Eggshell Mattress</td>
<td>Is good for my back, allows me to sleep easier</td>
</tr>
<tr>
<td>Foot Massager</td>
<td>Was really good for stimulating feet</td>
</tr>
<tr>
<td>Massager</td>
<td>Picked it up and thought it might relieve pain. Takes mind off pain.</td>
</tr>
<tr>
<td>Scented Face Cloth</td>
<td>Guess it is relaxing and calming</td>
</tr>
<tr>
<td>Word games/cross words</td>
<td>Mentally stimulating</td>
</tr>
<tr>
<td>Blowing bubbles</td>
<td>Conscious need to breathe. Deeper breaths open up chest cavity, airways and nose</td>
</tr>
<tr>
<td>Relaxation Techniques</td>
<td>Really Relaxing, relaxes all muscles</td>
</tr>
<tr>
<td>Music</td>
<td>Listen to music through Ipod for relaxation. Can bring me out of a particular mood. Depending on the artist can bring to a positive place or a ‘downer’ bad place.</td>
</tr>
</tbody>
</table>
Q.5 Patient feedback about sensory modulation therapy

- Increase Sensory Modulation options
- Feedback on therapy delivery
- Get More equipment
- Therapy benefits
- Present all information/objects to patients
- Staff quality in delivery of therapy
- Staff Feedback
- Off topic

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Staff Questionnaire
Staff use of sensory modulation therapy

- Less than monthly
- Once a fortnight
- 1-2 times a week
- At least daily

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Staff confidence in identifying patients that require sensory modulation therapy

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Staff skill in identifying patients that require sensory modulation therapy
Items staff reported using

- Hacky sacks
- Massage
- Stress ball
- Pop tops
- Gym ball
- Scented shower gels/ hand creams
- Soft toy
- Drawing/ colouring/painting
- Weighted blanket
- Soccer ball/ Football/ Basketball
- Vibrating cushion
- Music
- Weighted vest
- Lollipops
- Soft blanket

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Reasons staff reported using sensory modulation therapy

- General ward after therapy
- Stressed
- Escalation in inappropriate behaviour
- Escalation in demands
- Bored
- Depressed patients
- In Psychiatric Intensive Care Unit
- Manic patients
- Restless
- Distressed
- Distraction from Nicotine cravings/ needing a cigarette
- Agitation
- Anxious
- Relaxation/Calming
How effective staff found sensory modulation therapy

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Staff reported reasons that have prevented the use of sensory modulation therapy

- A patient may have poor communication or is uncooperative with treatment.
- Acutely psychotic patient not engaging with interventions. Poor communication skills.
- Depends on their level of agitation/aggression.
- Didn’t think the patient needed it at the time.
- Time
- Patient not willing
- Patient thought it was a joke. Some patients think it has no real purpose.

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What would assist staff in using sensory modulation therapy?

- More Education
- Improved Written Resources
- More Time
- Improved Written Resources
- A Dedicated Area
- Object Availability
- Patient Cooperation
- More Clinical Opportunities as a Shift Manager
- More Equipment
- Less Paperwork
- More Clinical Opportunities as a Shift Manager
- More Education

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What further education would staff like?

- Discussions regarding which senses are useful for increase/decrease.
- Thinking outside the square for equipment to meet the patient’s need.
- Overall refresher and documentation of its use and overall effectiveness.
- Revision in all areas.
What further education would staff like?

- Documenting outcomes
- Ongoing revision
- The specific fields.
What improvements could be made to use of sensory modulation therapy in the AAU?

- Colour coded boxes for either different senses or different strategies.
- A more consistent and consolidated approach from all staff.
- Education – examples of use e.g. what to use for distress, anger, confusion
- Regular updates and training sessions.
- Utilise a pro forma document specific for sensory modulation separate from continuation notes.

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What improvements could be made to the use of sensory modulation in the AAU?

- Education – knowing which tools work best for what circumstances.
- Keeping equipment in stock.
- More age appropriate objects, maybe more musical instruments.
- More age appropriate objects. Some items feel patronising.
- Dedicated area
- Better environment for use
What improvements could be made to the use of sensory modulation in the AAU?

- Tick sheet for documentation – too lengthy to write up amongst everything else we have to write up.
- More items available
- An area or room designated to the use of sensory modulation.
- Monitoring of equipment – keep a diary of where equipment is being used.
- More education.

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Seclusion

In the 16 months prior to sensory modulation therapy being introduced to the AAU the number of seclusions was 149.

In the 16 months that sensory modulation therapy has been running in the AAU the number of seclusions was 78.
Conclusions

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Sensory modulation therapy can be used across a wide range of clinical populations (Schizophrenia, Bipolar Affective Disorder, Depression, Psychosis).

Sensory modulation therapy was most frequently used for reducing anxiety, agitation and distress.

Patients reported using the therapy for emotion regulation, disturbing physical sensations and to increase activity.

Most file records indicate a beneficial effect. This is confirmed by patient interviews where 95% said they noticed an effect after using the therapy.