

Sensory Modulation to improve Quality of Life and Participation for Adults with Anxiety



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BACKGROUND

Anxiety is a common mental health disorder that significantly impacts quality of life and participation in everyday occupations. Emerging evidence links high anxiety with sensory sensitivity. Sensory modulation is an intervention increasingly used by Occupational Therapists to target sensory sensitivity and the physiological arousal associated with anxiety. Sensory modulation approaches in mental health have developed out of sensory integration theory and focus on the regulation of sensory input to support a calm and/or alert state and enable adaptive functioning through self-management of arousal (Champagne, 2011).

AIM

To examine the effectiveness of a six week sensory modulation intervention for anxiety, occupational performance, participation and quality of life.

METHOD

- Mixed methods single subject case design- 4 participants aged 19-65
- Community mental health service users with a primary issue of anxiety
- 4 week baseline, 6 week intervention, 4 week follow up

MEASURES

- **Becks Anxiety Inventory (BAI)** measured weekly over the study. (Beck et.al., 1988)
- **World Health Organisation Quality of Life (WHOQOL)** and **Disability Assessment Scale (WHODAS)** – pre & post all phases, (World Health Organisation, 2004)
- **Numeric Rating Scale (NRS) of anxiety** – measured before and after using a sensory strategy during task performance - recorded in a diary
- **Canadian Occupational Performance Measure (COPM)** – start & end of the study (Law et.al, 2004)
- **Semi-structure Interviews** - captured the participants experiences of using sensory modulation **Sensory Profile** – used to identify issues and goals for intervention & in education (Brown and Dunn, 2002)

INTERVENTION

- Session 1.** Education related to arousal, the stress response and sensory modulation. Discussion of sensory profile findings.
- Session 2.** Exploration of sensory tools and identifying preferred strategies
- Session 3.** Goal setting and planning for application of sensory strategies in everyday contexts
- Session 4-6.** Participants supported to use sensory tools within a variety of environments in order to participate in identified occupational goals

STRENGTHS

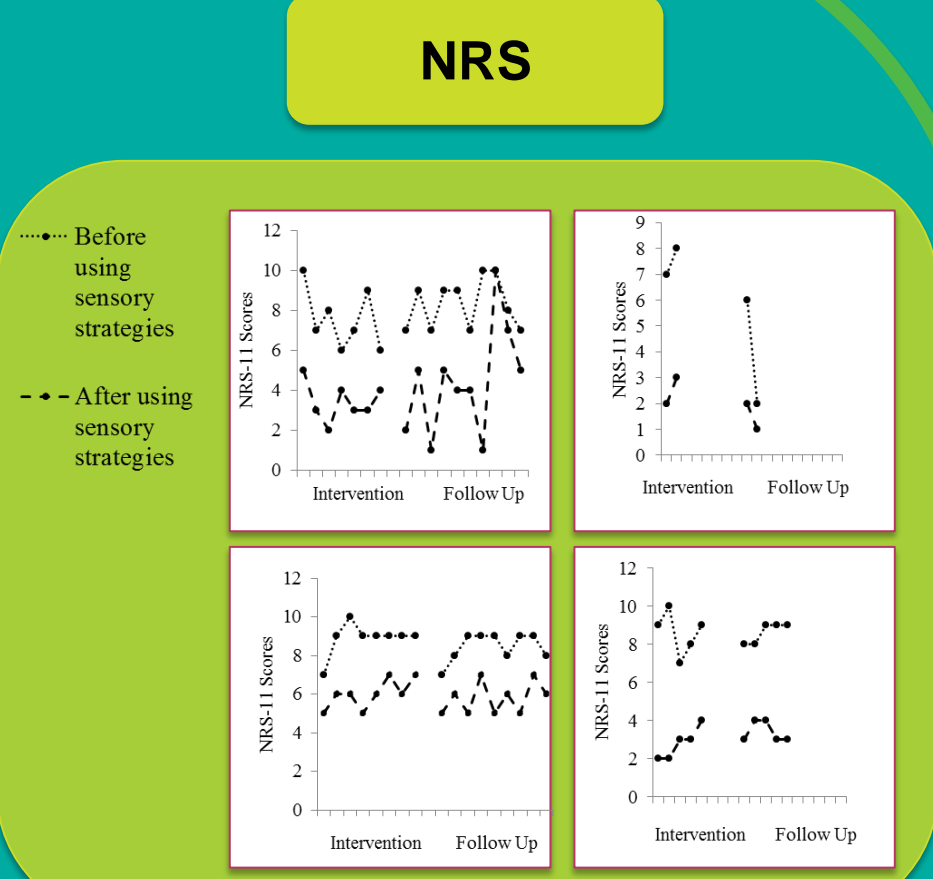
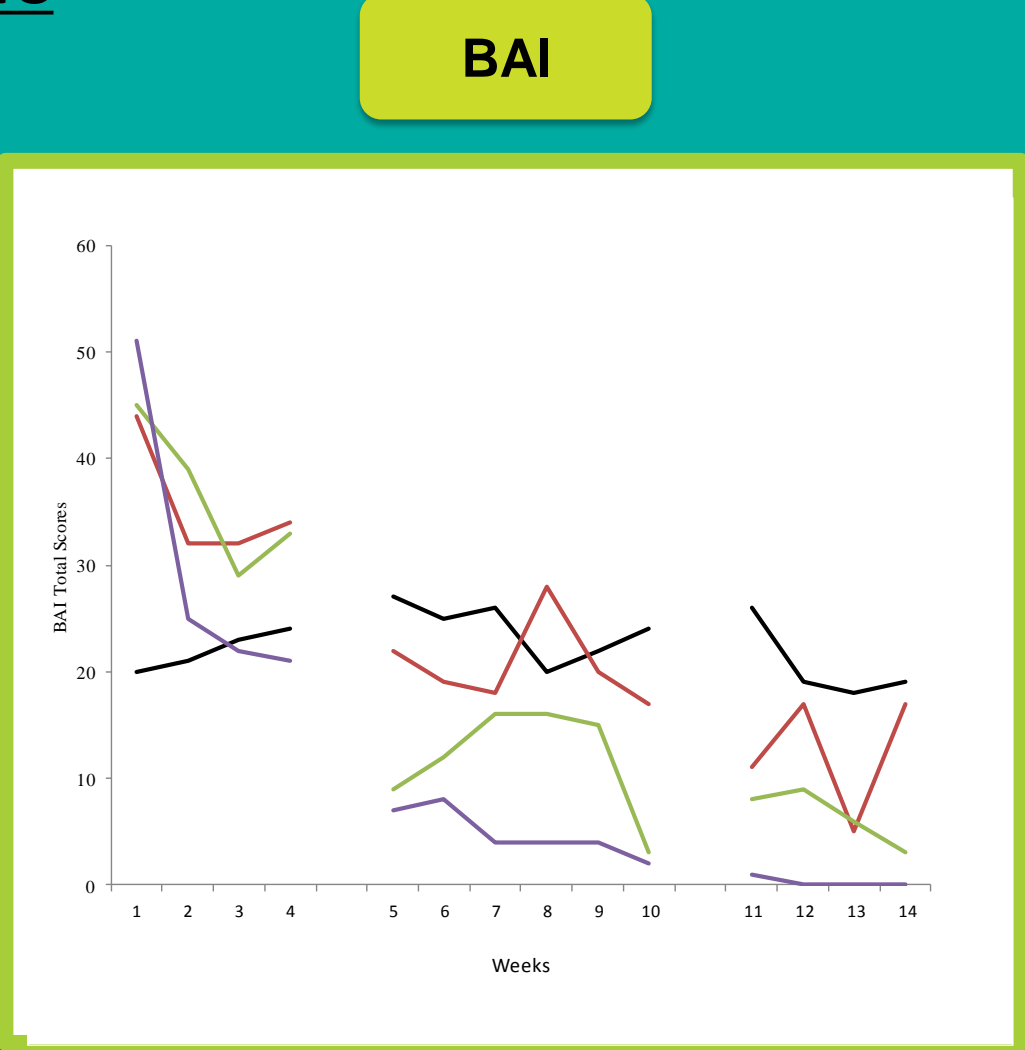
- Measurable outcomes of anxiety, quality of life and participation
- Incorporated participants with co-existing diagnoses to reflect the practice reality
- Multiple case studies enabled comparisons between the participants to add strength to the results
- Single-subject mixed methods design provided subjective and objective information regarding an intervention that has not been well studied
- Six week intervention protocol remained the same for all the participants yet personal differences and preferences were built into the protocol
- Use of diaries was an adherence enhancing strategy, which provided the participants with feedback about their ability to reduce and regulate their anxiety levels.

LIMITATIONS

- Short follow up phase and limited measurement points
- Intervention data was collapsed due to different length of phases, which may have affected the results
- Limited generalizability due to small number of cases

RESULTS

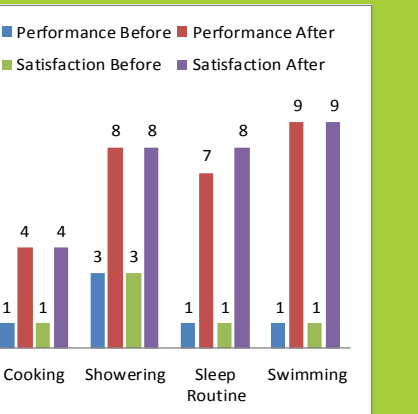
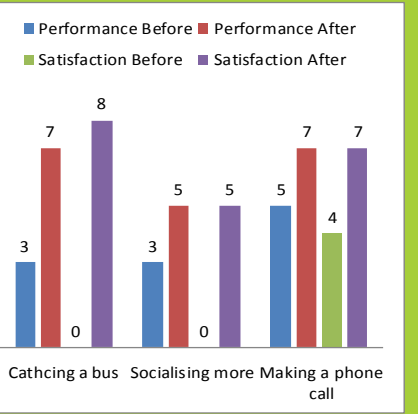
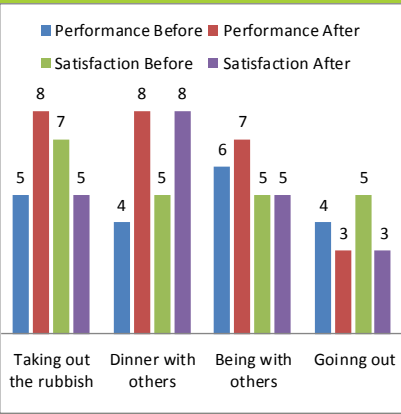
Three of the four participants showed a statistically significant reduction in anxiety scores across the 3 phases $P < .018$



All participants reduced their anxiety during task performance by using sensory strategies

COPM

Three of the four participants had improved performance and satisfaction scores on all identified occupational issues over the course of the study



WHODAS

Disability Assessment Scale Domains	
1. COMMUNICATING	All participants had less difficulty participating in the six domains (listed on the left) at the end of the intervention phase compared with the baseline
2. GETTING AROUND	
3. SELF CARE	
4. GETTING ALONG WITH PEOPLE	For one participant, the improvements in getting along with people and participating in society were not sustained to the end of the study
5. LIFE ACTIVITIES	
6. PARTICIPATING IN SOCIETY	

WHOQOL

Quality of Life Domains	
PHYSICAL HEALTH	Psychological health & environment improved across the duration of the study for all participants
PSYCHOLOGICAL HEALTH	
SOCIAL RELATIONSHIPS	Social relationships and physical health also improved for all participants, however by the end of the follow-up phase these improvements were not maintained by one participant
ENVIRONMENT	

QUALITATIVE DATA

Improved Functioning	Managing tasks better Meaningful occupations
Improved self -management	Feeling equipped to cope/empowered Managing environments better
Increased awareness	Having awareness Normalising Experiences

I used the grapefruit balm a few times; it helps to override smells I don't like on the bus. I'm not as powerless as I was before I have the ability to regulate and change how I feel. It is very satisfying and fulfilling to be able to help yourself.

Lately I haven't needed most of my tools, like my frozen flannel and yuckee ball. It was helpful at the beginning but now I don't need them as much because I've caught the bus a few times and it's not so hard now because I know I can do it.

See.... I feel relaxed when I'm doing my craftwork and I'll often reach for it now when I'm anxious because the repetitive movement, the texture and colours are all calming for me. Whereas before I wouldn't attempt to do it because I would be too stressed to even think that it may help me

By understanding myself more I can identify what's impacting on me and do the things that I know work to calm myself like reducing noise, or using Geoff (weighted dog). I feel more relaxed, less tired, so not always on edge, not always facing fear and anxiety and knowing that having some stress in the appropriate places it still healthy

CONCLUSION

- This study supports the use of sensory modulation for the management of anxiety and improved occupational functioning, quality of life and participation for people accessing community mental health services
- Provides preliminary evidence that sensory modulation is a cost effective intervention that builds resilience, self-regulation and could be easily accessed by service users
- Sensory profile scores align with other literature relating to high scores in sensory sensitivity and sensory avoiding for people with anxiety
- A variety of sensory tools were offered, however much of the preferred sensory tools were what participants already had in their own environments.

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