A Sensory-Based Program to Enhance Occupational Performance for Dementia

Heather August, OTS, Jacob Gantan, OTS, Ivy Torres, OTS, Naomi Wong, OTS
Faculty Advisor: Susan Morris, Ph.D., OTR/L
Dominican University of California, Department of Occupational Therapy

INTRODUCTION

- Dementia is a crippling disease that causes behavioral and psychological symptoms that impair a person’s ability to engage in activities that bring meaning into their lives (Pendleton & Schultz-Krohn, 2013).
- The dementia population is expected to triple to over 16 million by 2050 (Prince, Guerchet, Prina, 2013).
- Sensory-Based Programs, including drumming groups, provide sensory stimulation to individuals with dementia to facilitate occupational performance (Chung, 2006; Champagne, 2003).

STATEMENT OF PURPOSE

Purpose: The purpose of this study is to examine whether participation in a sensory-based program affects behavior and engagement in ADLs for individuals with dementia.

Research Question: Does participation in a drumming group have a positive impact on functional performance among individuals with dementia when engaging in self-feeding?

RESEARCH METHODOLOGY

- Pre-test Post-test Quantitative Research Design
- Participants (n=8) were observed over two days: Baseline and Drumming day
- All participants fall within Allen Cognitive Levels 3-4
- Outcome measures, completed by the researchers, include mood (VAS), agitation (ABS), behavior (FBP), and functional activity of self-feeding (SFQ).

Drumming Group Observation (Drumming Day)
- Participants engaged in a drumming group for 30 minutes led by a drumming instructor.
  - Rhythmic beating while introducing names
  - Singing songs while beating drum

Lunch Observation (Baseline and Drumming Day)
- Participants were observed while self-feeding during lunch for 40 minutes.

RESULTS

- A paired t-test was conducted to compare mood, agitation, functional behavior, and self-feeding skills before and after participation in a drumming group. There was a positive improvement in mood before (M=3.75, SD=1.282) and after (M=5.63, SD=0.744) the participation in the drumming group.
- A positive trend of improvement was noted in the ABS, FBP, and SFQ after participation in the drumming group, but they did not reach significance.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline Mean (SD)</th>
<th>Drumming Mean (SD)</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAS*</td>
<td>3.75 (1.28)</td>
<td>5.63 (0.74)</td>
<td>-4.71</td>
<td>0.002</td>
</tr>
<tr>
<td>ABS**</td>
<td>1.09 (0.15)</td>
<td>1.01 (0.03)</td>
<td>NS</td>
<td>0.164</td>
</tr>
<tr>
<td>FBP*</td>
<td>2.92 (1.15)</td>
<td>3.03 (1.24)</td>
<td>NS</td>
<td>0.43</td>
</tr>
<tr>
<td>SFQ*</td>
<td>2.26 (0.82)</td>
<td>2.73 (1.29)</td>
<td>NS</td>
<td>0.41</td>
</tr>
</tbody>
</table>

**Drumming mean score decrease = improvement
*Drumming mean score increase = improvement

DISCUSSION AND CONCLUSION

- Participants became more engaged and were responsive to direct cues throughout the course of the drumming group.
- No change was seen in function or agitation in a self-feeding session following the drumming group.
- The lack of effect on self-feeding function and agitation and behavior may have been due to the delayed time between the end of the drumming group and lunch delivery.

IMPLICATIONS FOR PRACTICE

- This pilot study suggests that participating in a drumming group improves mood and engagement during the group.
- A suggestion for future studies would be to measure arousal or engagement as an outcome during participation in a drumming group.
- Providing sensory-based interventions may be a viable non-pharmacological intervention for the dementia population. Additional research is needed.

ACKNOWLEDGEMENTS

We would like to thank Ensign Cloverdale Healthcare Center, Gina Tucker-Roghi, OTD, OTR/L, our participants, and our faculty advisor, Susan Morris, Ph.D., OTR/L for participating and supporting us in this study. We would also like to thank our families for supporting us through our academic journey.

REFERENCES