Using Sound Therapy To Ease Agitation Amongst Persons With Dementia

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What is Sound Therapy?

- **Tibetan singing bowls** sound in specific rhythmic patterns to create vibrational sound harmonics at a specific frequency.
- This sound impacts the sympathetic nervous system as brain waves synchronise to the vibrations of the bowls.
- Sound Healing is an effective and proven modality that uses vibrational sound to help reduce stress, relieve pain.
- Aids depression, anxiety and stimulates rest.
- Evidence that it helps with Chronic pain, boosts memory (early stages Alzheimer's), addresses blood pressure problems, boosts immune system.
- It is also noted as being capable of altering consciousness and creating a deep feel of peace, well-being and better health.
Background – The Cove

• The Cove is a 131 bed aged care facility situated in Mandurah Western Australia. It was purpose-built eight years ago and consists of seven houses.
• Three houses are dementia specific, supporting 50 residents, while most of the other high care houses also support residents who have dementia.
• The Cove has a dedicated team of 200 full, part time and casual staff including Nurse Practitioner, RN’s, Allied Health professionals, Therapy Assistants, Carers, Volunteers, Housekeepers, Admin and Support staff.
• The Cove is also supported by specialist Corporate Services staff such as The Brightwater Centre.
How the study came about – addressing a need at The Cove

• Initial anecdotal from The Cove that there were difficulties in placing staff within two houses on site due to high levels of agitation related behaviour amongst residents having received a dementia high care needs assessment.
• RN who is a certified sound therapist began TSBT sessions in two houses for residents once per week.
• CDs were also left to be played in certain resident rooms at night and during the day for those who would not settle down to sleep.
• Anecdotal evidence showed that this helped somewhat to ease agitation amongst some residents.
Introduction of Tibetan Bowl Sound Therapy at The Cove

- In 2012 a Quality Improvement Project was commenced to support residents who have dementia using Tibetan Bowl Sound Therapy. The project was focused on promoting relaxation and inner wellbeing.
- Initial anecdotal results were positive and presented during Accreditation in June 2012.
- Application for the Don Hutchinson Scholarship in 2012 to extend the project and link to evidence based research.
- Aim to reduce agitation related behaviours and to improve sleep and eating patterns.
- To reduce number of adverse events for both residents and staff due to agitated behaviour from residents with dementia.
- Pilot study - Ethical Approval was obtained from the HREC at the University of Western Australia.
Defining agitation

Agitation is not a diagnostic term, but rather a term used by clinicians for a group of symptoms that may reflect an underlying disorder (Cohen-Mansfield and Billig (1986))

Agitated behaviour can be manifested in three ways:

• May be abusive or aggressive toward self or others.
• May be appropriate behaviour performed with inappropriate frequency, such as constantly asking questions.
• May be inappropriate according to social standards for the specific situation.
Research into sound therapy

- Small scale studies have been conducted on the therapeutic effects of TSBT on those who are ill and/or recovering from illnesses such as cancer.
- Therapeutic for with headaches or who have a diagnosed mental illness such as anxiety disorder (Kempen, E. 2007; Bensimon, Amir & Wolf, 2012).
- Further studies being conducted into using nanotechnology to assess the cellular effects of vibrations in cells within the human body (Pelling et al., 2004).
Methodology

- A **pilot study with 25 residents** of two houses within one Brightwater residential aged care facility. Of these, 16 full datasets were obtained.
- **Weekly one hour sessions** were provided using Tibetan Singing Bowl therapy (TSBT) for one month.
- The **existing database of resident adverse behaviours** and events audited before the therapy intervention (from six months prior).
- The validated **Cohen Mansfield Agitation Inventory (CMAI)** administered baseline, mid point and after the one month of intervention therapy sessions were completed.
- Sessions with resident participants during the TSBT therapy were **video recorded** to demonstrate the effects visually of TSBT.
- A **survey of staff** was administered before the month and post one month to ask about resident behaviours perceived as most difficult by staff to cope with.
- Case studies of eight residents were also collated by the sound therapist.
• The CMAI was developed for use in residential aged care.
• Used also by family caregivers, social workers, activity directors of senior day care centres and others. Also been used for clinical purposes.
• The CMAI may be self-administered by a caregiver or it may be completed by interviewing a staff or family caregiver.
• The CMAI is a caregivers’ rating questionnaire consisting of 29 agitated behaviors, each rated on a 7-point scale of frequency.
• Three key areas are physically aggressive behaviour, physically non aggressive behaviour and verbally agitated behaviour.
Baseline Amongst Residents

• 16 full data sets were completed. Profile of residents were as follows: Mean age = 85 years. Male / female ratio = 7 (44%) males and 9 (56%) females.

• Challenging behaviours were recorded on a database of residents from time of admission. Key problematic areas amongst the resident participants were:
  • Hitting both self, staff and other residents. Biting, grabbing others with high bodily tension and resistance.
  • Verbal aggression towards staff and residents. Pacing and restlessness. Poor appetite and refusal of food.
  • Requiring more staff (up to 3 direct care staff for one resident) to complete personal care tasks.
Overall 16 staff members completed the pre intervention survey. Of those:

- All staff respondents (100%) felt that restlessness and agitation was the most challenging behaviour to cope with.
- Aggression, whether physical, verbal or both was also problematic (100%).
- The main negative impacts of challenging behaviours were time management (50%) and preventing injuries to self and other residents (40%).
- Main problems for residents were identified by staff as self harm and injuring others (68%) and confusion / disorientation (75%).
- 87% were supportive of complementary therapies and also felt that sound therapy at the Cove would help address resident agitation.
Results

Aggressive Behaviour:
Hitting, kicking, pushing, scratching, tearing things, cursing or verbal aggression, grabbing, biting, spitting.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Agitated</th>
<th>Not agitated</th>
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<tbody>
<tr>
<td>1</td>
<td>13</td>
<td>3</td>
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<td></td>
<td>81.25%</td>
<td>18.75%</td>
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<td>2</td>
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<td>62.5%</td>
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<tr>
<td>3</td>
<td>9</td>
<td>7</td>
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<td>56.25%</td>
<td>43.75%</td>
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Verbally agitated behaviour:
Complaining, constant request for attention, negativism, repetitious sentences or questions, screaming.

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<th>Agitated</th>
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<tbody>
<tr>
<td>1</td>
<td>10</td>
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<td></td>
<td>62.5%</td>
<td>37.5%</td>
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<td>50%</td>
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Physically non-aggressive behaviour:
Pacing, inappropriate robing or disrobing, trying to get to a different place, handling things inappropriately, general restlessness, repetitious mannerisms.

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<tr>
<th>Time Period</th>
<th>Agitated</th>
<th>Not agitated</th>
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<tbody>
<tr>
<td>1</td>
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<td></td>
<td>87.5%</td>
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<td></td>
<td>37.5%</td>
<td>62.5%</td>
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![Bar chart showing percentages of agitated and not agitated behavior over time.]
CMAI mean scores across the 3 time periods
Case Study 1

**Background**
- Male resident 82yrs
- Alzheimer's
- Depression
- Osteo- arthritis
- Degenerative changes to thoracic spine – pain ++
- WW II Concentration camp survivor
- Was a night watch man

**Behaviours:**
- Physical aggression towards staff
- Wandering/ intrusive

**Challenges before:**
- Hard to divert/redirect
- Injuring staff
- Low appetite / weight loss
- Slumped body posture
- Very agitated, climbing

**With Sound therapy:**
- Easier to redirect/divert.
- Less aggressive and less wandering at night times.
- Appetite has increased, meal assists himself and faster.
- Smiling more often, dances to some music.
- Less climbing on furniture.
- Change in body posture – more upright.
- Held a 'speech' at his wife's funeral, every word could be understood.
- When not been in session agitation increases, resident taken into his room, where the CD is played, he lies on his bed and immediately relaxes.
- Sleeps better at night time and seems to be more confident within himself.
Case Study 2

**Background:**
- Alzheimer's Disease
- Depression, Arthritis

**Behaviours:**
- Wandering +++, intrusive into other rooms
- Aggressive towards staff/other residents

**Challenges before:**
- Low in appetite
- Aggression towards staff/residents
- Wandering +++

**With Sound therapy:**
- Verbally more articulated, conversations with wife.
- Double the portion of dinner now.
- Reads newspaper not just flicking through, takes more notice.
- Talks more to family on Wednesday nights.
- More alert the next day.
- Still a bit agitated /tense at sun downsing time.
Case Study 3

**Background:**
- Acquired brain injury
- Chronic back pain
- Impaired hearing

**Behaviours:**
- Agitation ++, aggression towards staff (injured x 4 staff)
- Wandering and up during night time.

**Challenges before:**
- Very aggressive and agitated at times.
- Hitting, kicking, spitting.
- Trouble sleeping at nights.
- Wandering.

**With Sound therapy:**
- Less agitated, less aggressive.
- Meal assist himself, still spilling food but getting less.
- Sleeping better.
- Still restless but not walking any more as before.
- Not ‘calling out’ as much.
- Calmer.
Case Study 4

**Background:**
- Depression
- Headache

**Behaviours:**
- Scratching people during ADLs
- Wandering++
- Restlessness and being intrusive into other people's rooms

**Challenges before:**
- Very negative
- Verbally aggressive

**With Sound therapy:**
- C/o headache less, can see that sessions help her.
- Staying for the whole session these days and really enjoying it, laughing and joking with other residents in the session.
- More positive outlook, mood changed.
- Eating well.
- More settled on wed evenings.
- Sleeping better.
- Less intrusive.
- Joins in activities more.
Conclusions – Looking Forward

• Early indicators show that Tibetan Singing Bowl therapy performed once a week is relatively effective in easing agitation in persons with dementia.

• The behaviours most commonly affected positively by therapy are the non-aggressive behaviours (pacing, wandering and restlessness).

• A CD played in the resident’s room can supplement the therapy session to good effect. However, therapist is central to efficacy.

• There are other potential anecdotal benefits such as improved sleep, appetite and attention span.

• A larger sample is required to show benefits more conclusively.

• The therapy may be applicable to other areas of Brightwater Services such as the rehabilitation program for younger persons with acquired brain injury.

• Staff sessions to reduce stress levels.
Thank you!