

Music therapy can reduce agitation in people with dementia. Nurses are well placed to support its introduction in care homes and day care units

# Music therapy to reduce agitation in dementia

## In this article...

- › How music therapy works
- › The benefits of music therapy for patients with dementia
- › Evidence supporting the use of music therapy

**Author** Jacqueline Craig is a staff nurse at Nottingham University Hospitals Trust.

**Abstract** Craig J (2014) Music therapy to reduce agitation in dementia. *Nursing Times*; 110: 32/33, 12-15.

**Background** Music therapy is a non-pharmacological intervention that aims to increase emotional wellbeing through cognitive stimulation and social interaction.

**Aim and method** I aimed to investigate the efficacy of group music therapy to reduce agitation in people with dementia. To this end, I carried out a systematic review of the literature.

**Results** Eight articles show that music therapy is feasible for use with people with all stages of dementia. The best results involved using familiar music and a qualified group music therapist, with the optimum frequency of intervention being two to three times a week for 30-50 minutes. Control interventions such as reading and recreational activities also reduced agitation.

**Conclusion** Music therapy should be implemented by qualified music therapists in care homes and day care units. Further research should be conducted to ascertain the most suitable music types to be used in therapy sessions.

There are around 800,000 people in the UK with a form of dementia (Alzheimer's Society, 2013). That number is predicted to increase to 1.4 million by 2038, when it is estimated the annual cost to the UK economy will be around £50bn (Department of Health, 2009). The government therefore identified dementia care and treatment as a national priority and

published a strategy to guide dementia care (DH, 2009).

Agitation in people with dementia is a behavioural problem that causes distress to all involved, so finding successful interventions is important so holistic care can be provided. It has been identified that there is a lack of non-pharmacological strategies to tackle agitation and other behavioural problems for people with dementia (DH, 2009).

## Music therapy and its use in dementia care

Music therapy is a recognised technique of using music to help improve health. The British Association for Music Therapy describes it as a psychological therapy that allows communication and interaction between the client and music therapist. It says music therapy can be used for people of all ages and abilities, especially when there is difficulty engaging verbally (BAMT, 2012).

People with dementia can feel isolated with the loss of language skills. Music therapy can reduce anxiety and stress, and enhance emotional wellbeing through verbal and non-verbal expression, increased social interaction and cognitive stimulation. It can encourage the use of knowledge and abilities stored in the long-term memory such as lyrics from familiar songs, and encourage listening, singing, movement and music making (BAMT, 2012). Music therapy is being increasingly used as a non-pharmacological intervention in the care of people with dementia and their family or carers, with the National Institute for Health and Care Excellence encouraging referrals for those experiencing increased agitation (NICE, 2006).

## 5 key points

**1** There are around 800,000 people in the UK with a form of dementia

**2** The Department of Health has stressed nurses' vital role in dementia care

**3** Non-pharmacological interventions for agitation in dementia include music therapy

**4** Group music therapy can increase emotional wellbeing and reduce agitation

**5** Music therapy is best delivered individually or in group settings by trained therapists



Hearing and playing music can reduce anxiety and increase emotional wellbeing

As dementia progresses, nurses and other specialist professionals need to intervene to maintain a safe living environment and good quality of life (DH, 2009). *Making a Difference in Dementia: Nursing Vision and Strategy* (DH, 2013) demonstrates the vital role nurses play in dementia care. Developing interventions such as group music therapy can demonstrate nurses' commitment to caring for this vulnerable group of patients, while improving their health and wellbeing. To achieve high-quality care for these patients, nurses need to work with other professionals, investing in improving quality of life (DH, 2009).

### Method

I used a systematic approach to find appropriate articles for this review, using the PRISMA checklist (Moher et al, 2009) as guidance in relation to structure and content. We searched the AMED, CINAHL, and MEDLINE databases using a Boolean phrasing search; combining the words "dementia", "music", "intervention" and "agitation" gave 50 results. No chronological or geographical limitations were required.

I excluded studies that:

- » Had duplicate results;
- » Were dissertations/unpublished;
- » Combined music therapy with other interventions or literature reviews; or
- » Had no clear focus on agitation.

The abstracts of the remaining 15 articles were then read to exclude studies made as part of activities of daily living ( $n = 3$ ), studies at mealtimes ( $n = 3$ ), a multi-stimulus study ( $n = 1$ ) and a staff experience study ( $n = 1$ ). This left seven articles for review. The article by Nair et al (2011) was identified while reading around the subject to determine a research question. The research in this article fitted my research question and was included (Table 1).

### Results and discussion

I identified and analysed seven themes to determine whether a group music therapy intervention is feasible to reduce agitation in those with dementia. These were:

- » Sampling criteria;
- » Measurement tools;
- » Music choice;
- » Appropriateness of group interventions;
- » Group music therapy versus other group interventions;
- » Music therapy facilitators;
- » Frequency of intervention.

The theme analysis helped to formulate best-practice advice and research recommendations regarding group music therapy interventions.

**TABLE 1. STUDY CHARACTERISTICS**

Study	Characteristics
Choi et al (2009)	A controlled clinical trial among 20 people attending a day care unit. The intervention was 50 minutes of music therapy delivered three times a week for five weeks, while the control intervention was usual care. Agitation was measured using the Geriatric Depression Scale (Yesavage et al, 1983), Geriatric Quality of Life scale (Lee et al, 2003) and the NPI-Q questionnaire (Cummings et al, 1994)
Cooke et al (2010)	A randomised controlled trial among 47 people living in long-term care facilities. The intervention group received 40 minutes of music therapy, three times a week for eight weeks, followed by a crossover. The control intervention was reading sessions and agitation measured using CMAI and RAID
Lesta and Petocz (2006)	An applied behaviour analysis among four residents of a care facility, given either 30 minutes of music therapy a day for four days or usual care. Agitation was measured using an author-designed tool, the Mood Behaviour Assessment Chart
Lin et al (2011)	An experimental study involving 100 residents from three nursing homes. The intervention was a 30-minute session of music therapy twice a week for six weeks, compared with usual care. CMAI was used to measure agitation
Nair et al (2011)	An observational pilot study among 75 residents of two units. Four hours of Baroque music were played in common areas with a four-week intervention and a crossover with control group for four weeks. The control intervention was usual care and the units' existing behaviour charts were used to record agitation
Sung et al (2012)	An experimental study among 55 residents of a residential care facility. Residents received 30 minutes of group intervention using familiar music twice a week for six weeks, or usual care. Agitation was measured using CMAI and RAID (Shankar et al, 1999)
Tuet and Lam (2006)	A crossover study among 16 residents of two care homes. One group received 45 minutes of music therapy three times a week for three weeks, the other received usual care; the groups switched over after three weeks. Agitation was measured using CMAI and NPI
Vink et al (2013)	A randomised controlled trial of 94 residents of six nursing homes. Residents received 40 minutes music therapy twice a week for up to 34 sessions. The therapy was led by a music therapist offering opportunities for singing and playing instruments. The control intervention was recreational activity; agitation was measured using CMAI

CMAI = Cohen-Mansfield Agitation Inventory; NPI = Neuropsychiatric Inventory; RAID = Rating of Anxiety in Dementia scale; NPI-Q = a shorter version of the NPI to provide an assessment of neuropsychiatric symptoms within the clinical setting

### Sampling criteria

Tuet and Lam (2006), Cooke et al (2010), Lesta and Petocz (2006) and Nair et al (2011) were specific about participants' stage of dementia, whereas Sung et al (2012), Lin et al (2011), Choi et al (2009) and Vink et al (2013) accepted participants with any stage of dementia. The differing criteria do not

appear to have affected the results, suggesting that group music intervention can be used for any stage of dementia.

Three of the eight studies – Lin et al (2011), Choi et al (2009) and Nair et al (2011) – had no requirements for previous agitation or other behavioural problems in their sampling criteria. It would be useful for

researchers to focus specifically on patients with agitation/behavioural problems to elicit the effects of music therapy on this group.

### Measurement tools

I felt the measurement tool used in the studies was important because it would reveal changes in agitation specifically. The majority used the Cohen-Mansfield Agitation Inventory (Cohen-Mansfield et al, 1989), with only three – Choi et al (2009), Lesta and Petocz (2006) and Nair et al (2011) – not adopting it. Using the same assessment tool allows for easy comparison; however, Cooke et al (2010) used the short form of CMAI and Vink et al (2013) used the modified version. Cooke et al (2010) did not see use of the short form as a hindering factor. However, Vink et al (2013) found that the modified CMAI may not be sensitive enough to justify the effect of an intervention. Researchers must therefore be careful when selecting modified or shorter versions of assessment tools, ensuring that they will generate measurable and conclusive results.

Lesta and Petocz (2006) argued that existing assessment tools were not appropriate to gather the data they needed to answer their research question and, therefore, designed their own. However, selecting an untested measurement tool presents a limitation to their research. Using multiple assessment tools was the method used by the majority of authors to reinforce and increase reliability and viability of results.

Choi et al (2009) used multiple tools, allowing an overall look at behaviour and quality of life, as well as an individual assessment of agitation with an appropriate use of the Neuropsychiatric Inventory (NPI) (Cummings et al, 1994). Nair et al (2011) relied on nursing documentation to formulate their results.

There was no set time for documentation, making it harder to compare and contrast results from the music-therapy intervention; I therefore suggest that research of this nature uses one or more validated assessment tools to gather data before, during and after the intervention. Nurses could use such tools to support documentation for behavioural problems, thereby easily recognising whether certain situations exacerbate or improve symptoms.

### Music choice

The type of music chosen for the intervention was dependent on the authors' aims. Some (Vink et al, 2013; Sung et al, 2012; Lin et al, 2011; Lesta and Petocz, 2006)

chose music that was familiar to participants to stimulate memory associations. They all found a measurable reduction of agitation during the intervention, suggesting that music therapy should be targeted and, in some cases, individualised to achieve the best result. Using familiar music for group therapy could be an acceptable compromise to individualised music therapy in the care setting. Lack of familiarity could account for the contrasting results that Nair et al (2011) achieved. They felt Baroque music would be calming and result in a reduction in behavioural disturbance, but instead found an increase in verbal aggression and no reduction in agitation.

The remaining authors (Cooke et al, 2010; Choi et al, 2009; Tuet and Lam, 2006) targeted their music type to stimulate an overall biophysiological response in participants, aiming to reduce agitation and other behavioural disturbance. Choi et al (2009) and Tuet and Lam (2006) succeeded in identifying appropriate music to do this, whereas Cooke et al (2010) did not. Choi et al (2009) developed a programme with four phases: phase one focused on facilitators building rapport with patients and caregivers; phase two concentrated on music to improve cognitive function, memory and concentration ability; phase three allowed patients to play musical instruments therefore permitting them to express themselves; and phase four directed music to provide happiness and enjoyment to the patients. The type of music used was not specified.

Tuet and Lam identified folk music to be stimulating to participants by conducting a pilot study to explore reactions from different music types. They allowed two participants to sing along to music, with the option for others to play along using instruments placed on the table.

### Appropriateness of group interventions

All authors found that once the music therapy intervention had stopped, agitation and behavioural disturbances returned to baseline levels. This suggests that music therapy programmes need to be implemented on a long-term basis to achieve long-term effects. Lesta and Petocz (2006) went further, suggesting that group music therapy should take place at a time of day where agitation and behavioural disturbance levels are at their highest; however, this would be dependent on the care setting and whether it was feasible to do so. Nursing staff could identify key times of the day where group intervention would be beneficial and feasible.

## BOX 2. RECOMMENDATIONS FOR NURSING PRACTICE

- Care homes and day care units should implement a group music therapy intervention programme to reduce agitation and other behavioural disturbances in patients with dementia
- Music therapy intervention programmes should be delivered at least twice a week for 30 minutes by trained music therapists
- Further research should take place to identify the music types that achieve the best results
- Further research should take place into other non-pharmacological interventions and their effect on agitation

### Group music therapy versus other group interventions

During the review it became apparent that the intervention used for the control group had an influence on whether the authors saw group music therapy as effective in reducing agitation. Cooke et al (2010) and Vink et al (2013) used active control groups for their randomised controlled design method: Cooke et al (2010) chose reading as an activity for the control group, while Vink et al (2013) provided general activities with no specification to what these were. Results revealed no significant reduction in agitation when comparing intervention groups with their active control groups. More research into which activities produce the best results is needed; as Cooke et al (2010) suggested, three groups involving music therapy, an active control group, and a usual care group would be an appropriate method in determining this.

The fact that Nair et al (2011) did not use Baroque music as part of a group intervention but only as background music may account for their negative results. Background music does not fully engage participants or necessarily create a positive atmosphere. It can also allow other environmental factors to distract participants and, in some ways, overwhelm them.

This review suggests any group music therapy intervention could be a feasible option to reduce agitation. Further research could identify interventions that nursing and support staff could easily implement themselves, such as reading as used by Cooke et al (2010).



**“A good nurse is somebody who is imaginative and shows empathy”**

Dinah Gould ▶ p28

### Music therapy facilitators

The majority of researchers were either trained in music therapy or appointed music therapists to run the intervention; however, Tuet and Lam (2006) delivered their intervention via an occupational therapist, Cooke et al (2010) used musicians with no mention of formal therapy training, and Nair et al (2011) had no appointed facilitator for the intervention because they used background music. The lack of formal training may account for the negative results for music therapy interventions seen by both Cooke et al (2010) and Nair et al (2011), as participants may not have been adequately trained to engage in the intervention. It is therefore recommended that group music therapy interventions be provided by trained staff to successfully reduce agitation. Nursing staff would need to facilitate and support the professional appointed to conduct the music therapy interventions by helping to identify appropriate participants and allocate resources.

### Frequency of interventions

Most researchers completed their research over several weeks, with the intervention lasting 30-50 minutes and taking place two or three times a week. The exception to this was Lesta and Petocz (2006), who carried out their research over four days, and Nair et al (2011), who did theirs daily. Comparing the other researchers' results reveals there is no optimum intervention length or frequency, but a minimum of 30 minutes twice a week would be recommended based on best practice.

### Conclusion

The DH (2009) has called for purposeful and therapeutic activities to improve quality of life for people with dementia. Group music therapy is successful in reducing agitation in this group if it is

conducted regularly, with familiar music proving to yield the best results in research. Group intervention is a feasible solution in the care setting to improve the wellbeing of those with dementia.

This review also identified that other group interventions could produce similar reductions in agitation; however, further research is required to identify which deliver optimum benefits.

A trained music therapist should conduct music therapy rather than nursing staff who do not have a recognised music therapy qualification. However, nurses are in a perfect position to identify the need for music therapy intervention and, as such, should seek the resources to support it. Box 1 gives further implications for practice.

Researchers must take care when generating sampling criteria, targeting participants who have a confirmed presentation of agitated behaviour, as well as using a tested measurement tool during the project. Some articles in this review used different music types, producing contrary results; therefore, it would also be beneficial for research to compare different music types and their impact on behaviour. **NT**

### References

- Alzheimer's Society** (2013) *Demography*. tinyurl.com/Alz-demo
- British Association for Music Therapy** (2012) *Music Therapy in Dementia Care*. London: BAMT. tinyurl.com/BAMT-older-people
- Department of Health** (2013) *Making a Difference in Dementia: Nursing Vision and Strategy*. tinyurl.com/DH-dementia-nursing
- Department of Health** (2009) *Living Well with Dementia: A National Dementia Strategy*. tinyurl.com/DH-nat-dementia-strat
- Choi AN et al** (2009) Effects of group music intervention on behavioral and psychological symptoms in patients with dementia: a pilot-controlled trial. *The International Journal of Neuroscience*; 119; 4, 471-481.
- Cohen-Mansfield J et al** (1989) A description of agitation in a nursing home. *Journal of Gerontology*; 44; 3, M77-84.
- Cooke ML et al** (2010) A randomized controlled

- trial exploring the effect of music on agitated behaviours and anxiety in older people with dementia. *Aging and Mental Health*; 14; 8, 905-916.
- Cummings JL et al** (1994) The Neuropsychiatric Inventory: comprehensive assessment of psychopathology in dementia. *Neurology*; 44; 12, 2308-2314.
- Lee HS et al** (2003) The standardization of Geriatric quality of life scale. *Korean Journal of Clinical Psychology*; 22; 4, 859-881.
- Lesta B, Petocz P** (2006) Familiar group singing: addressing mood and social behaviour of residents with dementia displaying sundowning. *Australian Journal of Music Therapy*; 17; 2-17.
- Lin Y et al** (2011) Effectiveness of group music intervention against agitated behaviour in elderly persons with dementia. *International Journal of Geriatric Psychiatry*; 26; 7, 670-678.
- Moher D et al** (2009) Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Annals of Internal Medicine*; 151; 4, 264-269.
- Nair BK et al** (2011) The effect of Baroque music on behavioural disturbances in patients with dementia. *Australasian Journal on Ageing*; 30; 1, 11-15.
- National Institute for Health and Care Excellence** (2006) *Dementia: Supporting People With Dementia and Their Carers in Health and Social Care*. www.nice.org.uk/cg42
- Shankar KK et al** (1999) The development of a valid and reliable scale for rating anxiety in dementia (RAIF). *Aging and Mental Health*; 3; 1; 39-49.
- Sung HC et al** (2012) A group music intervention using percussion instruments with familiar music to reduce anxiety and agitation of institutionalized older adults with dementia. *International Journal of Geriatric Psychiatry*; 27; 6, 621-627.
- Tuet RWK, Lam LCW** (2006) A preliminary study of the effects of music therapy on agitation in Chinese patients with dementia. *Hong Kong Journal of Psychiatry*; 16; 3, 87-91.
- Vink AC et al** (2013) The effect of music therapy compared with general recreational activities in reducing agitation in people with dementia: a randomised controlled trial. *International Journal of Geriatric Psychiatry*; 28; 10, 1031-1038.
- Yesavage JA et al** (1983) Development and validation of a geriatric depression screening scale: a preliminary report. *Journal of Psychiatric Research*; 17; 1: 37-49.

### FURTHER READING

- O'Doherty E** (2013) Nurses' role in care home rehabilitation. *Nursing Times*; 109; 29, 18-21. bit.ly/CareHomeRehab

Increase your knowledge and enhance your practice  
with Nursing Times Learning



To find out more go to  
[nursingtimes.net/learning](http://nursingtimes.net/learning)

- Over 40 online learning units on clinical and professional topics, written by subject experts
- Each unit equates to two hours' CPD - with optional extra work
- Gain a score of 70% or more and download a personalised certificate
- Subscribers get unlimited FREE access (most units £10 + VAT to non-subscribers)



CPD