

Music for Dementia

evidence summary

June 2024

The number of people in the UK living with dementia is around 950,000, and is estimated to reach 1 million by 2030 (NHS, 2023). Worldwide, it is estimated 55 million people live with the Alzheimers (Gerdner 2023). Yet the number of people whose lives are impacted by dementia is much larger, whether that's as a family member or carer of someone living with the disease.

We know music can help alleviate symptoms or help smooth things over in difficult moments, but what is the evidence to demonstrate this? Below is a snapshot of some of the most compelling studies that demonstrate the value and impact music can have. It is not an exhaustive review of all research available but highlights those that we consider offer interesting insights into the subject and are ordered based on the strength of evidence. They examine a range of musical interventions in day and residential care settings from music therapy to singing in a choir, playing a musical instrument to listening to music.

An extensive systematic review of non-pharmacological interventions to treat behavioural disturbances in older patients with dementia (2017)

<p>Summarised name or description of study:</p> <p>The systematic review provides an overview of non-pharmacological interventions for behavioural and psychological symptoms in dementia (BPSD).</p>	<p>Headline:</p> <p>The paper confirmed: that ‘among sensory simulation interventions, the only convincingly effective intervention for reducing behavioural symptoms (specifically agitation and aggressive behaviour) was music therapy’.</p>
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Abraha I, Rimland JM, Trotta FM, et al
Systematic review of systematic reviews of non-pharmacological interventions to treat behavioural disturbances in older patients with dementia. The SENATOR-OnTop series
 BMJ Open 2017;7:e012759. doi: 10.1136/bmjopen-2016-012759

Evidence to show listening to favourite music improves brain function in Alzheimer’s patients (2021)

<p>Summarised name or description of study:</p> <p>Repeated listening to personally meaningful music induces beneficial brain plasticity in patients with mild cognitive impairment or early Alzheimer’s disease.</p>	<p>Headline:</p> <p>“We have new brain-based evidence that autobiographically salient music – that is, music that holds special meaning for a person, like the song they danced to at their wedding – stimulates neural connectivity in ways that help maintain higher levels of functioning,” says Michael Thaut, senior author of the study</p>
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Fischer, Corinne E. et al. ‘Long-Known Music Exposure Effects on Brain Imaging and Cognition in Early-Stage Cognitive Decline: A Pilot Study’. 1 Jan. 2021 : 819 – 833.

Investigating the impact of music therapy on two in-patient psychiatric wards for people living with dementia (2023)

<p>Summarised name or description of study:</p> <p>Music therapy can lift mood and reduce agitation for people living with dementia (PwD) in community and residential care settings, potentially reducing the prevalence of distress behaviours. Less is known about the impact of music therapy on in-patient psychiatric wards for PwD. This study's aim is to investigate the impact of music therapy on two in-patient psychiatric wards for PwD.</p>	<p>Headline:</p> <p>The study identified a significant reduction in the occurrence of distress behaviours on days with in-person music therapy when compared with no music therapy. Music therapy was reported to be a valuable intervention, supporting patient mood and reducing agitation.</p>
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Thompson N, Iyemere K, Underwood BR, Odell-Miller H. [Investigating the impact of music therapy on two in-patient psychiatric wards for people living with dementia: retrospective observational study](#). BJPsych Open. 2023;9(2):e42. doi:10.1192/bjo.2023.20

The importance of individualised interventions for people living with dementia (2023)

<p>Summarised name or description of study:</p> <p>An evidence summary spanning 30 years of research and clinical implementation. The guideline looks at individualised musical interventions at multiple levels, personhood, ethnic identity and religious practice.</p>	<p>Headline:</p> <p>The study examines interventions of successful music use across the care sector and emphasises the importance of individualised methods.</p>
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Gerdner LA. [Evidence-Based Guideline: Individualized Music for Persons with Dementia \(7th Edition\)—Non-Pharmacological Intervention for Agitation](#). *Alzheimers Res Ther* 2023, 6(1): 000117.

Music therapy choirs to support with depression and improve quality of life (2016)

<p>Summarised name or description of study:</p> <p>The study is a randomised control trial assessing the use of music therapy choir to reduce depression and improve quality of life in older adults.</p>	<p>Headline:</p> <p>Residents in both residential and day care took part in a music therapy choir – mean quality of life score improved by 57%, - depressive symptoms were reduced by 54%.</p>
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Ahessy, B. (2016). [The Use of a Music Therapy Choir to Reduce Depression and Improve Quality of Life in Older Adults – A Randomized Control Trial](#). *Music & Medicine*. 8. 17-28.

What is the evidence on the role of the arts in improving health and well-being? A WHO study (2019)	
<p>Summarised name or description of study:</p> <p>The World Health Organisation published their report of a major review to address the question ‘what is the evidence on the role of the arts in improving health and well-being?’. The study includes a specific section on music and dementia.</p>	<p>Headline:</p> <p>Music, in particular, has been found to support cognition in people with dementia. [...] A number of studies have found beneficial effects of listening to and making music for global cognition as well as for verbal fluency, visuospatial skills and speech. However, most consistent results have been found for autobiographical memory. The report notes music’s ability to help reduce agitation, and decrease the need for antipsychotic drugs.</p>
<p>Fancourt D, Finn S. <u>What is the evidence on the role of the arts in improving health and well-being? A scoping review</u>. Copenhagen: WHO Regional Office for Europe; 2019 (Health Evidence Network (HEN) synthesis report 67).</p>	

A meta analysis exploring the effects of music on agitation (2017)	
<p>Summarised name or description of study:</p> <p>While interventions, target groups and research designs differ, there has so far not been a systematic overview assessing the effect of music intervention for agitation in patients with dementia. A meta-analysis was conducted in order to investigate possible effects of music interventions.</p>	<p>Headline:</p> <p>The review showed that ‘music intervention significantly reduces agitated behaviours in people with dementia’.</p>
<p>Pedersen SKA, Andersen PN, Lugo RG, Andreassen M, Sütterlin S. <u>Effects of Music on Agitation in Dementia: A Meta-Analysis</u>. Front Psychol. 2017 May 16;8:742. doi:10.3389/fpsyg.2017.00742. PMID: 28559865; PMCID: PMC5432607.</p>	

A systematic review exploring cost effective measures to support people living with dementia (2014)	
<p>Summarised name or description of study:</p> <p>A systematic review of the effectiveness & cost-effectiveness of sensory, psychological, and behavioural interventions for managing agitation in older adults with dementia.</p>	<p>Headline:</p> <p>Music therapy estimated cost per unit reduction on a specialist agitation index, is £4 - compared to say £24 to £143 for sensory interventions or £6 to £62 for training paid caregivers in person-centred care or communication skills.</p>
<p>Livingston G, Kelly L, Lewis-Holmes E, Baio G, Morris S, Patel N, et al. <u>A systematic review of the effectiveness and cost-effectiveness of sensory, psychological and behavioural interventions for managing agitation in older adults with dementia</u>. Health Technology Assess 2014;18(39).</p>	

A Cochrane review analysing music-based therapeutic dementia interventions

<p>Summarised name or description of study:</p> <p>The Cochrane review includes 22 reviews and 1097 randomised participants. Participants in the study had varying degrees of dementia. The objective of the study was to assess the effects of music-based interventions on emotional wellbeing, quality of life, mood disturbance or negative affect, behavioural problems, social behaviour and cognition.</p>	<p>Headline:</p> <p>The research is small scale and variable which makes a systematic review challenging but notes "providing people with dementia who are in institutional care with at least five sessions of a music-based therapeutic intervention probably reduces depressive symptoms and improves overall behavioural problems at the end of treatment."</p>
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van der Steen JT, Smaling HJA, van der Wouden JC, Bruinsma MS, Scholten RJPM, Vink AC. Music-based therapeutic interventions for people with dementia. Cochrane Database of Systematic Reviews 2018, Issue 7. Art. No.: CD003477. DOI: 10.1002/14651858.CD003477.pub4. Accessed 30 May 2024.

Can music based interventions create a social return on investment?

<p>Summarised name or description of study:</p> <p>A forecast of Social Return on Investment of Silver Lining at The Sage Gateshead.</p>	<p>Headline:</p> <p>One project estimated that for every £1 invested there is a social value of £1.93 returned.</p>
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Hegarty, S (2012) Adult and Community Learning Fund Forecast of Social Return on Investment of Silver Lining at The Sage Gateshead.

A study on the effects of playing music to care home residents (1993)

<p>Summarised name or description of study:</p> <p>Effects of music on Alzheimer's patients.</p>	<p>Headline:</p> <p>Study showed improvements in autobiographical memory in a group of nursing home residents who regularly had music played to them. These improvements were not seen in the comparison group who were engaged in other activities.</p>
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Lord TR, Garner JE. Effects of music on Alzheimer patients. Percept Mot Skills. 1993;76(2):451-455. doi:10.2466/pms.1993.76.2.451.

Singing for the brain - a qualitative study exploring health and wellbeing benefits of singing for people living with dementia (2016)

<p>Summarised name or description of study:</p> <p>A qualitative study providing an evaluation of the Alzheimer's society's 'Singing for the Brain' programme.</p>	<p>Headline:</p> <p>Study of 20 participants showed that attending Singing for the Brain helped in accepting and coping with dementia.</p>
<p>Osman, S. E., Tischler, V., & Schneider, J. (2016). <u>'Singing for the Brain': A qualitative study exploring the health and well-being benefits of singing for people with dementia and their carers.</u> Dementia, 15(6), 1326–1339.</p>	

Music based interventions as a protective factor for dementia and cognitive impairment (2014)

<p>Summarised name or description of study:</p> <p>A population-based cotwin control study, examining the association between playing a musical instrument and whether or not the twins developed dementia or cognitive impairment. Participation in playing an instrument was taken from informant-based reports of twins' leisure activities. Dementia diagnoses were based on a complete clinical workup using standard diagnostic criteria. Among 157 twin pairs discordant for dementia and cognitive impairment, 27 pairs were discordant for playing an instrument.</p>	<p>Headline:</p> <p>A study of 157 pairs of twins found that those who played a musical instrument in older adulthood were 36% less likely to develop dementia and cognitive impairment.</p>
<p>Balbag A, Pedersen N and Gatz M. <u>Playing a Musical Instrument as a Protective Factor against Dementia and Cognitive Impairment: A Population-Based Twin Study.</u> International Journal of Alzheimer's Disease Volume 2014, Article ID 836748.</p>	