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## A scoping review of music and anxiety, depression and agitation in older people with dementia in residential facilities and specialist care units





### S.C.E. Scott<sup>a</sup>, A.C. Kidd<sup>b,\*</sup>

<sup>a</sup> North Lanarkshire Council Social Services, United Kingdom <sup>b</sup> Queen Elizabeth University Hospital, Glasgow, United Kingdom

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#### ABSTRACT

*Introduction:* This scoping review summarises and characterises current research that examines the relationship between anxiety, depression and agitation in older people with dementia in residential facilities and specialist care units and participation in planned musical activities.

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*Materials and methods:* Five databases were searched. Eligible studies were published between 1990 and 2016, were published in English, included participants aged 65 or older living in residential facilities or being cared for in specialist dementia units, assessed music activity at group level and included at least one reported psychological dementia symptom measure (e.g., anxiety, depression, agitation) in older adults with dementia. Two authors reviewed all eligible studies.

*Results:* Six eligible studies were identified. The study designs included randomised controlled trials (n = 4), a randomised trial with cross-over design (n = 1) and a non-randomised controlled trial (n = 1). Sample sizes ranged between 20 and 104 participants and the majority of the participants were women. A wide variety of functional scores were used. Of the six eligible studies, three found that group music therapy reduced depression and agitation in persons with dementia, with improvements in depression occurring immediately after music therapy and throughout the course of therapy. Three other articles found that music therapy did not affect the behavioural assessment or had no additional beneficial short-term effect on reducing agitation.

*Conclusions:* There is insufficient evidence of the effect of music therapy on anxiety, depression and agitation in this population. Future studies should consider how specific musical interventions can improve anxiety, depression and agitation in older adults with dementia in residential facilities and specialist care units.

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#### 1. Introduction

It is becoming increasingly recognised that a number of common non-cognitive symptoms have an impact on older adults with dementia. The most obvious are agitation, aggression, mood disorders and psychosis [1,2]. An increasing number of non-pharmacological therapies are now available for people with dementia, including music therapy [3].

Musical memory is considered to be partly independent from other memory systems and is often preserved in neurodegenerative disease [4]. Evidence shows that people with dementia enjoy music and that their ability to respond to music is potentially

E-mail address: andrew.kidd@nhs.net (A.C. Kidd).

preserved even in the late stages of dementia [5,6]. Music can have a positive effect on behavioural, cognitive, affective and physiological outcome measures [7,8]. More specifically, music therapy has been shown to reduce anxiety, depression and aggressive behaviour in older adults with dementia [9].

The purpose of this review is to characterise studies of older adults engaging in planned musical activities in residential facilities and specialist care units. This review includes studies with musical activities designed to reduce anxiety, depression and agitation in older adults with dementia in this setting. In addition, gaps in the literature and recommendations for future studies are identified.

#### 2. Materials and methods

This review summarises current research in this area and identifies research gaps. As a result, studies were not excluded due

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<sup>\*</sup> Corresponding author at: Queen Elizabeth University Hospital, 1345 Govan Road, Glasgow G51 4TF, United Kingdom.

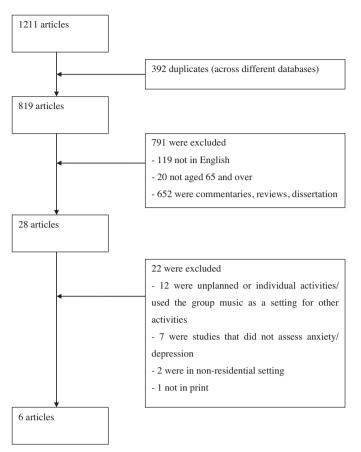


Fig. 1. Literature search strategy: Sources and exclusion criteria (published January 1, 1990 to April 8, 2016).

*Source*: EMBASE, MEDLINE, CINAHL, Psychlnfo, PubMed plus reference lists of review articles. Key search terms for capturing musical activities included music (and musical, singing or choir) and dementia.

to sample size or study design quality. The search strategy, key terms, abstraction process and eligibility criteria are described in Fig. 1.

Music activities refer to any of the following: group singing or singing in a choir. Studies that involved unplanned or individual activities or used the group music as a setting for other activities (e.g., dancing, physical activity, multisensory stimulation, art, reading) were excluded. Studies had to meet the following criteria: included participants aged 65 or older living in residential facilities or being cared for in specialist dementia day units; assessed music activity at the group level; included at least one reported dementia psychological symptom measure (e.g., anxiety, depression, agitation); and published in English between 1990 and 2016. Based on these criteria, 6 eligible articles were included in this review.

Study selection for determining the eligibility for inclusion in the review and data extraction from the selected studies were performed independently by two reviewers (A.C.K. and S.C.E.S.). Data were abstracted on the study characteristics (i.e., setting, study design, sample and use of comparison group), musical activities and study outcomes (i.e., measures used to evaluate effects on dementia symptoms). Interpretation of study characteristics was consistent between the authors and any differences in interpretation were resolved through joint discussion before study findings were summarised. The heterogeneity of study designs and small sample sizes precluded use of quantitative methods such as meta-analysis. Therefore, this review provides narrative descriptions of the eligible studies.

#### 3. Results

The characteristics of the six studies are presented in Table 1. The studies were conducted in South Korea, Taiwan, Italy, Finland, the Netherlands and Australia. All studies were made up of convenience samples drawn from residential facilities or specialist dementia day units. The study designs included randomised controlled trials (n = 4), a randomised trial with cross-over design (n = 1) and a non-randomised controlled trial (n = 1). Sample sizes ranged between 20 and 104 participants. The majority of participants were women.

The amount of time the participants were engaged in planned musical activity varied by type of outcome. Programmes ranged from 10–15 weeks in duration. All the musical intervention programmes occurred 3 times per week and consisted of between 5–34 sessions. The length of time of each music intervention was between 30–50 min.

A wide variety of functional scores were used. These included the Mini-Mental State Examination (MMSE), Geriatric Depression Scale (GDS), Geriatric Quality of Life (GQoL), Neuropsychiatric Inventory-Questionnaire (NPI-Q), Cohen-Mansfield Agitation Inventory (CMAI), Cohen-Mansfield Agitation Inventory – Short Form (CMAI-SF), Rating Anxiety in Dementia Scale (RAID), Neuropsychiatric Inventory (NPI), Cornell Scale for Depression in Dementia (CSDD), Cornell-Brown scale for Quality of Life in Dementia (CBS-QoL), General Health Questionnaire (GHQ), Quality of Life in Alzheimer's Disease (QOL-AD) and the Zarit Burden Interview (ZBI).

Three studies found that group music reduced depression and agitation in people with dementia, with improvements in depression occurring immediately after musical intervention and throughout the course of intervention. One study found that both singing and music listening improved mood, orientation and remote episodic memory [13]. The studies found that group music intervention had the greatest impact in subjects with mild and moderate dementia. Three of the studies reported that musical intervention did not affect the behavioural assessment and had no additional beneficial short-term effect on reducing agitation [12,13,15].

#### 4. Discussion

The findings from reviewed studies point to the importance of planned musical activities in older people with dementia living in residential facilities or being cared for in specialist units, but also raise the question about the whether music is solely the cause for improving anxiety, depression and agitation in dementia.

As an intervention, group music is a non-invasive and inexpensive therapy [11,13]. The use of functional scores in the studies examined provided the investigators with quantifiable outcome measures in assessing the effects of music on agitation and depression. Based on this review, we identified several areas that merit further investigation. One of the studies found no additional benefit of musical intervention on the short-term effect of reducing agitation when compared with general activities; the effect of extra attention and group contact rather than the direct effects of music were attributed as possible reasons [15]. A similar observation was made in one of the studies with the authors highlighting the difficulty in separating the effects from the method itself and the specific effects of individual characteristics of the therapists [10].

Although music activities have been shown to improve behaviour, mood and cognition in people with dementia, largescale randomised control studies have questioned the specificity of the effects of music, arguing that it is no more beneficial than other pleasant activities [5,16]. Previous research has shown that Download English Version:

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