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Therapeutic effects of music and singing for older people

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Abstract

Aim To identify how music and singing may be used therapeutically by nurses in caring for older people.

Method A multimethod approach was taken, comprising a search of the Cumulative Index of Nursing and Allied Health Literature (CINAHL) and Medline databases, and the extraction of relevant articles from three existing reviews.

Findings Two reviews and 16 research reports were identified, the majority of which were intervention studies. All the studies reported benefits from music or singing for older people. Positive findings related to dementia, specific disorders (osteoarthritis pain, post-operative delirium, sleep difficulties, chronic obstructive pulmonary disease), and older people living at home. Recommendations for nursing were made, although there is a need for clarification on how nursing interventions should be implemented.

Conclusion The evidence base to support the benefits of music and singing is increasing, and it is suggested that nurses may contribute to appropriate interventions and referrals. There is a need for further research, both to support these findings and to explore the nursing role in relation to providing music and singing therapies.

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Keywords

Dementia, health promotion, music, older people, research

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PROMOTING AND MAINTAINING the health and wellbeing of older people has become one of the most pressing priorities of our time. In 2003 there were 20 million people aged over 50 years, representing a 45% increase over five decades, and this trend is predicted to continue (Office for National Statistics (ONS) 2005). Nationally, in 2001, approximately one quarter of those aged between 50 and 64 years, and two thirds of those aged over 85 years, were reported to have a long-term illness or disability, for example osteoarthritis, chronic obstructive pulmonary disease (COPD), dementia or mental ill health (ONS 2005). There is increasing recognition that having a sense of purpose through leisure and cultural activities contributes to older people's wellbeing (Department for Work and Pensions (DWP) 2009).

The arts, health promotion and nursing

There has been a growing interest in the potential of various art forms to contribute to the health of communities and individuals. The government acknowledged this in a joint Department of Health and Arts Council England publication (DH and ACE 2007), which cites many examples of good practice. This interest is reflected in the nursing literature, with *Nursing Standard* reporting how the arts have a positive effect on health and wellbeing, for example:

- ▶ Sing Your Heart Out groups – singing workshops for mental health service users and staff – helped reduce depression and anxiety (Dinsdale 2007).
- ▶ An Arts For Life project in a London hospice helped provide relief from pain and anxiety, and supported terminally ill patients in coming to terms with loss (Gallagher 2008).

It seemed timely to conduct a review of the nursing implications of this form of health promotion.

Framing the review question: aim of the review

Despite the existing research and practice examples, the implications for nursing practice in this area are not always clear, especially at a time when evidence-based practice is desirable. One reason for this may be the diversity of ways in which the term 'arts' is interpreted. It makes knowledge accumulation of specific interventions problematic. The authors therefore decided to focus on one art form in which they have a major interest – music and singing – and on a client population that reflects their primary nursing experience – older people.

The review question posed was: can music and singing contribute to the health and wellbeing of older people and are they relevant to the role of nurses?

Method

The method was based on the mini-review by Griffiths (2002), which is a systematic but focused approach to reviewing the literature. The authors also drew on the work of the Sidney De Haan Research Centre for Arts and Health – where the authors are located – as well as the valuable qualitative work in the area, in line with the growing need to incorporate the participant viewpoint in reviewing the evidence (Dixon-Woods *et al* 2006).

Searches of the Cumulative Index of Nursing and Allied Health Literature (CINAHL) and Medline databases were undertaken. Search terms were based on a breakdown of the question into its 'population' and 'intervention' terms (facets). Free text and thesaurus terms were used and combined in the searches as follows: 'aged' or 'old' or 'elderly' and 'music' or 'singing'. Limits were applied to restrict the search to studies published since 1997 (representing the period in which interest in this area has been evident) in journals relevant to nursing (in order to inform practice) with full-text availability.

In addition, relevant studies (those identified using similar criteria, but including two papers not available electronically) were extracted from:

- ▶ A recently completed systematic review of singing and health (Clift *et al* 2008).
- ▶ A review undertaken for a study evaluating singing groups for older people (Bungay

and Skingley 2008), as well as the findings from this study.

- ▶ A review of the literature undertaken for a PhD by one of the authors (TV-B), evaluating the potential benefits of singing for people with dementia and their carers.

Parameters were set in the selection of studies for review as outlined in Box 1.

Findings

Sixteen individual studies met the inclusion criteria. In addition, two reviews of research were located, but were insufficient alone in their coverage to answer the question. One of these (Kneafsey 1997), included music therapy as well as 'everyday' music and was also at the outer edge of the acceptable publication date span. It therefore required supplementation. The second study (Sung and Chang 2005) reviewed articles with a limited focus on preferred music and its effect on decreasing agitated behaviours in older people with dementia in long-term care facilities. It also included many studies outside the date range of this review. This therefore was also inadequate in providing an answer to the review question.

The 16 studies fell broadly into the intervention studies category – experimental, quasi-experimental and case-control studies, such as those of Bauldoff *et al* (2002), McBride *et al* (1999) and Götell *et al* (2002). Non-intervention studies (qualitative interviews,

BOX 1

Inclusion and exclusion criteria for the literature review

Inclusion criteria

- ▶ Empirical research studies or reviews of music or singing interventions for older people (65 years and over).
- ▶ Qualitative studies exploring music and singing for older people.
- ▶ Studies published since 1997.
- ▶ Studies published in English.
- ▶ Studies appearing in nursing and other arts and health journals.

Exclusion criteria

- ▶ Studies of music therapy (because this is a specialised therapeutic intervention).
- ▶ Studies more than 12 years old.
- ▶ Studies unrelated to older people.
- ▶ Studies where the intervention is primarily relevant to health professionals other than nurses.

more structured questionnaires and other methods, for example observation and video recordings) included those by Pickles (2003), Hays and Minichiello (2005) and Sixsmith and Gibson (2007). There were noticeably fewer of this type of study in the nursing literature.

The research located could be categorised according to the effect of music on different areas of functioning:

- ▶ People with dementia.
- ▶ Specific disorders – hip and knee surgery, osteoarthritis, sleep problems and COPD.
- ▶ Everyday life.

Music for people with dementia

Of the reviews, Kneafsey's (1997) study of the use of music in older people's care settings suggested that music may have a positive effect on the behaviour of people with dementia. However, the review was not conducted systematically, and the number of articles that considered music other than music therapy was low.

The second review (Sung and Chang 2005) investigated eight studies reporting the effect of music on agitated behaviour in older people with dementia. It noted relatively consistent findings in terms of a reduction in some types of behaviour after listening to preferred music. Methodological weaknesses were noted in some of the articles reviewed, including small sample sizes and variation in the application of the intervention. Nevertheless, the authors suggested that the use of preferred music has the potential to provide a therapeutic approach to the care of older people with dementia.

A further six individual studies related to people with dementia (Table 1). One of these referred to 'restrained patients' (Janelli *et al* 2004), with the inference of dementia. Sample numbers in the studies were generally small (varying from 2 to 68 patients). Four studies evaluated a musical intervention on observed behaviour. They illustrate well the difficulties of researching this patient group, where the meanings of responses must be inferred. Two used a standard agitation scale (Remington 2002, Hicks-Moore 2005), while the remaining two (Götell *et al* 2002, Norberg *et al* 2003) – also those with the smallest sample numbers – relied on video recording or researcher observation, with a potentially greater degree of subjectivity in the analysis.

As in the case of the review articles, interventions varied, although the focus on preferred music, often identified through carers or relatives, was notable. One study (Götell *et al* 2002) included caregiver singing. Two others (Remington 2002 and Norberg *et al* 2003) compared music with

other interventions, in addition to a control group. Another study in this group (Sixsmith and Gibson 2007) interviewed people with dementia and their carers, exploring the meaning and benefits derived from engaging with music for this group of people.

All studies reported less agitated behaviour and greater interaction and co-operation. Where music was compared with other interventions, for example hand massage, touch and object presentation, there appears to be no greater benefit in combining the interventions. Caregiver singing was found to be particularly beneficial in the analysis by Götell *et al* (2002). There was a broad consensus on the benefits of introducing music as an intervention for this client group, noting the relative ease of administration by professional and lay carers.

Although little specific guidance appears in the literature, two studies suggest that training in care delivery and in interpreting client response should be given to support its integration into nursing care (Remington 2002, Norberg *et al* 2003). However, this recommendation was not expanded on in either study.

Music for specific disorders

Five articles considered the use of music in alleviating specific conditions (Table 2). Although four of these studies were randomised controlled trials (RCTs), sample numbers were small (ranging from 24 to 66 participants) and all used convenience sampling. Power calculations – a procedure used to estimate sample size requirements – were recorded for only two studies (Bauldoff *et al* 2002, Lai and Good 2005). Interventions, in terms of the type, duration and mode of music listening, were variable.

Findings, although overwhelmingly positive, were again reliant largely on self-reporting. Visual analogue scales, which require participants to rate how they feel, were used in two studies (McCaffrey and Freeman 2003, McBride *et al* 1999), while self-reporting by poor sleepers, as used by Lai and Good (2005) can, as the authors suggested, lead to underestimates of sleep duration. McCaffrey and Locsin (2004) relied on nursing documentation, which arguably may not represent actual practice. Conclusions should therefore be treated with caution.

Music in everyday life

The four studies relating to the value of music and singing for older people living in the community suggest a wide range of self-reported benefits. Pickles (2003) investigated the tastes and preferences of individuals (aged 58-86 years) attending University of the Third Age (U3A) music groups in the UK using a structured

TABLE 1

Studies relating to music or singing and people with dementia

Study	Aim/question/focus	Setting and sample	Method	Findings	Recommendations for nursing made in the study
Görell <i>et al</i> (2002)	Analysis of caregiver singing as a therapeutic intervention in dementia care.	Five caregivers and ten patients (80-90 years) in a dementia unit in Sweden.	Patients assigned to all of three conditions in rotation: background music, caregiver singing or control.	Music group was less aggressive, with more responses. Singing group was co-operative with interaction. Control group showed limited carer-patient interaction and much resistance.	There is support for the use of active music making by caregivers in dementia care.
Remington (2002)	To examine whether modifying environmental stimuli by the use of calming music and hand massage affects agitated behaviour in people with dementia.	68 people with dementia (60+ years) in a nursing home in the United States.	Four-group repeated measure experimental design to test effect of music, hand massage, music and hand massage combined, and no intervention.	Compared with no intervention, each experimental intervention reduced agitation, especially, physically non-aggressive behaviours, up to one hour post-intervention.	Both interventions require little training and are easily administered by professional and lay carers.
Norberg <i>et al</i> (2003)	To compare the reactions of patients with dementia to three kinds of stimulation: music, touch and object presentation.	Two patients in the final stages of dementia (80 and 84 years) in Sweden (no setting details).	Participants stimulated with music, touch and object presentation over 12 consecutive days.	Both patients reacted differently to music than to touch and object presentation. 'The subjective impression of the authors is that both patients reacted positively to the music.'	Caregivers' attention should be drawn to the different kinds of patient reactions that they should look for and they should receive training in noticing these.
Janelli <i>et al</i> (2004)	To explore the effect of music on restrained patients.	30 restrained hospitalised patients (65-93 years).	Subjects exposed to: listening to music out of restraint, no music out of restraint, listening to music in restraint.	No significant differences between the three groups' behaviour, but mean scores of positive behaviours were higher for the group listening to music out of restraint.	Listening to music is an appropriate nursing intervention as an alternative to restraint.
Hicks-Moore (2005)	Does relaxing music played during the evening meal reduce the cumulative incidence of agitated behaviours displayed in a group of nursing home residents with dementia?	30 nursing home residents with significant dementia (70-101 years) in a special care unit in Canada.	Quasi-experimental (one group) design comparing exposure to music with no exposure.	Agitated behaviour decreased in weeks 2 and 4 when music was played, compared with weeks 1 and 3 when there was no music.	Music should be incorporated into the daily care regimens of nursing home residents and not limited to mealtimes.
Sixsmith and Gibson (2007)	To explore the role of music in the everyday life of people with dementia.	26 people with dementia (62-96 years) and their caregivers, in their own homes or in residential care.	In-depth interviews.	Music led to enhanced feelings of wellbeing, and encouragement of valued activities, increased social interaction and sense of empowerment.	Music can be a powerful medium for empowering and enabling participation in society.

questionnaire, with scope for additional comments. Respondents related a number of examples of how music added value to their life experiences, especially in helping to overcome the difficulties attributed to old age.

U3A members may not be representative of the broader community of older people because they are characteristically very active. However, knowledge of the nature of taste and perceived benefit, and impediments such as poor hearing, to the enjoyment of music may inform those setting up community music groups for patients.

A more qualitative approach to eliciting the personal meaning and importance of music to older people was used in an Australian study (Hays 2005, Hays and Minichiello 2005). Data were collected from qualitative interviews with 38 individuals aged 60-98 years, and two focus groups. A variety of responses were given in answer to questions on the value of music, including its contribution to maintaining wellbeing, expressing spirituality, independence, reduction in loneliness and isolation, breath control and stress reduction.

Hays (2005) commented that if health professionals were aware of the potential of music for some older people, they would be in a better position to contribute to improving and supporting quality of life and wellbeing.

The final two studies to inform this review investigated the value of community singing for older people. Cohen *et al* (2006) recruited 160 volunteers aged over 65 years and allocated them to either a chorale (weekly singing for 30 weeks and several public performances) or usual activity. Measures at one year revealed statistically significant differences between the two groups on depression and loneliness scales and with other health problems. The intervention group achieved a more positive score than the control. It was also noted that the singing group became more socially active in other areas of their lives. Cohen *et al* (2006) commented on the important health promotion and prevention effects of these findings, together with a reduction in risk factors for becoming dependent on long-term care.

TABLE 2

Studies relating to music and specific disorders

Study	Aim/question/focus	Setting and sample	Method	Findings	Recommendations for nursing made in the study
McCaffrey and Locsin (2004)	To determine the effect of music on acute delirium and confusion in older people undergoing elective hip and knee surgery.	66 individuals aged 65+ years in a large tertiary care centre in south east Florida.	Randomised controlled trial (RCT) comparing music listening with standard care.	Significant decrease in the number of episodes of post-operative confusion in music group compared with controls.	Music is an inexpensive, non-invasive therapy that can be initiated by nurses.
McCaffrey and Freeman (2003)	To study the effect of listening to music on pain in osteoarthritis.	66 community dwelling adults aged 65+ years.	RCT comparing music listening with 20 minutes of sitting quietly.	Pain levels decreased in music group compared with controls.	Intervention is appropriate for nurses caring for this patient group.
Lai and Good (2005)	To test the hypothesis that listening to music at bedtime results in better sleep quality compared with no music listening.	60 older people in Taiwan with sleep disorders.	RCT comparing music listening with no music listening.	Sleep quality improved in intervention group compared with controls.	Music is a quick, easy and low-cost intervention that can be used by nurses.
Bauldoff <i>et al</i> (2002)	To determine if music promotes adherence to a walking regimen post-pulmonary rehabilitation for chronic obstructive pulmonary disease (COPD).	24 patients aged 68+ years with moderate-to-severe COPD.	RCT comparing walking while listening to music with walking without music.	Improved functional performance in participants using music compared with controls.	Music is an inexpensive and easily implemented addition to a rehabilitation programme.
McBride <i>et al</i> (1999)	To examine the feasibility of using music as an intervention for dyspnoea and anxiety in patients with COPD.	24 people, mean age 69 years, experiencing baseline dyspnoea, living at home in Canada.	Repeated measure study comparing measures with up to five weeks after music listening.	Significant decline in anxiety and dyspnoea following use of music at week 2, but not at week 5.	Listening to music is a potential intervention for relieving dyspnoea and/or anxiety in people with COPD.

Bungay and Skingley (2008) explored the potential benefits of participation in community singing groups for older people. Interviews with participants and other stakeholders from six groups elicited a number of areas where older people appeared to benefit. These included: enjoyment, social interaction, physical improvement (in terms of breathing and co-ordination), memory and recall, and cognitive stimulation. Recommendations were mainly directed towards those setting up and running such clubs. However, many are applicable to health settings where the introduction of music is being considered.

Limitations

The review was based on the 'mini review' method (Griffiths 2002), which is purposely limited in scope in order to appeal to busy practitioners. Exclusion criteria have been applied by the authors. For example, work not available either electronically or in the Sidney De Haan Research Centre for Arts and Health and 'grey' (unpublished) literature were excluded. This inevitably limits the generalisability of the review. However, the diversity of interventions and client groups featured means that the application of findings to any situation should be undertaken in conjunction with clinical judgement. A full systematic review would provide more robust guidelines for practice in this area.

Evidence relating to the contribution of singing and music to the health and wellbeing of older people appears plentiful. However, it is diverse and small-scale and therefore difficult to synthesise. Most convincing is the research relating to interventions with people with dementia, where one study (Götell *et al* 2002) found singing to have additional benefits to music. Several recommendations suggest that healthcare professionals may use music or singing relatively easily, particularly to reduce agitated behaviour in this client group.

Little specific guidance on implementing music or singing was offered, although the issue of suitable preparation and training, and the potential need for courses to support healthcare workers, was raised by two authors (Remington 2002, Norberg *et al* 2003). There may be a need for courses such as the module on therapeutic communication for professional carers in care homes in east Kent, which is currently provided by Canterbury Christ Church University.

The introduction of music and singing to specific areas of health care has a less robust evidence base because of the limited numbers of studies in any one area. However, one unifying factor across a number of these is the reference to an individual's preferred taste in music or singing in measuring benefits. This suggestion regarding individual musical taste is reinforced by the variety of interventions and benefits – physical, psychological, social and spiritual – reported in the literature. It is an argument that supports the inclusion of music, if appropriate, in patient assessments and care plans (Hicks-Moore 2005).

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Any reference to the potential for nurses and other health professionals to refer individuals to community singing groups is absent from the literature.

There appear to be few empirically based contraindications to the use of music and singing with older people discussed in the literature. However, Hays and Minichiello (2005) suggested that music could potentially have a negative effect. For example, it could evoke suicidal thoughts, prejudice, sadness or negative feelings. These researchers commented that content analysis of song lyrics might be advisable in the consideration of material to be used, to uncover and screen any potentially negative values and messages being conveyed.

There are a number of areas where further study is needed. First, most of the studies located for this review focused on music, largely a passive process, rather than singing, by its nature participative. Research suggests that neurophysiological responses to music and to singing may differ. Two studies (Bailey and Davidson 2003, Kreutz *et al* 2004) have identified enhanced benefits (via hormonal and immunological systems) from singing when compared with listening to music, but studies are needed to clarify these differential effects in older people.

Second, reaction to music is an intensely personal experience (Hays and Minichiello 2005) and there is mixed, or little, evidence for the effects that age, social class, musical or other background have on an individual's potential to benefit from music or singing. Were such effects to become measurable, they might be used to inform a nursing assessment.

Third, there are few data on how nurses might promote successful interventions. Further large-scale randomised controlled trials would provide more robust evidence for this and of the measurable effects of singing and music on particular groups of individuals. Testimonies from older people would add to the knowledge base regarding how individuals may respond in less 'measurable' ways.

Conclusion

There is growing evidence to support the benefits of music and singing to the health and wellbeing of older people. Much of the research discussed here includes implications for nursing in a variety of settings, in particular the introduction of preferred music or singing, the latter especially in the case of dementia. Less explicit, but worthy of consideration for older people living at home, may be referral by community nurses to community chorales or singing groups, especially for individuals who are socially isolated. However, there is a need for further research to refine the evidence in this area of health promotion and the nurse's role **NS**

IMPLICATIONS FOR PRACTICE

- ▶ Nurses should consider using music and/or singing as an intervention for older people, to either maintain wellbeing or support specific conditions, for example dementia.
- ▶ A nursing assessment should include the individual's music preferences.
- ▶ Appropriate training in the use of music should be considered where available.
- ▶ Consideration should be given to the referral of appropriate individuals to community music or singing groups.

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