International Journal of Nursing Studies 52 (2015) 1775–1784

Contents lists available at ScienceDirect

International Journal of Nursing Studies

journal homepage: www.elsevier.com/ijns

Review

Group music interventions for dementia-associated anxiety: A systematic review

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ARTICLE INFO

Article history:
Received 2 February 2015
Received in revised form 12 May 2015
Accepted 26 June 2015

Keywords:
Anxiety
Dementia
Music therapy
Nurses
Outcome measures

ABSTRACT

Objective: This systematic review examines the few published studies using group music interventions to reduce dementia-associated anxiety, the delivery of such interventions, and proposes changes to nursing curriculum for the future.
Design: Literature review.
Methods: All quantitative studies from 1989 to 2014 were searched in CINAHL and PubMed databases. Only published articles written in English were included. Studies excluded were reviews, non-human subjects, reports, expert opinions, subject age less than 65, papers that were theoretical or philosophical in nature, individual music interventions, case studies, studies without quantification of changes to anxiety, and those consisting of less than three subjects. Components of each study are analyzed and compared to examine the risk for bias.
Results: Eight articles met the inclusion criteria for review. Subject dementia severity ranged from mild to severe among studies reviewed. Intervention delivery and group sizes varied among studies. Seven reported decreases to anxiety after a group music intervention.
Conclusions: Group music interventions to treat dementia-associated anxiety is a promising treatment. However, the small number of studies and the large variety in methods and definitions limit our ability to draw conclusions. It appears that group size, age of persons with dementia and standardization of the best times for treatment to effect anxiety decreases all deserve further investigation. In addition, few studies have been conducted in the United States. In sum, while credit is due to the nurses and music therapists who pioneered the idea in nursing care, consideration of patient safety and improvements in music intervention delivery training from a healthcare perspective are needed. Finally, more research investigating resident safety and the growth of nursing roles within various types of facilities where anxiety is highest, is necessary.

What is already known about the topic?

- Among elders 65 years of age and older, pharmacological treatment of dementia-associated anxiety has limited effectiveness.
- Typical pharmacological agents are anxiolytics and comprise the benzodiazepine family of drugs. Evidence shows a higher risk for falls and fractures because of increased sensitivity to benzodiazepines and a slower metabolism of long acting agents for older adults.

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http://dx.doi.org/10.1016/j.ijnurstu.2015.06.014
0020-7489/

- Considerable interest in the use of non-pharmacological interventions, in particular, group music interventions has developed despite the lack of evidence on how the processes underlying these interventions work.

What this paper adds

- This paper identifies research weaknesses using group music interventions on dementia-associated anxiety and discusses possible ways to strengthen future research studies.
- Problems exist in who delivers music interventions despite the positive, non-invasive aspect of group music interventions. The use of personnel lacking in depth nursing or music training conflicts with the nursing paradigm of high quality person centered care and patient safety.

1. Background

1.1. What is known about dementia and anxiety

A diagnosis of dementia raises concern among patients and their families about the eventual loss of skills and the development of health-related problems. These concerns often trigger anxiety states for affected individuals (Galleo et al., 2011; Qazi et al., 2010). For individuals diagnosed with Alzheimer's disease and vascular dementia, the prevalence of anxiety ranges from 38% to 72% (Ballard et al., 2000; Seignourel et al., 2008). Anxiety is relatively stable across the range of dementia severity until the *profound/terminal* stage at which point prevalence declines (Seignourel et al., 2008). Anxiety is prevalent in retirement villages, nursing homes, private dwellings and assisted living facilities (ALF). In particular, there is a high prevalence of anxiety and anxiety symptoms in people residing in ALF, which is attributed to lack of confidence, acquired skills, and knowledge that anxiety is treatable on the part of ALF staff (Seignourel et al., 2008).

Anxiety is manifested in feelings of apprehension, vigilance, motor tension, autonomic hyper-activity, phobias and panic attacks (Shankar et al., 1999). Anxiety also is associated with problem behaviors such as wandering, sexual acting-out, hallucinations, verbal threats, physical abuse, depression, irritability, overt aggression, mania, persistent crying, interrupted sleep, and poor neuropsychological performance (Chemerinski et al., 1998; Haskell and Frankel, 1997; Hoe et al., 2006; McCury et al., 2004; Rozzini et al., 2009; Starkstein et al., 2007; Teri et al., 1999).

1.2. Risks associated with pharmacological methods to treat dementia anxiety

The benzodiazepine family of drugs, which include lorazepam, oxazepam, flurazepam, diazepam, alprazolam, temazepam and triazolam, comprise typical anxiolytic agents. Side effects of anxiolytics include excessive sedation, dry mouth, constipation, urinary retention, orthostasis, tardive dyskinesia, prolonged QT wave syndrome, and dizziness that contributes to falls (Ames et al., 2005; Lenze et al., 2003; Moretti et al., 2006). Short acting benzodiazepines such as oxazepam and lorazepam were at one time preferred over long acting forms due to metabolite accumulation in the blood that is responsible for adverse effects (Grad, 1995). Evidence shows a higher risk for falls and fractures because of increased sensitivity to benzodiazepines and a slower metabolism of long acting agents for older adults (AGS, 2012).

Other pharmaceutical treatment options for anxiety include trazodone and buspirone. Trazodone improves behavioral symptoms for persons with dementia and is recommended if non-drug interventions do not work (Desai and Grossberg, 2001). Buspirone works best when the patient shows symptoms of persistent or generalized anxiety (Desai and Grossberg, 2001). Multiple drug therapy increases the likelihood of stroke and premature death, especially with the use of antipsychotics (Ballard and Waite, 2006; Ballard et al., 2009; Banerjee et al., 2009; Huybrechts et al., 2012). Therefore, the American Geriatrics Society 2012 Beers Criteria Update Expert Panel, USA Food and Drug Administration and the UK National Institute for Health and Care Excellence all have issued guidelines that recommend reducing the use of these drugs for dementia (AGS, 2012; Ballard et al., 2009; Banerjee et al., 2009).

1.3. Music therapy a popular, non-pharmacological treatment for dementia anxiety

Despite a growing interest in the use of non-pharmacological therapies, only a few have shown promise for the treatment of anxiety among individuals with dementia. These potentially promising approaches include behavioral and cognitive-behavioral therapies, music therapies, animal assisted therapies, exercise therapies and touch therapies (McClive-Reed and Gellis, 2010). In particular, music as therapy is a popular intervention in the treatment of anxiety and related symptoms in dementia, despite the lack of conclusive evidence on how music addresses anxiety (Vasionyte and Madison, 2013; Sackett et al., 1997). Music as therapy includes *Music Therapy* which is provided by a formally credentialed music major with a therapeutic emphasis. Other providers of *music as therapy* may or may not have credentialing in music. For instance, opera singers, pianist, street musicians, patient caregivers, nurses, occupational and physical therapist and even medical doctors.

There are two types of music interventions. The first is passive or 'receptive' music therapy, which involves only listening on part of the recipient (Clark et al., 1998). The second type is active, live or interactive music therapies, which require individuals to engage in structured sound making (Raglio et al., 2008). Active/Live music implies use of instruments which include voice, pitched and unpitched musical instruments such as those belonging to the percussion family. Both types may be implemented in individual and group configurations. Presently, individual music interventions, both passive and active, have been found to work well for those individuals diagnosed with severe dementia (Sakamoto et al., 2013). Passive–active individualized music effects the remaining cognitive and emotional functions in persons with severe dementia