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Delivering a Music Intervention in a Randomized Controlled Trial Involving Older People With Dementia: Musician Experiences and Reflections

Scott Harrison, PhD, LMusA, LTCL[1], Marie Cooke, PhD[2], Wendy Moyle, PhD[3], David Shum, PhD[4], and Jenny Murfield, BSc Hons[5]

Abstract

A qualitative thematic approach was used to explore musicians' views and experiences of delivering a music intervention and its efficacy for people with dementia in long-term care. Two musicians who delivered the intervention in a randomized controlled trial were interviewed using a semistructured schedule. The data were sorted, categorized, and thematically analyzed. Two themes emerged: design of the protocol and efficacy of the program. Musicians felt that the intervention was appropriately designed, particularly in terms of repertoire selection, session length, incorporation of live and prerecorded music, and use of 2 musicians. They reported seeing improvements in mood, memory, general well-being, and quality of life for persons with dementia, both during and after the session. The findings support a music protocol structure that can be used for randomized controlled trials. They also highlight how standardized assessment tools used in randomized controlled trials can be complemented with qualitative, reflective evidence.

Keywords

musicians, randomized controlled trial, music protocol, training, qualitative

Dementia is a clinical syndrome broadly characterized by cognitive impairment[1] and possible emergence of challenging behaviors such as agitation and aggression.[2] It is thought that approximately 24.3 million people worldwide have a diagnosis of dementia, and this is forecast to increase by 4.6 million new cases each year.[3] Such current and projected rates of prevalence have encouraged greater research efforts into how dementia and its associated behaviors might be best managed. This has particularly been the case for the therapeutic use of music, which has gained increasing research interest since the early 1990s.[4]

The therapeutic use of music is defined as "the specialized use of music to change maladaptive physical, emotional and social behaviour to attain maximum levels of functioning."[5(p258)] Numerous studies report the success of music as an intervention in dementia care. For instance, music has been found to ameliorate agitation, anxiety,[6,7] and depression[8] and improve quality of life (QOL).[9] However, despite such seemingly positive findings, the true efficacy of music for people with dementia is still unclear, and this is primarily because of questions over the methodological rigor of reported research.[5,10-12]

Given these concerns, a large study using a randomized controlled trial (RCT) design was conducted to explore the therapeutic use of a music program delivered by 2 musicians for older people with dementia in long-term care (LTC). An RCT is the gold standard in clinical trials,[13] and stringent controls were enforced to ensure that the 3 core principles of an RCT were upheld: randomization, manipulation, and control.[14] At the core of such efforts was the development of a music intervention protocol, which the 2 musicians adhered to during each session. Given that this protocol was designed for the purposes of this research and used for the first time here, we felt it important to reflect upon its success and review it from the perspective of the musicians delivering it. In addition, although the study assessed the impact of the music intervention on clinical symptoms through standardized, quantitative measures (specific main findings discussed elsewhere[15-17]), it was also considered

[1] Queensland Conservatorium Research Centre, Griffith University, South Brisbane, Australia
[2] Griffith Institute for Health and Medical Research, Research Centre for Clinical & Community Practice Innovation, Griffith University, Nathan, QLD, Australia
[3] Griffith Institute for Health and Medical Research, Griffith University, Nathan, QLD, Australia
[4] School of Psychology and Griffith Institute for Health and Medical Research, Griffith University, Mt Gravatt, QLD, Australia
[5] Research Centre for Clinical & Community Practice Innovation, Griffith University, Nathan, QLD, Australia

Corresponding Author:
Scott Harrison, Queensland Conservatorium Research Centre, Griffith University, PO BOX 3428, South Brisbane, 4101, Australia
Email: scott.harrison@griffith.edu.au

opportune to seek the general reflections and thoughts of the musicians regarding intervention efficacy. Thus, the objectives of the study were to (1) seek the musicians' views and experiences of delivering a music intervention protocol to older people with dementia in LTC and (2) explore the musicians' views on the efficacy of a music intervention protocol for therapeutic use with older people with dementia in LTC.

Methods

Design

The study described here was part of a larger program of research involving an RCT with a crossover design to explore the effect of a live group music program on agitation, emotion, and QOL of older people with dementia.[15-17] As part of the qualitative aspect of this research, a descriptive, thematic analysis approach was used to provide an understanding of the experience of delivering a music intervention protocol with older people with dementia in LTC within an RCT, an area about which little is known. The university human research ethics committee granted ethical approval for the study, and the musicians provided written informed consent, agreeing for the interview to be sound-recorded and transcribed (following de-identification to ensure anonymity).

Sample

Two musicians led the music intervention sessions. Initially, it was envisaged the musicians would be graduates from the University Conservatorium. However, after undertaking initial training with 5 undergraduate music students and following delays in finalizing the research sites and student unavailability, the attributes of the music interventionists were rethought. Newspaper advertisements in publications near the research sites yielded interest from semiprofessional musicians, and 2 were chosen as the study's musicians. To ensure methodological rigor, the musicians were blinded to the research aims and anticipated outcome. However, it was evident that their broad role was to provide music for the purpose of enjoyment for people with dementia in LTC.

Music Intervention

A member of the research team with expertise in music and music education led the development of the music intervention, undertaking consultation with the other members of the research team, facility diversional therapists (staff member coordinating resident activities), and study musicians regarding structure and content. Each music session consisted of 30 minutes of live musician–led singing of familiar songs (with guitar accompaniment) and 10 minutes of prerecorded music for active listening (see Table 1 for structure and list of music). Group sessions were chosen over individual interventions, because this has been found most effective in reducing agitation and anxiety for those with dementia.[6] Live interactive music was preferred over prerecorded music because the former has been shown to be superior in the short-term treatment of apathy in people with dementia.[18] However, 10 minutes of prerecorded music was included in the protocol to provide musicians and participants with a short rest from performance and singing and to ensure that those with a preference for more instrumental music were catered for. Finally, as the personal musical preferences of participants have been found to be most effective in reducing agitated behavior in those with dementia,[10,19,20] an adapted version of the Music Preference Questionnaire[21] was completed by all participants or their next of kin at the time of consent. A set repertoire, which on the whole catered for the expressed preferences of study participants, was initially established for each of the 3 sessions and repeated for the 8 weeks, an important part of ensuring the stringent levels of control required for an RCT. There was a need, however, to include more country and western songs in the repertoire because 26 participants stated that this was 1 of their 3 favorite types of music. These changes were incorporated at week 5 of the first 8 weeks. Table 1 outlines the structure of each session and a list of music used for each week.

The musicians were trained to administer the music protocol by the research team's music educator in two 3-hour sessions. In the first training session the music repertoire were taught to the musicians without the participants present and the protocol was modeled by the study's music educator. During this session, musicians were instructed to use only the first verse and chorus of each song and to repeat it 1 or 2 times, as often this was the part of the song most familiar to participants. To minimize the potential confounding effects of the different levels of auditory activity, the musicians were asked to play at a similar volume throughout the intervention (although a small PA system and microphone were used to ensure that the participants could hear the performance). It was also emphasized that the musicians should encourage, but not lead, participants to actively engage through singing/humming, playing instruments, and, where appropriate, movement. The importance of repeating the same set repertoire each week to ensure that the study had stringent levels of control and reliability was also highlighted to musicians and was stressed as a key part of their role. The musicians were asked to practice the repertoire prior to the second training session in which they were to each demonstrate how they would lead a group. Musicians also received training in working with older people with dementia, delivered by the study's gerontology specialist in a 3-hour session.

Data Collection

The 2 musicians who delivered the live music intervention for a total of 16 weeks (run in two 8-week blocks) to 47 older people with dementia in LTC (randomized into 2 groups that crossed over) were interviewed together at the completion of the RCT. The project manager interviewed the musicians together for approximately 40 minutes, using a semistructured 8-question schedule.

Data Analysis

The interview data were systematically reviewed to sort and classify data into representational groups that enabled development of categories that focused on behavior, observation, or

Table 1. Protocol Structure and Music Used

Music Session Component/Structure	Week's Music		
Song-singing 12.5 minutes	Pack Up Your Troubles	Road to Gundagai	Long Way to Tipperary
	Botany Bay	Cockles & Mussels	Que Sera Sera
	Hound Dog	It's Not Unusual	I Walk the Line
	Take Me Home Country Roads	Tie a Yellow Ribbon	Waltzing Matilda
	Song Sung Blue	Pack Up Your Troubles	All My Loving
Active listening 5 minutes	In the Mood	Prelude to Carmen	Can Can
	Blue Danube	Nessun Dorma	Carmina Burana
Song-singing 7.5 minutes	That's Amore	I Want to Hold Your Hand	Oh What a Beautiful Morning
	When Irish Eyes Are Smiling	Blueberry Hill	Shake Rattle & Roll
	Somewhere Over the Rainbow	Danny Boy	When You Wish Upon a Star
Active listening 5 minutes	Rule Britannia	Radetsky March	Home Sweet Home
	Sabre Dance	Eine Kleine Nachtmusik	Hallelujah
Song-singing 7.5 minutes	Rock Around the Clock	Georgy Girl	Let Me Be There
	Yellow Submarine	Blue Suede Shoes	On the Sunny Side of the Street
	You Are My Sunshine	If I Had a Hammer	Zip-A-Dee-Doo-Dah

verbal expression.[22] As relationships among categories, participants, actions, and events began to emerge,[23] implicit and implied meanings within accounts were analyzed and assigned themes. Two main themes emerged: the design of the protocol and the efficacy of the program.

Results

The Musicians

The 2 musicians were a male (musician A) and female (musician B) aged between 50 and 60 years. Both could sing well and were accomplished guitarists. One musician could read music, whereas the other learned the repertoire more aurally, using recordings to assist where necessary. Neither musician had formal training in music, music therapy, or music education, although both had presented community music programs in similar settings and were confident performers.

Protocol Design

The musicians were generally favorable about the design and structure of the music sessions and suggested minimal changes or improvements for future protocol design. Specifically, the musicians felt that the repertoire selection was appropriate for use with older people with dementia and included an array of different genres and styles:

> I think most of the songs were well known and that made it easier for them to join in, which was a good thing. (Musician B)
>
> It was a good mix, I think it was a good mix of songs, the old time songs mixed in with the more modern songs, through the rock and roll period and I think having the rock and roll songs in there was a really good thing. Just because they're older doesn't mean they don't like good rock and roll. (Musician A)

The length of the music session was also considered ideal for use with older people with dementia, with 40 minutes being long enough to provide enjoyment but without requiring participants to sit for a prolonged period of time, which might have lead to restless behavior:

> I thought any longer and maybe some of them may have got a bit edgy, wanting a cup or tea or whatever. But if it had been any shorter it would have been too short. (Musician B)

The musicians also reflected that the incorporation of prerecorded instrumental music was an important part of the music intervention protocol because it provided a break to "rest your voice" (Musician B) while also catering for participants with more classical, instrumental tastes:

> There are some people who do enjoy classical music and that came out [during the prerecorded aspect of the session]. (Musician A)

Finally, the musicians reflected that it was appropriate for the music protocol to be implemented by a team of 2 musicians, as it would have been difficult to undertake individually, but did not require a third musician:

> It could work with 1 but I think 2 are good because it offers support for each other. It also gives you an extra dimension if we are doing harmonies and things like that. Which is good for the residents and good for the listeners as well. It could be done with 1 but 2 is probably the best choice. Three . . . it's a bit over the top. (Musician A)

When asked how the protocol might be changed for future use, the musicians indicated they would "keep the same format" (Musician A) but use equipment that provided better sound quality, to ensure that participants could hear the repertoire selections. In saying that, however, the musicians acknowledged that use of a better system could possibly detract from the perceived success of the intervention as would require more set-up time. As such, the musicians suggested that the provision of 2 microphones, 1 for each musician, might be a way to enhance volume and keep set-up time to a minimum:

You need probably a better PA system, which we could provide, but the idea is, what made it so good is that we just came in with our guitars and sat down and we were ready to go. We didn't have to set up. To have proper equipment set up is a task in itself. For 40 minutes a day it's probably not worth doing that. So what you had was good but possibly having 1 each of what you had. Say you have 2 microphones and if there's only 1 unit, 1 microphone per 1 input then you get a little double adaptor or you have 2 units, 1 for each musician. (Musician A)

Music Intervention Efficacy

The musicians perceived the music intervention to have a positive outcomes and benefits particularly for the person with dementia but also, to a lesser extent, for facility care staff. Indeed, the musicians felt they saw improvements in mood, memory, general well-being, and QOL for the person with dementia, both during and after the session:

In my opinion, it had a very positive effect on them all. I don't think there were any exceptions and I saw, through the course, an improvement of mood of numbers of people, of the participants. . . . I thought it brought their memories back, they could relate to perhaps the time they used to sing these songs when they were younger. (Musician A)

I thought that they seemed to enjoy the program and I think they were just, by their comments they looked forward to us coming. Overall, it was very positive. (Musician B)

They also recalled some specific participants whose behavior change was most evident:

He just responded almost spontaneously at times to the music and he was tapping his feet or his hands and he was always smiling. . . . So I think he enjoyed the company as well. But he just liked the music.

She just loved it; she said, "Oh I just love this." So she responded well, I don't know how she was before . . . a couple of the nurses had said that this had brought them out. (Musician A)

Some relatives of the participants also made comment to the musicians about the benefits they perceived:

Some of their daughters said the same thing . . . she was really impressed with the program. . . . So it's obviously, it's something they could see, their own relatives could see a change in them and they were really happy that they were in the program. (Musician A)

Although the musicians were not aware of the precise nature of the research, some of their reflections relate to the central tenet of the program in terms of the effect of music on disruptive behaviors. Both musicians observed staff commenting on improved behavior patterns in the residents:

Some of the staff have said that after the music session they've [participants] had a good day. So it goes beyond just the music session, they have a good day for the rest of the day following their music. They stay positive for that day and that's all you can really work on. If they had music every day then they might have a good day every day. (Musician A)

I think it obviously just put them in a happier frame of mind. . . . It just improves their quality of life. (Musician B)

These behavioral changes were then perceived to inadvertently help reduce workload pressures on staff by making it "easier for the staff to work with [the person with dementia]" (Musician A).

Discussion

In light of the methodological concerns associated with previous research into the therapeutic use of music for older people with dementia,[5,10-12] a large program of research, using an RCT with crossover design, was conducted. As part of this emphasis on stringent methodological control, a group music intervention protocol for trained musicians to adhere to was developed. Given that this protocol was designed for the purposes of this research and was used for the first time here, we considered it important to reflect upon the success of the protocol and review it from the perspective and experiences of the musicians delivering it. In addition, although the RCT assessed the impact of the music intervention on clinical symptoms through standardized measures, it was also considered opportune to seek the musicians' thoughts on intervention efficacy and ensure that impact was considered, in some way, beyond improvements in clinical symptoms. Thus, the study described here sought to offer qualitative data from the perspective of the musicians delivering the music intervention in the overarching RCT.

From the musicians' perspectives, the music intervention protocol was appropriately designed and was successful for use with older people with dementia in LTC. The particular strengths of the protocol included appropriate repertoire selection and session length and the incorporation of live and prerecorded music. It was also considered advantageous for the intervention to be facilitated by a team of 2 musicians. These design considerations, given their perceived success in the view of the 2 musicians, offer a structure for other researchers looking to undertake similar controlled trials. This is important given the concerns over methodological rigor of previous work and the need for more stringent levels of control to be adopted in music and dementia care research. Thus, it may be advantageous for music intervention studies to use protocols that are delivered by a team of 2 musicians, that include an array of songs that have been identified by participants, that are 40 minutes in length, and that include live and prerecorded music.

In terms of intervention efficacy, the musicians provided important qualitative, reflective evidence regarding the perceived impact on participants' mood, memory, well-being, and QOL. These reflections were important to capture alongside the use of standardized assessment tools used in the larger research program and provided additional information that was not focused on the biomedical profile of dementia and the amelioration of clinical symptoms. The reflections

provided the musicians with an opportunity to voice their views, which made them feel part of the research and acknowledged their involvement, important factors given the musicians' centrality in delivering the intervention. The collection of such general, reflective data is encouraged in future studies because it offers important insight regarding intervention efficacy.

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Bios

Scott Harrison, PhD, LMusA, LTCL, is a lecturer in music and music education at Griffith University, with a research focus on music, gender, well-being, and education.

Marie Cooke, PhD, is the deputy head of School of Nursing and Midwifery, Griffith University, with research strength in complementary therapies.

Wendy Moyle, PhD, is deputy director, Research Centre for Clinical and Community Practice Innovation, Griffith University, specializing in dementia care and management of disruptive behaviors.

David Shum, PhD, is deputy director, Griffith Institute of Health and Medical Research, and a neuropsychologist specializing in the effects of brain injury.

Jenny Murfield, BCs Hons, is a senior research assistant, Research Centre for Clinical and Community Practice Innovation, Griffith University, with experience in educational and health-related research.