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‘Music-therapeutic caregiving’: the necessity of active music-making in clinical care

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Introduction

Music’s utility in clinical and caregiving situations is well established in the research literature. Music has been used in numerous medical contexts: (a) for controlling postoperative pain (Broscious, 1999), (b) for reducing nausea and vomiting after chemotherapy (Ezzone et al., 1998), (c) in handling restrained patients (Janelli & Kanski, 1997), and (d) in decreasing anxiety during ventilatory assistance (Chlan, 1998), to name just a few.

However, these studies have focused almost exclusively on the use of *background music*; music’s principal function in caregiving situations consists of modifying the sound environment of the patient. This is in contrast to many forms of music therapy, where active music-making comprises a significant component of the therapeutic process (e.g., Nordoff & Robbins, 1977; Bruscia, 1987; Aldridge, 1996). However, music therapy occurs outside the context of most of the clinical and caring activities mentioned above. What is crucially missing is a form of active music-making – and most especially singing – on the part of caregivers in caring contexts. This is a highly

neglected area of consideration, one that has a tremendous but untapped potential to be used as an adjunct to both music therapy and background music to improve the care and functioning of patients. Despite an abundance of anecdotal evidence suggesting that singing can be an effective intervention by many types of caregivers for many types of patients, it is difficult to find any mention of this topic in the literature, a notable exception being the work of Clair (Hanser & Clair, 1995; Clair, 1996a,b; Clair & Ebberts, 1997).

We introduce a new term here, *music-therapeutic caregiving* (MTC), to describe an active form of music-making by caregivers to and/or with patients during the course of actual caregiving activities. The goal for the patient in such a process is not the performance of music but the performance of a host of activities important for daily living and personal health. While MTC may certainly involve singing on the part of the patient, its major focus is on “receptive singing,” in other words, patient responsiveness to caregiver singing and the resultant effect this has on compliance, cognition, and emotion. We will proceed by providing a brief case study of the use of MTC in dementia care, followed by a description of its general features. MTC is an extremely straightforward technique, one that can greatly increase the quality not only of patient care but the caregiver-patient relationship as well.

A brief case study: a dementia patient

Background music has been used extensively with dementia patients both in music therapy sessions and

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in caregiving situations (reviewed in Clair, 1996b, Brotons, Koger & Pickett-Cooper, 1997, and Koger, Chapin & Brotons, 1999). Background music has been found to have important effects: (a) in decreasing aggressive and agitated behavior (Gerdner & Swanson, 1993; Goddaer & Abraham, 1994), (b) in increasing food intake during meals (Ragneskog et al., 1996), (c) in increasing bathing cooperation (Thomas, Heitman & Alexander, 1997), (d) in increasing cognitive capabilities (Prickett & Moore, 1991; Lord & Garner, 1993), and (e) in improving mood and social interaction (Lord & Garner, 1993). This general efficacy of background music accords well with studies showing that dementia patients can retain a large degree of musical responsiveness and skill in the face of memory loss, language impairment, and other disabilities (Crystal, Grober & Masur, 1989; Swartz et al., 1989; Prickett & Moore, 1991; Aldridge, 1996), and that they can be quite responsive to music in caregiving situations (Clair, 1996b; Clair & Ebberts, 1997).

Beyond background music, the effects of both active and receptive singing on patient behavior have been examined in several studies, all of them involving music therapists (Smith, 1986; Olderog Millard & Smith, 1989; Pollack & Namazi, 1992; Groene, 1993; Lipe, 1995; Brotons & Pickett-Cooper, 1994, 1996; Clair, 1996a; Hanson et al., 1996; Carruth, 1997; Groene et al., 1998). In dementia studies, as in other areas where the therapeutic effects of music are explored, it is only music therapists who engage in active music-making with patients; other clinical caregivers exclusively employ background music in their work. As singing has been shown to have many positive effects on the social behaviors and cognitive skills of patients in these studies, there is all the more reason to give serious consideration to the concept of caregiver-mediated musical interventions. While the music therapist Clair (1996a,b) has discussed the utility of caregiver engagement in musical activities with dementia patients, she has only examined these effects in one study, and that one focused on family caregivers (Clair & Ebberts, 1997). Götell, Brown and Ekman (2000) studied the effects of active caregiver participation in music events (mainly group singing) conducted in a dementia ward, however these events were led by a sociotherapist and occupational therapy assistant with training in music therapy.

In contrast to this situation in the research literature, there is strong evidence that singing is used extensively in the care of elderly persons living in hospital wards and nursing homes. Hylton (1983) showed that a large majority of the elderly and nursing homes that he surveyed offered musical activities – most especially recreational singing – for its resi-

dents. Over 80% of the nursing homes he surveyed had hymn singing and sing-alongs for its residents, and 95% of them had some form of singing activity at least once a month, where the singing was generally run by the activities director of the home. Overall, 43% of the residents in these homes participated in singing activities. The overwhelming presence of singing in these environments suggests that there might be a great therapeutic potential waiting to be explored in the form of caregiver singing during caring situations.

As a first approach to the use of music-therapeutic caregiving with healthcare professionals, we present a brief case study of one subject from a larger study involving 10 dementia patients. It is important to mention that the following description is representative of nine other subjects taking part in this study and not an isolated case. This is a qualitative study conducted by one of us (EG) in a 24-bed special care unit for patients with dementia, itself a part of a larger hospital located in an urban area of Sweden. The patient in question, Vera, was an 85-year-old Swedish woman suffering from severe dementia (non-Alzheimer's type dementia). She had been living in the special care unit for two and a half years before the study began. Her Mini-Mental State Examination score was 0 (on a scale of 30 points). Vera's caregiver, Anna, was a 31-year-old Swedish licensed practical nurse who had worked in the dementia unit for 10 years.

The current study was designed to evaluate the effect of caregiver-mediated singing on patient actions and reactions during the morning care routine, which includes washing the body, combing the hair, brushing the teeth, and dressing the patient in a private bathroom containing a mirror. Two treatment conditions were compared, where subjects served as their own controls: (a) no music (the control condition), and (b) caregiver singing to the patient (music-therapeutic caregiving). The second condition occurred two days after the first. Each session began at 7:30 in the morning, and lasted roughly 10 min.

The sessions were videotaped by the second author, who stayed in the room throughout the care routine. The videos were then analyzed using the phenomenological-hermeneutic method inspired by the philosopher Paul Ricoeur (1976). The activities of the morning-care sessions were transcribed into text, and then analyzed based on a three-step process of interpretation: (a) naive understanding (viewing the situation as a whole, and establishing the major themes of the session), (b) structural analysis (examination, part by part, of the interactions between the patient and caregiver as they communicated verbally, nonverbally, and paralinguistically), and (c) comprehensive understanding (overall analysis of the naive

reading and structural analysis into an interpreted whole). The following is a description of these morning sessions with Vera and Anna.

First condition: no music. This represented the typical morning routine with Vera, and served as the control condition. Anna initiated all conversation and instructed Vera as to what had to be done in order to perform the morning activities. Vera responded as she did every morning, acting confused, aggressive, and resistant. When Anna washed Vera's face, she had to stand far away from her in order to avoid being hit and pinched, which often resulted in Vera being able to pull the washcloth and towel out of Anna's hands. While brushing Vera's teeth, Anna had to use mild force in order to get the toothbrush into her mouth. Vera did not willingly open her mouth, and screamed that Anna was "mean, mean, mean." While being dressed, Vera had difficulty understanding what was going on. She continued to be confused, resistant, and aggressive. At the end of the morning care session, Anna supported Vera in order to have her look at herself in the mirror. Vera looked fatigued and confused and conveyed a feeling of failure.

Second condition: caregiver singing to the patient. On the second day, the only change in the routine was that Anna sang to Vera throughout the session, while speaking to her intermittently. The songs consisted of several typical Swedish sing-along songs which people sing when gathering in a group in Sweden. Vera's overall demeanor was strikingly different from the previous session. When Anna was performing her caring activities, Vera showed no overt aggressiveness at any time. Vera laughed and said that she was having a nice time. Her facial expression seemed to be full of calm and satisfaction while she looked around the bathroom. While being sung to, Vera seemed to understand the nonverbal communication signals from Anna with regard to dressing, brushing her teeth, and putting in her false tooth, and she offered cooperation in performing these activities without showing any kind of resistance or aggressiveness. But in addition to this level of nonverbal communication, there was a striking improvement at the verbal level, both in terms of perception and production. Vera used longer phrases, and could even utter complete sentences. When Anna sang the song *Kostervalsen* to Vera, whose last line is "Do you want to marry me?", Vera laughingly responded "OK, I'll do that." Thus, there was more of a sense of real dialogue between Vera and Anna. When Vera was looking at herself in the mirror at the end of the session, she seemed to recognize and appreciate her image. Thus, both her awareness for objects in the room and her self-awareness were strikingly im-

proved in this situation. Immediately following the morning routine, Vera laughed and looked satisfied when thanking Anna for helping her. When interviewing Anna after the morning session, she was pleasantly surprised that "Singing really did the trick."

Caregiver singing had a major effect on the compliance of a normally hostile and resistant patient. But in addition to that, singing seemed to bring out the social side of the patient. She joked more, was more expressive, and showed more appreciation for the caregiver. More of the patient's own personality seemed to come out. There was increased cognitive sharpness in her verbal statements, and more of a sense of conversing during the time that the caregiver spoke to her (or even sang to her). The patient seemed to have a greater sense of herself when seeing her image in the mirror. Finally, the caregiver reported feeling a heightened sense of connectedness and involvement with the patient during the singing session compared with the no-singing condition. In sum, qualitative observation found great benefits for both the patient and the caregiver with the use of MTC. Similar results have been obtained with nine other dementia patients in this study.

Features of music-therapeutic caregiving

Context

The basic context in which MTC is used consists of day-to-day caring situations, including hygiene sessions, dressing time, meal time, pill time, bed time, and the like. MTC is not designed to be a substitute for music therapy but an important adjunct to it. However, it should be pointed out that MTC fills an important void created by the restrictive scheduling practices of active music therapy which tend to limit musical activities to individual sessions once or twice a week, thus leaving long intervals in which the only music therapy option available to patients is background-music listening. MTC fills this void by combining the *subject-specificity* of active music therapy (i.e., the directed and personalized use of musical performance) with the *context-generality* of background music (i.e., the abundant number of contexts for its use). This creates many new contexts in which live music can be implemented to improve the quality of life for patients. This applies to all types of caring environments (hospitals, nursing homes, family settings) and to all types of caring situations (bathing, eating, dressing, and so on). As the latter situations are rarely contexts for music therapy sessions, we envision MTC and music therapy as *par-*

allel processes in the clinical use of music for patient care.

Beyond the “care-therapy” dichotomy

Bunt (1994) defined music therapy as the use of music to “support and encourage physical, mental, social, and emotional well-being” (p. 8). According to Clair (1996b), “music is therapeutic with older individuals when it provides relief from physical, social, or emotional discomfort, and when it contributes to their ability to function” (p. 8). Despite the open-ended nature of these definitions, caregivers are not viewed as music therapists because they lack training in the specific methodologies of music therapy. In reality, music therapy is defined more often in terms of professional training than clinical consequences. However, due to the extensive interaction between patient and caregiver and because of the unique and profound nature of their relationship, there is an enormous but unexplored potential to utilize this relationship to improve both patient care and patient health. Through appropriate training programs (see below), caregivers can be taught how to use singing and other forms of music-making in a host of situations in which it can be beneficial for patient care and treatment in daily settings. This is not “therapy” in the sense of a specific program designed to improve disease symptoms, accompanied by ongoing clinical assessment. However, it is essential to point out much of what is called music therapy is apparently ineffective in dealing with clinical progression and can at best be used to bring about a short-term alleviation of symptoms or an improvement in the quality of life of the patient.

A clear example of this is the use of music therapy in the treatment of dementia. Virtually all studies of music therapy with dementia patients have demonstrated, at most, short-term effects of music-making on these patients, effects that last no more than several hours after the therapy session (reviewed in Brotons, Koger & Pickett-Cooper, 1997, and Koger, Chapin & Brotons, 1999). No claim has been made that music therapy leads to a progressive or long-term reversal of dementia symptoms. To the extent that this is so, then maintaining the functioning and quality of life of the patient (*à la* Bunt and Clair) becomes the primary objective of musical interventions. At the present time, there is no evidence that music-therapist-mediated interventions are more effective than those of other professionals. Koger, Chapin and Brotons (1999), in performing a meta-analysis of 21 studies of music therapy in dementia, found that the positive effects of musical interventions on patient behavior *did not* vary according to therapist type: “no effect size inconsistencies were detected when stud-

ies were subdivided according to. . . professional music therapist versus other professional” (p. 9). In addition, Brotons and Pickett-Cooper (1996) demonstrated that the ability of professional caregivers to evaluate patient behavior (in this case, agitation behavior) during and after music therapy situations was indistinguishable from that of professional music therapists. All of this suggests that MTC might be a viable adjunct to music therapy.

Finally, MTC opens up new possibilities for caregivers to work as collaborators with professional music therapists in these areas, not least in the design of music therapy programs. There can be a definite reciprocal benefit here: music therapy sessions can make patients easier to care for in the ward, and caregiver involvement in musical practice can direct music therapists toward personalized uses of music with patients that are optimized with respect to their individual preferences, needs, and capabilities.

Active versus receptive singing

The therapeutic value of singing has been discussed from several different perspectives. Hunter (1999) reviewed a series of articles from the late 19th and early 20th centuries supporting the idea that singing provided a definite health benefit to individuals, most especially with regard to respiratory function, an idea that was well-accepted by medical professionals. Singing was viewed as both “a prophylactic and a therapeutic measure” (Kellogg, 1931, quoted in Hunter, 1999). More recently, a genre of popular books has emerged describing the therapeutic value of singing and other forms of vocalizing (for example, Newham’s [1999] *The healing voice: How to use the power of your voice to bring harmony into your life*). The healing power of singing is thought to be due, in large part, to its potent ability to express a wide range of repressed emotions. Finally, Bygren, Konlaan and Johansson (1996), in an epidemiologic study of social determinants of survival among a sampling of over 15,000 people in Sweden, found that singing in a choir (or more generally “making music”) was one factor that was positively correlated with reduced risk of mortality. The same was true for attending cultural events. The authors argued that incorporating such activities into one’s life “widens a social network and gives the feeling of belonging to a group, and this in itself could be the important determinant of survival” (p. 1578). In sum, singing is thought to have multiple benefits for the individual at the physiological, emotional, and social levels.

As significant as these effects are, MTC highlights an important distinction between the therapeutic effects of *singing* itself and those of *being sung to*.

MTC is principally a receptive form of singing when seen from the perspective of the patient, although patients may certainly engage in singing during this process. Research in music therapy has pointed to certain limitations in the effectiveness of active singing for dementia patients. For example, Brotons and Pickett-Cooper (1994) demonstrated a lower preference among dementia patients for small-group singing compared to playing instruments, dancing or playing musical games. Hanson et al. (1996) showed that singing in small groups produced less involvement and more disruptive behaviors than either movement or rhythm activities regardless of the degree of dementia progression, although this effect was less pronounced for low-demand musical tasks than for high-demand tasks. Clair and Ebberts (1997) found that dementia patients engaged less in singing than in rhythm playing during music therapy sessions involving their (nondemented) spouses, although the spouses showed equally high engagement with both singing and rhythm playing. Finally, Groene et al. (1998) found that dementia patients demonstrated purposeful responses significantly less often during sing-along sessions than during exercise sessions. All these results argue that active singing might not be a preferred activity for severely demented patients.

Why might this be so? There seem to be at least two principal reasons. First, singing is a complex activity, one which requires a fair degree of verbal skill, as virtually all sing-along songs are songs with words. This might create a high cognitive demand for the patient, especially given the preponderance of linguistic impairments among dementia patients. Singing is unquestionably a more demanding task than either listening or moving to music, and it is most likely that verbalizing rather than vocalizing *per se* contributes to its complexity. Second, Clair and Bernstein (1990) and Clair (1996a) have provided evidence suggesting that singing skill declines significantly during the course of dementia. Severely regressed Alzheimer's patients do not seem to participate in singing. It is likely that "singing participation will decrease and eventually cease in this [patient] population, particularly as the dementia progresses" (Clair & Bernstein, 1990, p. 124). Moreover, Lipe (1995) found a strong correlation ($r = 0.78$) between singing performance and performance on the Mini Mental State Exam (a test of cognitive function) among dementia patients, suggesting that singing performance falls off as general cognitive functioning deteriorates. Finally, Moore, Staum and Brotons (1992) showed that the singing range of normal elderly people dropped off significantly with age. For men, the drop in vocal range was from 21 semitones at age 60 to 14 semitones at age 90, and for women it was from 19 to 15 semitones over the same period.

Thus, singing range clearly diminishes with age even in the absence of dementia.

All of these limitations suggest that receptive singing might be a more effective therapeutic intervention than active singing, especially in the late stages of dementia, as there is no evidence that responsiveness to singing declines during the course of dementia (Swartz et al., 1989). Receptive singing demands little cognitive skill and is an effective stimulator of attention (Clair, 1996a). While patient singing is certainly a possibility during MTC—something to be reinforced by the caregiver—the most important therapeutic effect is probably due to receptive singing and the resultant effect this has on patients' actions and reactions.

It is interesting to mention in passing that a therapeutic role for music in the treatment of physical and emotional disease is found in many if not all non-Western cultures. "Music healing" is an ancient art that is at the root of what, in the 20th century, acquired the name of "music therapy." Many forms of music healing in tribal cultures are themselves based on receptive singing, although such singing is often directed toward the spirits rather than toward the patient *per se*. This is the case in many cultures where disease is attributed to the bad humor of spirits and demons rather than to physiological causes (Moffitt Cook, 1997). In such situations, the healer's singing becomes a means of assuaging angry spirits rather than directly soothing or helping patients. This occurs in the many cultures where shamans function as the culture's music healers, and where music is used to induce a state of trance in the shaman as a means of facilitating healing in people (Moreno, 1988). Receptive singing seems to represent the ancient roots of the therapeutic use of music.

Effects and mechanisms

The major effects of MTC are, in many respects, similar to those seen in music therapy situations. These can include effects on language skills, mood, emotional control, gesture, facial expression, motor coordination, pain control, sense of self, and so on (Davis, Gfeller & Thaut, 1998). There are several reports in the literature demonstrating the benefits of both active and receptive singing for patients when performed in an individualized manner. For example, "melodic intonation therapy" is a means of using singing to facilitate the production of speech in motor aphasics (Belin et al., 1996). Clair (1996a) found that receptive singing was an effective means of stimulating attentional responses in late-stage dementia patients. Carruth (1997) demonstrated that receptive singing improved face-name recognition in four out of seven nursing home residents she tested. Finally,

Standley (1998) showed that lullaby singing to premature infants in an intensive care unit led to more rapid weight gain and earlier discharge than infants who were not sung to.

However, in addition to such responses, there are two types of effects of receptive singing in MTC that are not found in music therapy, and which can have great ramifications for patient care. The first is an improvement in *patient compliance* with caregivers in daily caregiving situations. Much about health and recovery depends on patient compliance with doctors' recommendations, be it exercise, eating, or the taking of medication. As described in our case study, MTC can have dramatic effects on making resistant and/or cognitively-impaired patients perform activities necessary for daily functioning and/or good recovery. This can apply to getting dressed, eating, taking medication, bathing, grooming, and the like. The second unique effect of MTC is a *reciprocal improvement in the caregiver-patient relationship*. Not only can this improve the quality of life for the patient through better care but it can increase morale and reduce burnout in the caregiver (among nurses: Olderog Millard & Smith, 1989; Goddaer & Abraham, 1994; Thomas, Heitman & Alexander, 1997; among family caregivers: Pearson et al., 1993; Clair, 1996b; Clair & Ebberts, 1997).

Singing to a person is a highly emotive activity, one that conveys a great sense of personal involvement, caring, and gentleness. We suspect that it is the act of personalized singing rather than the music being sung which is the "active ingredient" in MTC. When in adult life does anyone ever sing to us? It is so rare as to be highly stimulating and affecting. Individualized singing can be enormously soothing and can create a great feeling of security and bonding. Interestingly, the social arrangement of MTC is strikingly reminiscent of mother-infant communication, itself full of singing and highly intoned speech (Fernald, 1992). And like mother-infant communication, MTC is strongly focused on increasing the compliance of the person being sung to. However, the effects of singing should be seen as operating in a reciprocal fashion between the caregiver and the care-receiver. Just as being sung to can make the patient feel calmer and more secure, so too the act of singing can make the caregiver feel a great sense of affection for and bonding with the patient (Götell, Brown & Ekman, 2000). In the domain of dementia care, MTC's reminiscence of mother-infant interaction has important connections with Miesen's (1993) ideas about "parent fixation" and interpersonal attachment during the course of Alzheimer's disease.

The effects of directed singing on patient behavior may reflect what Brown (1996) has called the "arousing/soothing effect" of music upon the listener. Mu-

sic has a paradoxical effect on people in that it can greatly increase attention and vigilance but at the same time can elicit a calming or soothing effect. These effects occur simultaneously in many listening situations, suggesting that there may be two principal dimensions to music's effects on the listener: attention and emotion. This probably reflects music's action on two different neural systems in the brain. Interestingly, this paradoxical effect of music is also a prominent feature of mother-infant communication (Fernald, 1992), which might suggest a developmental origin for it. Thus, caregiver singing to patients might not only have a similar social arrangement to mother-infant communication but it may capitalize on the same cognitive and affective mechanisms in bringing about its effects. These points about music's emotive effects are speculative, but highlight music's paradoxical capacity to simultaneously arouse and soothe as a potentially important mechanism for singing's beneficial effects on noncompliant, aggressive, and/or detached patients.

In summary, while previous research has shown that singing can improve attentional, emotional, and social capacities, MTC provides two important additional benefits that singing in the context of music therapy does not necessarily provide: increased compliance by the patient in day-to-day caring situations, and reciprocally improved caregiver-patient relations. The mechanism of this effect may be rooted in the highly emotive response elicited by individualized singing, an effect that may recall the warmth, security, reciprocity, and synchronicity of mother-infant communication. Finally, this response may be mediated biologically by the arousing/soothing effect that characterizes the action of music in many listening situations.

Training

Training in MTC should teach caregivers how to use singing and other forms of music-making in an appropriate and effective manner during the course of caregiving activities so that music-making is both individualized to the patient and sensitive to changes in patient mood and behavior. Such training could be incorporated into the curriculum of healthcare professionals everywhere. But what should this training entail? It is important to note that there are still no precedents for the use of music-making in caregiving activities, and that all suggestions regarding training must be seen as tentative at the current time. Whatever caregiver training may ultimately entail, it will involve minimal cost to the institution and minimal changes in personnel training or selection. Thus, MTC is an extremely inexpensive and simple way to

improve patient care whose benefits could be wide-ranging.

In order for MTC to be a viable method, caregivers have to develop a sense of their musical side, and learn how to use it to advantage during caregiving situations. First of all, this will involve some type of simple vocal training that teaches caregivers to sing in a pleasing and uninhibited fashion. Fortunately, there is now an abundance of technologies available that enable people to learn the basic techniques of singing (Davis, 1999). Second, this will involve developing a repertoire of songs that can be sung during caregiving situations. While it is difficult to specify the size of this repertoire, it should be diverse enough to avoid desensitizing repetition or awkward gaps in performance and include both arousing and soothing songs. Preferred, familiar songs, and most especially songs with words, are better than either unfamiliar and/or textless songs as they permit greater possibilities for engagement by the patient, either through joint singing or through involvement in the linguistic (semantic) aspects of the song. However, we emphasize that musical participation by the patient is *not* a requirement for MTC. The only thing expected of the patient is compliance, responsiveness, improved mood, reduced agitation, and so forth, anything that can be seen as beneficial for patient care, well-being, and treatment. Thus, in contrast to improvisational forms of active music therapy (Nordoff & Robbins, 1977; Bruscia, 1987; Aldridge, 1996), training in MTC should not focus on teaching caregivers how to elicit musical responses from patients but instead in teaching them how to use music in a directed fashion to improve the day-to-day functioning of patients. But just like improvisational forms of active therapy, training in MTC should focus on teaching caregivers how to vary their musical expressions and expressiveness in accordance with the responses and needs of the patient.

One way in which MTC might differ from active music therapy is that it is probably less dependent upon musical style and performance skill. The choice of music and the quality of performance are most likely secondary to the act of singing itself. It is the sense of personal involvement generated by the act of singing that makes MTC special, and that supersedes concerns about general musicianship. Expressiveness is probably more important than a good voice or a personally-tailored musical repertoire. However, this does not mean that singing style and song repertoire are unimportant. In fact, one of the distinct advantages of MTC is the ability to adapt the music on the spot to the needs of the patient and the demands of the caring situation. Several studies of music with dementia patients have shown that individualized music (either active or passive) can be highly effective

at calming agitation (Gerdner & Swanson, 1993), reducing wandering (Groene, 1993), and increasing pro-social behaviors (Pollack & Namazi, 1992).

A handful of studies have examined the musical preferences of nondemented elderly people. These studies provide guidelines for the use of music in both music therapy and MTC. For example, both Gibbons (1977) and Bartlett (1980) found that elderly people had a preference for the popular music of their young adult years. Jonas (1991) found that country music was the most generally preferred style among a group of 16 American elderly people, and that a preference for classical music was associated with higher education, greater musical training, and a history of living in a large community. Moore, Staum and Brotons (1992) looked at the style preferences of 514 elderly people living in nursing homes and retirement communities and found that they preferred patriotic songs and hymns over popular and folk songs. It is important to note that the results of these studies are subject to cultural differences, since it is likely that the observed preferences were dependent on the cultural background of the subjects.

Moore, Staum and Brotons (1992) also found that, for a given song, slow tempos were preferred to medium tempos which were preferred to fast tempos. Interestingly, in examining the type of instrumental accompaniment that was preferred for a given song, they found that live performance (i.e., live singing with instrumental accompaniment) was preferred to any type of recorded accompaniment. As the instrumental accompaniment in their live performance was quite rudimentary, these investigators concluded that “live *singing* is the factor to which these individuals responded” (p. 247, emphasis added). This observation is in accord with intuitions about MTC: elderly people may in fact be more responsive to the sound of the human voice and the act of singing than to a particular song or its instrumental arrangement.

The overall implication of these studies for MTC is that song repertoires should be tailored to the song, style, tempo, and loudness preferences of elderly people in general and individual patients in particular. At the same time, the observations of Moore, Staum and Brotons (1992) with regard to instrumental accompaniment suggest that live vocal performance in and of itself—especially the type of personalized performance that underlies the practice of MTC—could supersede many other musical and stylistic concerns. Very little is known about the musical preferences of dementia patients. Bartlett, Halpern and Dowling (1995) have shown that people with dementia have a clear impairment in recognizing familiar tunes and in recognizing deviations from them. Again this might suggest that a fair degree of

flexibility is allowed in selecting songs for dementia patients during MTC.

Contexts of application

MTC could, in theory, be incorporated into any clinical setting or situation as an adjunct to music therapy, but it might have a unique role in certain situations where music therapy techniques are not as effective or applicable. MTC is ideally suited for situations in which music therapy techniques (either passive or active) have minimal long-term benefits on patient prognosis, and where music therapy is used mainly to deal with the morale, behavior or quality of life of the patient. This could be especially useful for situations where patient compliance is low, such as with patients having reduced cognitive skills. This would include the care for dementia patients (Olderog Millard & Smith, 1989; Clair, 1996a,b), and mentally handicapped people (Coates, 1987). We emphasize again that it is difficult to imagine music as having true long-term effects in such conditions, and so the most that music therapy can hope to accomplish is to improve the quality of life and day-to-day functioning of patients. In contrast to this, Standley's (1998) study of lullaby singing to premature infants suggests that singing can have definite long-term benefits on patient health and recovery, and that the applicability of caregiver singing in such situations is only a matter of training caregivers to conduct the appropriate musical interventions in the appropriate manner. The large number of contexts where MTC may be applicable makes it a natural adjunct to patient care since it can be used in virtually all caring situations, and may have a positive impact on any relationship between a caregiver and patient in hospital, nursing home, and family settings.

Conclusions

An analysis of the literature shows that when music has been employed in caregiving settings it has been used exclusively in the form of background music, where it has been used to both calm and stimulate. Several review articles have been published in the nursing literature describing the potential of using music in caregiving settings, but again the overwhelming emphasis has been on background music (Glynn, 1992; Kneafsey, 1997; Snyder & Chlan, 1999). This contrasts with improvisational forms of music therapy where active music-making is an integral component of the therapeutic process. One idea that has not received adequate consideration in the research literature is that of active music-making by healthcare professionals during the course of care-

giving activities. This article has made a case for the clinical use of such a methodology. The idea is certainly not new. It has been mentioned in passing by Clair (1996a,b), Clair and Ebberts (1997), and Brotons, Koger and Pickett-Cooper (1997), among others. However, the idea has not attracted any type of following, and has not been presented as a coherent concept in the literature. The irony of the situation is that caregivers are in a privileged position to take full advantage of the power of singing and other forms of music-making to improve the care and functioning of patients. The fact that they have typically played a passive role in this process, with no more important a function than turning on CD players, suggests that their therapeutic potential has been underplayed, despite the acknowledged importance of singing in the music therapy literature.

Clair (1996a) found that unaccompanied therapist singing was an effective means of eliciting attentional responses in patients in the final stages of dementia, even if they were unresponsive to other types of stimulation in their daily lives. Importantly, she emphasized the potential of singing to be used by all types of caregivers: "songs are successful facilitators of response even when sung without accompaniment, and are therefore accessible to all persons who wish to use them, regardless of musical background and training. Therefore, *family members and residential care staff may use singing to engage interaction at some level with persons in late stage dementia*" (p. 245, emphasis added). In a study involving family caregivers and their loved ones, Clair and Ebberts (1997) found that the musical interventions learned through work with a music therapist could be applied successfully outside of the music therapy setting, and that this gave the family member a rewarding feeling of being able to communicate with their demented loved one. These points—the ability of all types of caregivers to use music in day-to-day contexts and the reciprocal effect this has on the caregiver and care-receiver—are ones that have received little mention in the literature.

We have presented the notion of "music-therapeutic caregiving" as a missing concept in the clinical use of music for patient care. MTC is presented here as an adjunct to music therapy, not as a replacement for it. That said, we are proposing caregiver singing as an important methodology that deserves its own place alongside music therapy rather than as an occasional activity done by the occasional caregiver occasionally inclined to break out into the occasional song. MTC can be used in ways and at times that music therapy cannot be. There is no standard music therapy method which provides the directness of active music therapy that is not restricted to occasional sessions. This is a significant limitation in the scope of music therapy. MTC provides one avenue for filling this void, and in doing so opens up a new

world of possibilities for the clinical use of music-making. It takes advantage of the unlimited number of real-life situations that comprise the care of patients in hospital wards and nursing homes. It converts any interaction between caregiver and patient into a potential music-making situation. MTC combines the subject-specificity of active music therapy with the context-generality of background music. It can be used in any clinical environment and any caring situation. Depending on the patient population at hand, it can be used to either stimulate recovery of function (e.g., premature neonates) or to maintain a certain quality of living (e.g., dementia patients). The simplicity of this approach is striking. Such a method could be implemented in all hospital settings with little increase in cost and little change in caregiver training or selection. We believe that the clinical benefits from such a small change in caregiver activity could be spectacular. We argue, therefore, that elementary music training—and especially vocal training—should be an integral part of the educational regimen of professional caregivers.

“Are music interventions applied by nonmusic therapists as effective as those applied by professionally trained music therapists?” This was a question posed by Brotons, Koger and Pickett-Cooper (1997, p. 237) in concluding their large-scale review of experimental studies of music therapy in dementia treatment. One approach to answering this question came from a meta-analysis of this same literature by Koger, Chapin and Brotons (1999). In reviewing the effects of music therapy in 21 different studies, they made two observations that have a bearing on MTC. First, effect size was not dependent on therapist type (i.e., there was no difference between music therapists and other professionals). Second, effect size was not dependent on treatment length (i.e., there was no difference between longer and shorter treatment periods). It is important to keep in mind that such observations will remain provisional until an experimental study is done directly comparing the effects of music-therapist-mediated and caregiver-mediated musical interventions side by side; likewise for short-term versus long-term treatment conditions. However, the preliminary conclusions of Koger, Chapin and Brotons’ (1999) analysis might in fact set the stage for the kinds of on-the-spot, caregiver-mediated practices proposed in this paper.

This is not to say that MTC and music therapy are equivalent or interchangeable, but only that MTC deserves a place in its own right alongside music therapy. An article by the nursing researcher Glynn (1992), describing a music-therapy assessment tool for use in nursing research, elicited strong reactions from several music therapists who thought that their training and skills were being devalued, especially by

someone outside of their own discipline (Lipe, 1992; MacLean, 1993). Whether or not these criticisms were justified, we are not trying to brew such a conflict. What we are calling for is an *expansion* of the scope of the clinical uses of music. This should be viewed as a cooperative arrangement rather than a competitive one. MTC provides an unprecedented opportunity for caregivers and music therapists to work together toward common goals, and to do so more effectively than they could without this type of cooperation. In fact, we believe that MTC can lead to improvements in two types of reciprocal loops: the caregiver-patient relationship and the caregiver-therapist relationship. Regarding the former, MTC has the potential to improve the compliance, mood, and cognitive skills of patients, thereby reducing burden and burnout in caregivers. Regarding the latter, music therapy can make patients easier to care for, while MTC can enable caregivers to inform music therapists of the musical preferences and skills of the patients being cared for. We believe that MTC has a great potential to improve the quality of patient life, caregiving, and music therapy in many clinical settings.

Our final word is about people. We are a musical species. Everyone has the capacity to sing and to appreciate music. It is not only music therapists who are capable of putting music to work in clinical contexts. In the same way that a mother comforts her helpless baby by singing to it, there comes a time in life when that child discovers that exactly this same intervention—singing—is an exquisite and effective means of comforting his or her demented mother. It is time to open the door to the unexplored potential of caregiver singing. In response to the question of whether musical interventions applied by nonmusic therapists are as effective as those applied by professionally-trained music therapists, our own preliminary observations with MTC suggest that such interventions can be powerful and effective. Whether they are *as* effective as music-therapist-mediated interventions is not the issue for us, as we envision caregiver-mediated musical activities as occurring parallel to music therapy, not in place of it. It is for this reason that we call for an expansion in the current conception of the clinical uses of music, one that encompasses the caregiver practices described in this paper. The time has come to give serious consideration to this notion.

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