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Conditions of music provision for nursing home residents: A nationwide cross-sectional survey

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Abstract

Background: Music activities enhance residents' enjoyment and adaptation to nursing homes. Community music therapy promotes human relationships and a pleasant living environment. However, there have been few comprehensive studies focusing on the conditions of music provision. The aim of this study was to identify the conditions, problems, and staff recognition of the effects of music provision to improve its use in nursing homes through music therapy, music activities, and the concept of community music therapy based on a nationwide cross-sectional survey. **Method:** An anonymous questionnaire was mailed to a total of 517 randomly selected nursing homes. Questions collected data on demographic characteristics; the planners and providers of music; objectives/ways/evaluation of music provision; respondents' recognition of the effects of music; and conditions of music activity training. We divided the respondents into music therapy, music activity, and no music groups. Pearson's chi-square test, Fisher's exact test, and the Kruskal-Wallis test were used to identify differences in demographics and staff recognition among the three groups. Among the results with significant differences, the items of continuous variables were analyzed using the Steel-Dwass test, and the items of the chi-square test were further analyzed using residual analysis. **Results:** We collected a total of 96 completed questionnaires. Music therapy or music activity was provided by 80.2% of nursing homes. Around 50% of the nursing homes that provided music therapy had a music therapist as a planner and provider. Care workers were most often the planners and providers. The rate of evaluation of music provision was approximately 10%-30%. The recognition of "increased staff intimacy with residents" was significantly lower in the no music group among the three groups in residual analysis ($p<0.05$), and was approximately 30% less than in the music activity group. Only 6.3% of the nursing homes provided music activity training. **Conclusions:** The findings of the present study suggested that while promoting the cultivation of music therapists, education of staff in music activities should be developed.

KEY WORDS

music, music therapy, community music therapy, training, nursing home

Introduction

Nursing homes (NHs) provide a range of services for residents, including nursing care and 24-hour

supervision¹⁾. Residents in NHs are frail, often with severe health problems. 96.7% of NH residents in Japan have dementia, and 73.4% of them are dependent on

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others to fulfill their activities of daily living (ADL) as moderate or severe²). We thought that music therapy would be a suitable intervention for such residents because music therapy, as a non-pharmacological treatment, has been identified to be effective in reducing the behavioral and psychological symptoms of dementia, including anxiety, agitation, and wandering³⁻⁴). In addition, music therapy has been identified as an appropriate method for maintaining and improving residents' ADL abilities⁵). The ADL abilities of NH residents continue to decline, and one study found that dementia was the most common reason for declining abilities in ADL⁶). Music works on these two closely related issues. Music is also advantageous because it is a non-invasive intervention and easy for older people to accept⁷). However, due to a lack of budgeting and recognition of the benefits of music therapy, only 26% of NHs provide music therapy in the USA⁸).

On the other hand, since a NH is the residents' living environment, music activities as leisure or recreation are also vital in NHs. In addition to managing the health problems of residents, care for their feelings of loss should be paid more attention. Leaving families and their own home leads to problems adapting to the new environment⁹). Residents have to develop new behaviors and habits and manage high anxiety¹⁰). Altintas et al. summarized the adaptation mechanisms required during older age and emphasized the importance of leisure activities for adaptation to life in a NH⁹). Participation in leisure activities can increase residents' satisfaction with living in a NH and help older residents to adapt¹¹). However, the actual conditions of music as a leisure or recreational activity in NHs remain unknown.

The broader role of music should also be explored, not just its effects upon residents. Kitwood¹²) defined personhood as "a standing or conditions that is bestowed upon one human being, by others, in the context of relationship and social being. It implies recognition, respect and trust." This personhood is the basis of the care provided for people with dementia. Indeed, in recent years, the care policies guiding the services offered to NH residents have emphasized maintaining human relationships through good communication to ensure residents are respected as equals to the people around them¹³). We interpreted Kitwood's perspective on care policy as indicative that

the people around NH residents also need to change. We expected that interaction between residents, staff, and families in NHs can be achieved through music sessions since the NH is a community. Music would then influence not only residents but also staff and families in NHs. We considered the necessity of music provision in a group setting. Music group activities can enhance people's feelings of empathy. Ing-Randolph et al. explained that the group setting promotes feelings of belonging and provides a channel for communication and social interaction between participants with dementia¹⁴).

Community music therapy is a relatively new type of music therapy, which overcomes the medical model of traditional music therapy¹⁵). It also promotes group music activity, but the difference is that community music therapy focuses not only on people with disabilities but also on improving interaction between people and their living environment in the community¹⁶). To date, many studies have been conducted on community music therapy in communities and medical institutions but not in welfare facilities. Because NHs are a type of community, the concept of community music therapy could enhance residents' well-being. However, few studies have investigated the concept of community music therapy in NHs. Whether the concept of community music therapy has ever existed in NHs remains unclear.

This study aimed to identify the conditions, problems, and the effects of music provision in the following three aspects: music therapy, music activity, and the concept of community music therapy through staff's recognition through a nationwide survey. Research questions included the following:

- 1) Was music provided in NHs? Who provided it and how was the music provided? This included an exploration of the objectives, ways, and evaluation of music provision.
- 2) What was the respondents' recognition of the effects of music, especially the effects on people's relationships and enhancing the community environment?
- 3) What were the problems involved and how can the provision of music be improved in NHs?

The significance of this study is to provide suggestions for ensuring the quality of music provision

in NH on the basis of survey results.

Methods

1. Design

This study was based upon a cross-sectional survey conducted in Japan. The questionnaire's administration and collection period was from October 12 to December 31, 2016.

Operational definition:

We defined music as wholeness of music therapy, music activity, and community music therapy.

We adapted the definition of music therapy from the American Music Therapy Association, which is "the clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program."¹⁷⁾ It was mainly considered a treatment for health problems of NH residents in this study.

We defined music activities as leisure or recreational activities, which mainly are for enjoyment and comfort of daily living of residents in this study. Music activities include music-based activities, such as rhythm exercises, singing, watching television (TV), and listening to background music.

We defined community music therapy as one kind of music provision, which is able to primarily improve interpersonal relationships and community environment by influencing not only residents but also staff and families.

2. Subjects

Subjects were the staff who were in charge of providing music in NHs, or a chief or a manager if there was nobody providing music (one subject per NH). We estimated the sample size as 71, after calculations conducted by the G-power software (Test family: t tests; Statistical test: Means: Difference from constant, one sample case) developed by Franz Faul. We set an effect size of 0.3 with one-tailed 5% significance level and 80% power¹⁸⁾. Random sampling was conducted from a list of NHs in 47 prefectures in Japan¹⁹⁾. A random number maker was used to randomly select 11 NHs from each prefecture²⁰⁾. A total of 517 NHs were selected on the basis of approximately 15% of the collection rate from NHs. Instructions about purpose of this study and questionnaires were mailed to

these NHs.

3. Measurements

1) Demographic

The characteristics of NHs that were examined include number of beds, dependency stage and age of residents, and terminal care practices. The dependency stage is basic to the health care insurance system in Japan, and is counted with reference to the amount of nursing time required, as dependency stages 1-5, with 5 being the most serious stage²¹⁾. The characteristics of the respondents were examined, including their occupation, experience of learning music, years of providing music, and interest in providing music.

2) Conditions and problems of music provision

We asked the kind of occupations held by the planner and provider for music therapy and music activity. We also asked two sub-items, which were "have music experience" and "no music experience." In addition, we examined the objectives, ways, and evaluation of music provision. We defined evaluation as the providers of music evaluating the effects of music using evaluation tools, recording paper, and so on. If music was not provided, the questionnaire requested the reasons as to why not. Problems were identified on the basis of the rate of provision of music, whether the music therapist was adequate, whether to evaluate the music provision, and whether to provide music activity training for staff.

3) Effects of music provision

Respondents' recognition of the effects of three aspects of music was examined. We collected data regarding the recognition of the effects of music from the staff who are in charge of music or from managers if they did not provide music. The reason was that the recognition of people who have influence over the activities in the facility was considered to influence the quality of music provision and the decision of whether to provide music. The effects of music provision we examined were as follows: ADL and cognitive ability as the effects of music therapy; psychological conditions as the effects of music activity; and communication and interaction among residents, families, and staff as the effects of community music therapy. All items were measured using a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree).

4) Music activity training

We asked whether there was any music activity

training provided to staff inside or outside NHs. If training was provided, we asked about the frequency. If it was not provided, the reasons why were requested.

4. Analysis

We divided the respondents into three groups: music therapy group, music activity group, and no music group. Music therapy and music activity groups were defined as music provision groups in this study. Tests for normality were conducted using Shapiro-Wilk test. The date of continuous variables was non-normal distribution. Pearson’s chi-square, Fisher’s exact, and Kruskal-Wallis tests were used to identify differences in the demographic and staff’s recognition among the three groups. Among the results which had significant differences, the items of continuous variables were analyzed using Steel-Dwass test, the items of chi-square test were further analyzed using residual analysis. Statistical significance was set at $p < 0.05$. IBM SPSS Statistics for Windows version 22.0 and JMP 9 was used.

5. Ethical considerations

This study was approved by the Medical Ethics Committee of Kanazawa University (No. 723-1, Date:

October 11, 2016).

Results

We collected 96 questionnaires. The collection rate was 18.6%.

1. Demographic

A total of 30 (31.2%) NHs belonged to the music therapy group, 47 (49.0%) to the music activity group, and 19 (19.8%) to the no music group. Table 1 shows the characteristics of the NHs. There were no significant differences among the three groups in this regard. The largest resident age group was 80-89 years. The dependency stage of the highest number of residents was stage 4, indicating that the amount of nursing care required every 48 hours is more than 90 minutes and less than 110 minutes²¹⁾. In the no music group, 61.1% provided terminal care. Table 1 also displays the characteristics of respondents. The occupation of the highest number of respondents was a care worker in all three groups. The average number of “years of experience in occupation” of the no music group was significantly longer than the music provision groups. The “years of experience in providing music”

Table 1. Characteristics of nursing homes and respondents

| Characteristic | | Total n = 96 | Music therapy group n = 30 | r | Music activity group n = 47 | r | No music group n = 19 | r | p-value |
|--|-----------------|-----------------|----------------------------------|------------------|-----------------------------------|------------------|-----------------------------|-------------------|---|
| Nursing home | | | | | | | | | |
| Number of beds | ≤99 | 77 (80.2) | 24 (80.0) | | 36 (76.6) | | 17 (89.5) | | 0.493 ^a |
| | ≥100 | 19 (19.8) | 6 (20.0) | | 11 (23.4) | | 2 (10.5) | | |
| Age of the highest number of residents in a year ⁱ⁾ | ≤89 | 66 (72.5) | 18 (62.1) | | 37 (80.4) | | 11 (68.8) | | 0.207 ^a |
| | ≥90 | 25 (27.5) | 11 (37.9) | | 9 (19.6) | | 5 (31.3) | | |
| Dependency stage of the highest number of residents in a year ⁱⁱ⁾ | ≤Stage 4 | 68 (71.6) | 24 (80.0) | | 30 (63.8) | | 14 (77.8) | | 0.250 ^a |
| | Stage 5 | 27 (28.4) | 6 (20.0) | | 17 (36.2) | | 4 (22.2) | | |
| Terminal care practice ⁱⁱⁱ⁾ | Yes | 73 (77.7) | 24 (82.8) | | 38 (80.9) | | 11 (61.1) | | 0.169 ^a |
| | No | 21 (22.3) | 5 (17.2) | | 9 (19.1) | | 7 (38.9) | | |
| Respondents | | | | | | | | | |
| Occupation | Care worker | 34 (35.4) | 9 (30.0) | | 19 (40.4) | | 6 (31.6) | | 0.603 ^b |
| | Life consultant | | | | | | | | |
| | social worker | 26 (27.1) | 7 (23.3) | | 14 (29.8) | | 5 (26.3) | | |
| | Care manager | 9 (9.4) | 4 (13.3) | | 3 (6.4) | | 2 (10.5) | | |
| | Nurse | 8 (8.3) | 1 (3.3) | | 4 (8.5) | | 3 (15.8) | | |
| | Other | 19 (19.8) | 9 (30.0) | | 7 (14.9) | | 3 (15.8) | | |
| Years of experience in occupation | M ± SD | 12.9 ± 8.4 | 10.0 ± 6.5 | | 12.4 ± 8.4 | | 18.8 ± 8.6 | | 0.003 ^a 0.439 ^d 0.002 ^e 0.029 ^f |
| Years of experience in providing music | M ± SD | 3.7 ± 5.2 | 5.9 ± 5.5 | | 3.5 ± 5.1 | | 0.8 ± 3.4 | | 0.000 ^a 0.081 ^d 0.000 ^e 0.029 ^f |
| Participation in music activity training | Yes | 28 (29.2) | 9 (30.0) | | 16 (34.0) | | 3 (15.8) | | 0.333 ^a |
| | No | 68 (70.8) | 21 (70.0) | | 31 (66.0) | | 16 (84.2) | | |
| Duration of participation in music activity training | M ± SD | 0.6 ± 1.3 | 0.5 ± 1.0 | | 0.7 ± 1.7 | | 0.2 ± 0.5 | | 0.233 ^a |
| Possess music therapist certification ^{iv)} | Yes | 4 (4.2) | 4 (13.8) | | 0 | | 0 | | NA |
| | No | 91 (95.8) | 25 (86.2) | | 47 (100) | | 19 (100) | | |
| Learning experience of music instruments | Yes | 45 (46.9) | 17 (56.7) | 1.3 | 25 (53.2) | 1.2 | 3 (15.8) | -3.0 ^g | 0.010 ^a |
| | No | 51 (53.1) | 13 (43.3) | | 22 (46.8) | | 16 (84.2) | | |
| Learning experience of singing | Yes | 16 (16.7) | 7 (23.3) | | 7 (14.9) | | 2 (10.5) | | 0.453 ^a |
| | No | 80 (83.3) | 23 (76.7) | | 40 (85.1) | | 17 (89.5) | | |
| Interest in providing music in nursing homes | Yes | 88 (91.7) | 30 (100) | | 46 (97.9) | | 12 (63.2) | | NA |
| | No | 8 (8.3) | 0 | | 1 (2.1) | | 7 (36.8) | | |
| Reasons for interest in providing music | | | | | | | | | |
| Residents become cheerful | Yes | n = 88 | n = 30 | | n = 46 | | n = 12 | | NA |
| | No | 88 (100) | 30 (100) | | 46 (100) | | 12 (100) | | |
| Promotes communication among residents | Yes | 62 (70.5) | 22 (73.3) | 1.2 | 33 (71.7) | 1.1 | 7 (58.3) | -2.8 ^g | 0.018 ^a |
| | No | 26 (29.5) | 8 (26.7) | | 13 (28.3) | | 5 (41.7) | | |
| Improves quality of life of residents | Yes | 51 (58.0) | 21 (70.0) | 2.2 ^b | 25 (54.3) | 0 | 5 (41.7) | -2.6 ^g | 0.012 ^a |
| | No | 37 (42.0) | 9 (30.0) | | 21 (45.7) | | 7 (58.3) | | |
| Promotes communication between staff and residents | Yes | 51 (58.0) | 16 (53.3) | 0 | 31 (67.4) | 2.5 ^b | 4 (33.3) | -3.1 ^g | 0.004 ^a |
| | No | 37 (42.0) | 14 (46.7) | | 15 (32.6) | | 8 (66.7) | | |
| Improves the living environment of residents | Yes | 34 (38.6) | 14 (46.7) | | 16 (34.8) | | 4 (33.3) | | 0.182 ^a |
| | No | 54 (61.4) | 16 (53.3) | | 30 (65.2) | | 8 (66.7) | | |
| I like music | Yes | 27 (30.7) | 9 (30.0) | | 14 (30.4) | | 4 (33.3) | | 0.746 ^a |
| | No | 61 (69.3) | 21 (70.0) | | 32 (69.6) | | 8 (66.7) | | |
| There are many requests from residents | Yes | 21 (23.9) | 6 (20.0) | | 13 (28.3) | | 2 (16.7) | | 0.299 ^a |
| | No | 67 (76.1) | 24 (80.0) | | 33 (71.7) | | 10 (83.3) | | |
| Improves work environment | Yes | 15 (17.0) | 7 (23.3) | | 6 (13.0) | | 2 (16.7) | | 0.365 ^b |
| | No | 73 (83.0) | 23 (76.7) | | 40 (87.0) | | 10 (83.3) | | |

a: Pearson’s chi-square test, b: Fisher’s exact test, c: Kruskal-Wallis test, d: Steel-Dwass test (music therapy group & music activity group), e: Steel-Dwass test (music therapy group & no music group), f: Steel-Dwass test (music activity group & no music group). r: Chi-square residual analysis, g: $p < 0.01$, h: $p < 0.05$. r value greater than 1.96 is considered as $p < 0.05$. r value greater than 2.58 is considered $p < 0.01$. Missing value: i) 5, ii) 1, iii) 2, iv) 1. NA: not applicable, n (%)

of the music provision groups was significantly longer than that of the no music group. Regarding “learning experience of music instruments,” the no music group was significantly less in residual analysis. Regarding the reasons for interest in providing music, the music activity group was significantly more, and the no music group was significantly less in residual analysis for “promotes communication between staff and residents.”

Table 2 shows the most often cited reason for not providing music to be “there is a shortage of staff with knowledge regarding music provision” (13, 68.4%).

Table 2. Reason for not providing music

| Items | n = 19 |
|--|-----------|
| There is a shortage of staff with knowledge regarding music provision | 13 (68.4) |
| There is a shortage of staff who can implement music provision | 8 (42.1) |
| There is no time (implementation and preparation) for music provision | 8 (42.1) |
| Number of residents who can participate in music provision is decreasing | 7 (36.8) |
| Request from residents is decreasing | 5 (26.3) |
| Implementation of music provision is expensive | 4 (21.1) |
| There is better care for residents than necessary for music provision | 3 (15.8) |
| Other | 2 (10.6) |
| | n (%) |

2. Planner and provider for music provision

Table 3 shows that around 50% of the NHs, which provided music therapy, had a music therapist as the

Table 3. Planners and providers for music provision

| Items | Music therapy group n = 30 | | Music activity group n = 47 | |
|-------------------------------|-------------------------------|----------|--------------------------------|----------|
| | Planner | Provider | Planner | Provider |
| Music therapist | 16 | 16 | 0 | 0 |
| Care worker | 35 | 43 | 55 | 47 |
| | Have music experience | 16 | 17 | 12 |
| | No music experience | 19 | 26 | 39 |
| Music teacher/Expert | 10 | 10 | 3 | 3 |
| Life consultant social worker | 5 | 7 | 19 | 18 |
| | Have music experience | 1 | 1 | 6 |
| | No music experience | 4 | 6 | 13 |
| Occupational therapist | 3 | 5 | 9 | 10 |
| | Have music experience | 3 | 5 | 4 |
| | No music experience | 0 | 0 | 5 |
| Volunteer for residents | 8 | 13 | 22 | 38 |
| Other | 3 | 1 | 10 | 11 |

All items were multiple answers.
Have music experience means people who have learning experience of a music instrument or singing.

planner and provider. There was no music therapist in the music activity group. Among the planners and providers, care workers were the most common in both groups.

3. Effects of music provision

Table 4 shows that no significant difference was noted among three groups in the respondents’ recognition of the effects of music therapy. However, the music provision groups showed a significantly higher recognition of “feeling of happiness increases” and “residents have a feeling of staying in their home” than the no music group, but no significant difference was

Table 4. Effects of music provision

| Aspects | Items | Music therapy group n = 30 | | Music activity group n = 47 | | No music group n = 19 | | p-value | | | | |
|--|---|--|-------------|--------------------------------|-------------|--------------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|
| | | Agree | Don't agree | Agree | Don't agree | Agree | Don't agree | | | | | |
| Music therapy | ADL | Improvement abilities of ADL | 25 (83.3) | 5 (16.7) | 34 (72.3) | 13 (27.7) | 13 (68.4) | 6 (31.6) | 0.422 ^a | | | |
| | | Muscle strength is maintained/improved | 22 (73.3) | 8 (26.7) | 28 (59.6) | 19 (40.4) | 10 (52.6) | 10 (52.6) | 0.178 ^a | | | |
| | Cognition | Improvement of cognitive function | 25 (83.3) | 5 (16.7) | 39 (83.0) | 8 (17.0) | 17 (89.5) | 2 (10.5) | 0.791 ^b | | | |
| | | Reduction of wandering behavior | 18 (60.0) | 12 (40.0) | 29 (61.7) | 18 (38.3) | 10 (52.6) | 9 (47.4) | 0.791 ^b | | | |
| | Mood | Improvement in depressive symptoms | 25 (83.3) | 5 (16.7) | 35 (74.5) | 12 (25.5) | 14 (73.7) | 5 (26.3) | 0.616 ^a | | | |
| | | Reduction of anxiety | 23 (76.7) | 7 (23.3) | 33 (70.2) | 14 (29.8) | 15 (78.9) | 4 (21.1) | 0.704 ^a | | | |
| Other | Improvement in language disorder | 23 (76.7) | 7 (23.3) | 33 (70.2) | 14 (29.8) | 13 (68.4) | 6 (31.6) | 0.772 ^a | | | | |
| | Reduction of physical pain | 20 (66.7) | 10 (33.3) | 29 (61.7) | 18 (38.3) | 9 (47.4) | 10 (52.6) | 0.392 ^a | | | | |
| Music activity | Psychological conditions | Facial expression becomes bright | 29 (96.7) | 1 (3.3) | 46 (97.9) | 1 (2.1) | 18 (94.7) | 1 (5.3) | 0.800 ^a | | | |
| | | Mind calms down | 29 (96.7) | 1 (3.3) | 46 (97.9) | 1 (2.1) | 17 (89.5) | 2 (10.5) | 0.291 ^b | | | |
| | Opportunity for reminiscence | 27 (90.0) | 3 (10.0) | 45 (95.7) | 2 (4.3) | 17 (89.5) | 2 (10.5) | 0.532 ^b | | | | |
| | Improvement of restlessness | 26 (86.7) | 4 (13.3) | 44 (93.6) | 3 (6.4) | 17 (89.5) | 2 (10.5) | 0.538 ^b | | | | |
| | Feeling of happiness increases | 27 (90.0) | 3 (10.0) | 44 (93.6) | 3 (6.4) | 13 (68.4) | 6 (31.6) | 0.5 | 0.017 ^b | | | |
| | Improvement in nervous tension | 26 (86.7) | 4 (13.3) | 39 (83.0) | 8 (17.0) | 17 (89.5) | 2 (10.5) | 0.774 ^b | | | | |
| | Improved motivation to participate in activities | 26 (86.7) | 4 (13.3) | 40 (85.1) | 7 (14.9) | 14 (73.7) | 5 (26.3) | 0.445 ^a | | | | |
| | Improved feeling of sadness | 24 (80.0) | 6 (20.0) | 37 (78.7) | 10 (21.3) | 15 (78.9) | 4 (21.1) | 0.991 ^a | | | | |
| | Express one's feelings | 25 (83.3) | 5 (16.7) | 32 (68.1) | 15 (31.9) | 11 (57.9) | 8 (42.1) | 0.137 ^a | | | | |
| | Increased interest in things | 23 (76.7) | 7 (23.3) | 29 (61.7) | 18 (38.3) | 11 (57.9) | 8 (42.1) | 0.294 ^a | | | | |
| Community music therapy | Influence on residents | Improvement in sleep disturbance | 21 (70.0) | 9 (30.0) | 25 (53.2) | 22 (46.8) | 12 (63.2) | 7 (36.8) | 0.327 ^a | | | |
| | | Increased communication between residents and staff | 27 (90.0) | 3 (10.0) | 42 (89.4) | 5 (10.6) | 15 (78.9) | 4 (21.1) | 0.451 ^b | | | |
| | Residents | Increased communication between residents | 26 (86.7) | 4 (13.3) | 42 (89.4) | 5 (10.6) | 14 (73.7) | 5 (26.3) | 0.256 ^b | | | |
| | | Residents and staff have a sense of unity as community members | 25 (83.3) | 5 (16.7) | 35 (74.5) | 12 (25.5) | 12 (63.2) | 7 (36.8) | 0.281 ^a | | | |
| | Improvement of relationships between residents | Improvement of relationships between residents | 21 (70.0) | 9 (30.0) | 36 (76.6) | 11 (23.4) | 12 (63.2) | 7 (36.8) | 0.526 ^a | | | |
| | | Residents' increased trustworthiness | 15 (50.0) | 15 (50.0) | 24 (51.1) | 23 (48.9) | 5 (26.3) | 14 (73.7) | 0.162 ^a | | | |
| | Residents have a feeling of staying in their home | Residents have a feeling of staying in their home | 14 (46.7) | 16 (53.3) | 0.7 | 26 (55.3) | 21 (44.7) | -0.4 | 4 (21.1) | 15 (78.9) | -0.3 | 0.041 ^a |
| | | Residents' reduced refusal of staff care | 12 (40.0) | 18 (60.0) | 19 (40.4) | 28 (59.6) | 3 (15.8) | 16 (84.2) | 0.136 ^a | | | |
| | Influence on families | Family's increased intimacy with staff | 21 (70.0) | 9 (30.0) | 29 (61.7) | 18 (38.3) | 8 (42.1) | 11 (57.9) | 0.146 ^a | | | |
| | | Family has a homely sense in nursing homes | 20 (66.7) | 10 (33.3) | 28 (59.6) | 19 (40.4) | 6 (33.3) | 12 (66.7) | 0.068 ^a | | | |
| Influence on staff | Increased staff communication with residents | 29 (96.7) | 1 (3.3) | 40 (85.1) | 7 (14.9) | 15 (78.9) | 4 (21.1) | 0.148 ^a | | | | |
| | Increased staff intimacy with residents | 17 (56.7) | 13 (43.3) | 0.6 | 35 (74.5) | 12 (25.5) | 1.3 | 8 (42.1) | 11 (57.9) | -2.3 ^b | 0.035 ^a | |
| | Staff increases the feelings of dignity for residents | 18 (60.0) | 12 (40.0) | 25 (53.2) | 22 (46.8) | 5 (26.3) | 14 (73.7) | 0.059 ^a | | | | |
| Staff recognizes residents as members of the society | 15 (50.0) | 15 (50.0) | 20 (42.6) | 27 (57.4) | 6 (31.6) | 13 (68.4) | 0.446 ^a | | | | | |

a: Pearson's chi-square test, b: Fisher's exact test, r: Chi-square residual analysis, h: p<0.05. r value greater than 1.96 is considered as p<0.05. r value greater than 2.58 is considered p<0.01. ADL: activities of daily living, n (%)

Table 5. Objectives, ways and evaluation of music provision

| | | n = 77 | | | | | | |
|------------------------------------|-----------|------------------------------|-------------------------|-----------------------------|---------------------------|---------------------------|----------------------|---|
| | | Improvement of ADL abilities | Improvement of dementia | Improvement of restlessness | Improvement of depression | Increase of communication | Healing of the heart | Increased willingness to interact with people |
| Objectives of providing music | | Yes 48 (62.3) | 46 (59.7) | 47 (61.0) | 27 (35.1) | 54 (70.1) | 65 (84.4) | 34 (44.2) |
| | | No 29 (37.7) | 31 (40.3) | 30 (39.0) | 50 (64.9) | 23 (29.9) | 12 (15.6) | 43 (55.8) |
| Ways of providing music | | | | | | | | |
| Singing | Providing | Yes 40 (51.9) | 41 (53.2) | 42 (54.5) | 25 (32.5) | 46 (59.7) | 58 (75.3) | 26 (33.8) |
| | No | 37 (48.1) | 36 (46.8) | 35 (45.5) | 52 (67.5) | 31 (40.3) | 19 (24.7) | 51 (66.2) |
| Evaluation | Yes | 29 (37.7) | 25 (32.5) | 28 (36.4) | 14 (18.2) | 30 (39.0) | 41 (53.2) | 13 (16.9) |
| | No | 48 (62.3) | 52 (67.5) | 49 (63.6) | 63 (81.8) | 47 (61.0) | 36 (46.8) | 64 (83.1) |
| Rhythm exercise | Providing | Yes 40 (51.9) | 30 (39.0) | 29 (37.7) | 15 (19.5) | 35 (45.5) | 36 (46.8) | 20 (26.0) |
| | No | 37 (48.1) | 47 (61.0) | 48 (62.3) | 62 (80.5) | 42 (54.5) | 41 (53.2) | 57 (74.0) |
| Evaluation | Yes | 24 (31.2) | 18 (23.4) | 15 (19.5) | 7 (9.1) | 18 (23.4) | 26 (33.8) | 9 (11.7) |
| | No | 53 (68.8) | 59 (76.6) | 62 (80.5) | 70 (90.9) | 59 (76.6) | 51 (66.2) | 68 (88.3) |
| Play instrument | Providing | Yes 11 (14.3) | 11 (14.3) | 12 (15.6) | 9 (11.7) | 13 (16.9) | 13 (16.9) | 9 (11.7) |
| | No | 66 (85.7) | 66 (85.7) | 65 (84.4) | 68 (88.3) | 64 (83.1) | 64 (83.1) | 68 (88.3) |
| Evaluation | Yes | 9 (11.7) | 10 (13.0) | 7 (9.1) | 5 (6.5) | 8 (10.4) | 9 (11.7) | 4 (5.2) |
| | No | 68 (88.3) | 67 (87.0) | 70 (90.9) | 72 (93.5) | 69 (89.6) | 68 (88.3) | 73 (94.8) |
| Play instrument with help | Providing | Yes 12 (15.6) | 11 (14.3) | 10 (13.0) | 9 (11.7) | 11 (14.3) | 13 (16.9) | 10 (13.0) |
| | No | 65 (84.4) | 66 (85.7) | 67 (87.0) | 68 (88.3) | 66 (85.7) | 64 (83.1) | 67 (87.0) |
| Evaluation | Yes | 7 (9.1) | 7 (9.1) | 6 (7.8) | 5 (6.5) | 7 (9.1) | 10 (13.0) | 5 (6.5) |
| | No | 70 (90.9) | 70 (90.9) | 71 (92.2) | 72 (93.5) | 70 (90.9) | 67 (87.0) | 72 (93.5) |
| Live performance of appreciation | Providing | Yes 18 (23.4) | 20 (26.0) | 21 (27.3) | 14 (18.2) | 23 (29.9) | 36 (46.8) | 13 (16.9) |
| | No | 59 (76.6) | 57 (74.0) | 56 (72.7) | 63 (81.8) | 54 (70.1) | 41 (53.2) | 64 (83.1) |
| Evaluation | Yes | 9 (11.7) | 13 (16.9) | 11 (14.3) | 9 (11.7) | 12 (15.6) | 18 (23.4) | 7 (9.1) |
| | No | 68 (88.3) | 64 (83.1) | 66 (85.7) | 68 (88.3) | 65 (84.4) | 59 (76.6) | 70 (90.9) |
| Watching television music program | Providing | Yes 23 (29.9) | 27 (35.1) | 26 (33.8) | 17 (22.1) | 28 (36.4) | 34 (44.2) | 14 (18.2) |
| | No | 54 (70.1) | 50 (64.9) | 51 (66.2) | 60 (77.9) | 49 (63.6) | 43 (55.8) | 63 (81.8) |
| Evaluation | Yes | 8 (10.4) | 9 (11.7) | 7 (9.1) | 7 (9.1) | 14 (18.2) | 18 (23.4) | 5 (6.5) |
| | No | 69 (89.6) | 68 (88.3) | 70 (90.9) | 70 (90.9) | 63 (81.8) | 59 (76.6) | 72 (93.5) |
| Appreciation of music compact disc | Providing | Yes 26 (33.8) | 23 (29.9) | 33 (42.9) | 16 (20.8) | 28 (36.4) | 41 (53.2) | 15 (19.5) |
| | No | 51 (66.2) | 54 (70.1) | 44 (57.1) | 61 (79.2) | 49 (63.6) | 36 (46.8) | 62 (80.5) |
| Evaluation | Yes | 11 (14.3) | 10 (13.0) | 17 (22.1) | 10 (13.0) | 14 (18.2) | 24 (31.2) | 7 (9.1) |
| | No | 66 (85.7) | 67 (87.0) | 60 (77.9) | 67 (87.0) | 63 (81.8) | 53 (68.8) | 70 (90.9) |
| Background music | Providing | Yes 19 (24.7) | 21 (27.3) | 25 (32.5) | 14 (18.2) | 23 (29.9) | 30 (39.0) | 10 (13.0) |
| | No | 58 (75.3) | 56 (72.7) | 52 (67.5) | 63 (81.8) | 54 (70.1) | 47 (61.0) | 67 (87.0) |
| Evaluation | Yes | 9 (11.7) | 9 (11.7) | 9 (11.7) | 9 (11.7) | 10 (13.0) | 16 (20.8) | 4 (5.2) |
| | No | 68 (88.3) | 68 (88.3) | 68 (88.3) | 68 (88.3) | 67 (87.0) | 61 (79.2) | 73 (94.8) |

ADL: activities of daily living.

n (%)

Table 6. Reasons for not providing music activity training to care workers

| Items | | Music therapy | Music activity | No music | p-value |
|--|-----|-----------------|-----------------|-----------------|--------------------|
| | | group n = 26 | group n = 44 | group n = 19 | |
| Inside nursing home | | | | | |
| There is no teaching person | Yes | 11 (42.3) | 30 (68.2) | 9 (47.4) | 0.074 ^a |
| | No | 15 (57.7) | 14 (31.8) | 10 (52.6) | |
| It is a low-priority work | Yes | 7 (26.9) | 12 (27.3) | 8 (42.1) | 0.453 ^a |
| | No | 19 (73.1) | 32 (72.7) | 11 (57.9) | |
| Staff members are too busy to attend music activity training | Yes | 6 (23.1) | 10 (22.7) | 8 (42.1) | 0.245 ^a |
| | No | 20 (76.9) | 34 (77.3) | 11 (57.9) | |
| Staff members do not think that it is | Yes | 2 (7.7) | 2 (4.5) | 1 (5.3) | 0.856 ^b |
| | No | 24 (92.3) | 42 (95.5) | 18 (94.7) | |
| Our nursing homes have a manual for music activities | Yes | 1 (3.8) | 1 (2.3) | 0 | NA |
| | No | 25 (96.2) | 43 (97.7) | 19 (100) | |
| Other | Yes | 6 (23.1) | 3 (6.8) | 2 (10.5) | 0.131 ^b |
| | No | 20 (76.9) | 41 (93.2) | 17 (89.5) | |
| Outside nursing home | | | | | |
| Staff members are too busy to attend music activity training | Yes | 5 (19.2) | 19 (43.2) | 9 (47.4) | 0.078 ^a |
| | No | 21 (80.8) | 25 (56.8) | 10 (52.6) | |
| The training place is located very far | Yes | 9 (34.6) | 9 (20.5) | 4 (21.1) | 0.380 ^a |
| | No | 17 (65.4) | 35 (79.5) | 15 (78.9) | |
| There are few music activity trainings | Yes | 3 (11.5) | 10 (22.7) | 2 (10.5) | 0.341 ^b |
| | No | 23 (88.5) | 34 (77.3) | 17 (89.5) | |
| Staff members do not think that it is necessary | Yes | 4 (15.4) | 2 (4.5) | 2 (10.5) | 0.299 ^b |
| | No | 22 (84.6) | 42 (95.5) | 17 (89.5) | |
| Lack of budget | Yes | 2 (7.7) | 3 (6.8) | 1 (5.3) | 0.949 ^b |
| | No | 24 (92.3) | 41 (93.2) | 18 (94.7) | |
| Our nursing homes have a manual for music activities | Yes | 1 (3.8) | 0 | 0 | NA |
| | No | 25 (96.2) | 44 (100) | 19 (100) | |
| Other | Yes | 4 (15.4) | 5 (11.4) | 4 (21.1) | 0.602 ^b |
| | No | 22 (84.6) | 39 (88.6) | 15 (78.9) | |

All items were multiple answers. a: Pearson's chi-square test, b: Fisher's exact test. n (%)

NA: not applicable.

noted in residual analysis. Regarding the recognition of “increased staff intimacy with residents,” the scores of the no music group was significantly less among three groups in residual analysis and was distributed approximately 30% less than the music activity group. Further, “residents’ increased trustworthiness” scored 50.0% and 51.1%, “staff recognizes residents as members of society” scored 50.0% and 42.6% in music therapy and music activity groups, respectively.

4. Objectives, ways, and evaluation of music provision

Table 5 displays the conditions of music provision. The objectives included improvement of ADL abilities and dementia symptoms, which scored approximately 60%. Ways of singing and rhythm exercises were provided approximately 50% of the time to improve ADL abilities and dementia symptoms. In addition, playing musical instruments scored about 10% for all objectives. Watching music TV programs scored approximately 35% for improving dementia symptoms and communication skills. Evaluation rates were lower than 30%.

5. Music activity training

In total, 71 (77.2%) respondents thought that music activity training was necessary for the staff. Of the NHs, 89 (93.7%) did not provide music activity training to staff at a frequency of once a year.

Table 6 shows that no significant difference was noted among the three groups. The most common reason for not providing training was “there is no teaching person” (50, 56.2%).

Discussion

1. Implementation rate of music provision

Of the NHs, 80% provided music therapy or music activity. Most residents had stage 4 dependency needs or more, which was close to the result of a national survey conducted on NH residents²⁾. The beneficial effects of music on maintaining and improving residents’ ADL have been demonstrated as well as the positive effects on dementia symptoms³⁻⁵⁾. However, 20% of NHs did not provide music at all. “There is a shortage of staff with knowledge regarding music provision” was the reason most often given. The no music group also showed significantly less experience in music, interest of providing music, and recognition of the effects of music. This was believed to lead to a lack

of confidence of providing music. Therefore, we suggest that educating staff regarding music would increase staff confidence in providing music.

Of the no music group, 61.1% were receiving terminal care. The World Health Organization has pointed out that during the terminal period, providing holistic care for the patient’s psychological, social, and biological needs equally is very important²²⁾. When music is offered during palliative care, it contributes to the patient’s biopsychosocial well-being and is widely practiced internationally²³⁻²⁴⁾. Studies evaluating the impact of music have found that it was effective in lowering pain and improving quality of life (QOL) during the terminal period²⁵⁻²⁶⁾. Therefore, music was considered to enhance residents’ comfort during the terminal period. However, there was not enough emphasis on the link between terminal care and music in the no music group.

2. Ways for providing music

Only 60% of respondents provided music to improve ADL abilities and reduce dementia symptoms. Singing and rhythm exercises were provided by around 50% only, while playing instruments was provided by about 10%. Singing contains both language and melody, which highly stimulates the brain²⁷⁾, and is connected to improvements in cognition. Exercise also improves ADL abilities in people with dementia²⁸⁾. Exercise with music encourages initiative and patient participation and improves depressive symptoms and cognitive function in NH residents²⁹⁻³⁰⁾. Playing instruments, including simple instruments, for residents with high dependency needs or severe dementia helps in maintaining their cognitive function³¹⁾. In addition, these ways of music provision have been classified as meaningful activities in NHs³²⁾. One study found that NH residents spent little time in meaningful activities³³⁾. We speculated that residents were considered unable to enjoy music activity due to their high dependency level. In short, a variety of music provision should be provided more often, and ways for music provision should be selected and applied according to resident’s needs and physical abilities.

Watching music programs on TV was provided in over 35% of NHs to improve dementia symptoms and communication skills. Watching TV is one kind of enjoyable activity, but it is a unidirectional

stimulation for residents, which is undesirable for improving dementia symptoms and communication. If staff could promote conversation while residents were watching TV, interaction, human relationships, and reminiscence may be promoted. We thought that leaving the residents alone in front of the TV should be avoided. Due to residents' high dependency levels and low physical abilities, permitting residents solo, non-interactive leisure time may lead their lives to become meaningless. Group music practices were suggested as routine activities for residents, to enhance emotional relaxation, create interpersonal interaction, and reduce agitated behavior³⁴. We suggest that music provision in groups should be encouraged and staff support should be provided to improve the quality.

3. Effects of providing music

No significant difference was noted in the recognition of the effects of music therapy.

Table 4 shows significant recognition of "feeling of happiness increases" and "residents have a feeling of staying in their home" among three groups, but it shows no significant difference in residual analysis. Regarding the distribution of the two above-mentioned items, the music provision groups were approximately 25% and 30% more than the no music group. We concluded that many of the beneficial effects of music for residents may be generally well-known in the care field through media, but effects such as "feeling of happiness increases" are more likely to be realized from the various real-time experiences related to music such as seeing the residents smile and sing. We also concluded that the staff was more aware of the effect of music on the mentality of the residents, such as improving the sense of belonging through music provision.

In addition, regarding only the recognition of "increased staff intimacy with residents," no music group showed significantly less in residual analysis, and the scores were approximately 30% lesser than in the music activity group. Furthermore, as a result of the reason for interest in providing music, which is "promoting communication between staff and resident," no music group was also considered significantly less, music activity group was considered significantly more in residual analysis. It was considered that the staff had difficulty in recognizing the effects of music on staff without music provision. We considered that

the importance of music activities in interactions in interpersonal relationships may be reflected on staff cognition. Since residents are separated from their own homes and the facilities become places of life, the staff are more likely to take up positions of their families. We considered that music activity promotes this intimacy relationship by influencing on the staff. On the basis of leisure activities increasing the enjoyment of residents and helping them adjust to the facility¹¹, we considered that music activities as leisure activities are useful for providing a place of well-being for residents by promoting fun and human relationships. Combining these results with community music therapy that everyone in the community improves and strengthens their relationships with each other through participation in music¹⁷, we recognized that the effects of community music therapy can be reflected in not only residents but also the people who participate in music activities in NHs. We considered that the effects of community music therapy have a great impact on the QOL of the residents and community music therapy can be further integrated into music activity.

On the contrary, even in the music provision groups, "residents increased trustworthiness" and "staff recognizes residents as members of society" were recognized in approximately 50% only, and neither were found to be the significant effects. This low rate of recognition will influence the quality of care. Person-centered care based on Kitwood's definition of personhood can affect residents' social being and well-being in NHs^{12, 35}. In person-centered care, the quality and sensitivity of the interpersonal relationship process between dementia patients and caregivers is critical³⁶. For residents, the NH is the only place where interpersonal and social relationships can occur. However, residents often find it difficult to take the initiative due to their health problems and disabilities. Therefore, care providers need to pay more attention to the interpersonal process between residents, families, and staff through music provision.

4. Issues encountered providing music

1) Inappropriateness in music provision

The evaluation of the therapeutic objectives, such as the improvement of ADL, was limited to 30%. We considered that the low rate of evaluation of music therapeutic objects will make music implementation

ineffective because evaluation ensures the effects of music provision become visible by providing feedback to identify improvements. The lack of a music therapist is one of the reasons given for poor evaluation. Other reasons are the high dependency needs and health problems of residents including language disorders, which result in difficulties in using evaluation tools.

Only 50% of the NHs, which provided music therapy, had a music therapist as the planner and provider. It showed that 50% of the music therapy had no quality assurance. Music therapy in NHs should be delivered based on an understanding of the physical and psychological needs and abilities of residents. The type and stage of dementia should be assessed in advance to ensure the effectiveness of music interventions; whether individual or group sessions should be offered, how the song list and safe movements are, and how to introduce topics during the introduction should be planned³⁷⁾. The effects of music therapy must be examined by professional evaluation tools. These things are hard to achieve without a music therapist.

On the other hand, there was no support from music therapists at all in NHs, which provided music activities only. Care workers without musical experience were most commonly the people who planned and provided music activities. Due to residents' high dependency needs and dementia, special consideration had to be given in planning music activities. Excessive exercise must be avoided, large lyric typefaces are required, a fixed time and form are required to enable residents to feel at ease, and the tempo/volume/sound ranges should be planned carefully³⁷⁾. Certainly, music activities for daily enjoyment can be provided by care workers without a music therapist. However, unsuitable music may be harmful for residents. Therefore, care workers still need some knowledge and training in providing music.

2) Improvement to provide music

The lack of music therapists in NHs is not prevalent in Japan only. In the USA, a study reported that only one NH offered a full-time music therapist⁸⁾.

We considered the reason that music therapists are not considered essential at NHs is that, as yet, music therapy is not a national qualification³⁸⁾. To promote music therapy as a nationally certified profession, it is important to clarify its usefulness and to gain recognized by society while guaranteeing the quality and professionalism of music therapy³⁹⁾. One difficulty indicated is that music is not considered essential to life⁴⁰⁾, such as meals. Therefore, the country should review their priorities to budget for music therapist training.

On the other hand, music activity is also valued. The quality of music activities should be improved by providing the training for care workers because they were most commonly the people who provided music. However, 93.7% of NHs did not provide music activity training. The reason given most often was "there is no teaching person." Meanwhile, 77.2% of respondents made requests for the training. We advocate developing a music training program for staff.

Limitations

The collection rate was only 18%, but this was more than we expected. We recognize that the generalization is still limited. We could not examine the details of the evaluation in the ways of music.

Conclusions

A common problem noted was that music was not provided according to a resident's needs and physical abilities because music therapists were unavailable and the available staff lacked professional knowledge of providing music. Therefore, while promoting cultivation of music therapists, education on music activity for staff should be developed.

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特別養護老人ホームの入所高齢者への音楽提供の現状： 全国横断調査

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要 旨

背景：音楽活動は入所高齢者の楽しみ，施設への馴染みと満足感を高められる。コミュニティ音楽療法は人間関係と安寧な生活環境を促進できる。目的：全国横断調査を通して，音楽療法，音楽活動とコミュニティ音楽療法の3つの側面における，音楽提供の状況，課題，効果に関する職員の認識を明らかにし，介護施設での音楽提供を改善することへの示唆を得ること。方法：無作為に抽出した517施設に無記名自記式質問票を郵送した。調査内容は音楽の企画・提供者，音楽の効果に対する職員の認識，音楽提供の目的・方法・評価，音楽活動の研修会についてであった。分析は音楽療法群，音楽活動群，音楽なし群について，基本属性の同質性，音楽効果の認識などを χ^2 検定，Fisher正確検定，Kruskal-Wallis検定を用いて比較した。3群間で差があった変数はSteel-Dwass検定を， χ^2 検定は残差分析を実施した。結果：回収数96部。80.2%は音楽を提供していた。音楽療法の提供で音楽療法士が関わっていた施設は50%程度であった。音楽提供の企画者・提供者は介護職員が最も多かった。音楽の提供方法における効果の評価実施率は10-30%程度にとどまった。「職員が入所者への親密感を増加する」の残差分析で音楽なし群に有意差があり($p<0.05$)，音楽活動群より30%程度低く分布していた。職員への研修会提供施設は6.3%であった。結論：音楽療法士の養成や職員が実施する音楽活動の質を向上するための教育，工夫が必要であると考えられた。