末期癌患者を対象とした録音音源を活用した音楽療法介入の臨床的意義の検討

洗足論叢　第 50 号　2021 度

研究ノート

Clinical meaning of listening to recorded music in music therapy sessions for terminal cancer patients

末期癌患者を対象とした録音音源を活用した音楽療法介入の臨床的意義の検討

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1. Background

1.1 Introduction to Music Therapy

Music therapy has been receiving increasing interest from the field of medicine and healthcare over several decades. Music therapy uses musical elements such as melody, pitch, rhythm and lyrics on human body to treat physical, psychological, social, and spiritual needs（American Music Therapy Association 2020）. Music therapy targets a wide range of medical condition such as patients with stroke, brain damage, Parkinson's disease, dementia, infants born prematurely, schizophrenia, bipolar, depression, cancer, and the end of life（Daykin et al., 2006; Gallagher et al., 2006; Sarkamo et al., 2013; Ledger & Baker, 2007; Lowey et al.,2013; Erkkila et al., 2008; Raglio et al., 2015）.

Over the past few decades, extensive research has shown the effects of music on a variety of health conditions. This in-depth research contributes to establishing evidence-based practices for music therapy. For example, music therapy interventions improve gait performance（Pereira et al., 2019）, speech skills（Lim et al., 2013）, stimulate short- and long-term memory（Ledger & Baker, 2007）, and decrease blood pressure（Amaral et al., 2016）. It is important to note that music therapy is the clinical use of music with a series of assessments, planning, treatment, and evaluation conducted by trained music therapists, while music medicine has no involvement in the assessment process and trained music therapists（Blichfeldt-Ero & Trondalen, 2019）. Therefore, the involvement of music therapists and their treatment process is necessary to implement research results from music medicine into music therapy fields.

1.2 Clinical Effects of Music Listening Intervention

Music listening intervention is considered to be a field of music medicine that implements music activities without the direction of trained music therapists（Finn & Fancourt, 2018）. Research shows the clinical effects of music listening as reducing the respiratory rate and anxiety during routine care（Evans, 2002）, reducing anxiety in post-surgery among adults and children（Nilsson, 2008; Klassen et al., 2008）, reducing preoperative pain combination of analgesia（Hole et al., 2015）, and reducing the dose of medication and time of colonoscopy procedures（Tam et al., 2008）. Furthermore, music listening has positive effects even in non-clinical settings, for example, reducing depressive symptoms（Chan et al., 2011）, enhancing wellness and creating resource to support the recovery of long-term illness patients（Batt-Rawden et al., 2005）. Music listening is an easy-to-apply clinical music intervention because it does not require constant assistance and costs less than live music with human resources. Therefore, the number cases that combine music listening into clinical care has increased dramatically over the years（Finn & Fancourt, 2018）.

1.3 Music Therapy for End-of-Life Care

End-of-Life（EOL）care is one of the fields for music therapy practice. EOL care is for individuals who have been diagnosed with a terminal illness, focusing on an individual's physical, social, psychological, and spiritual aspects（World Health Organization, 2021）. While conventional medical care effectively treats patients' physical symptoms, EOL care requires a holistic approach by addressing an individual's psychological and spiritual aspects. As an alternative approach to such aspects, music therapy interventions show effects on psychological and spiritual challenges: for instance, music therapy alleviates one's mood（Longfield, 1995）, managing pain perception（Gallaher et al., 2006）, regulates emotional complexity（Clements-Cortes, 2004）, eases communication between patients and their loved ones during the end-of-life phase（Krout, 2003）, and improves the quality of life of cancer patients（Hilliard, 2003）.

Trained music therapists, who receive clinical training for addressing patients' medical needs with music interventions, implement music therapy for EOL patients. Music therapists assess patients' clinical challenges and plan effective music therapy interventions with consideration of patients' musical preferences and cultural background（Table 1）. Music therapists use a wide range of music therapy interventions: active music listening, music-based relaxation, song-writing, song-based reminiscence, singing, musical instrument play musical entrainment life review, and Guided Imagery Music（Maue-Johnson & Tanguay, 2006）. Music therapists work with a multidisciplinary team and elaborate on patients' needs and challenges to provide effective music therapy interventions.

Table 1: Clinical domains and goals (modified from Maue-Johnson & Tanguay, 2006)

Domain	Clinical goals
Physical aspect	Pain management
	Agitation control
	Easing shortness of breath
Psychological aspect	Increasing non-verbal communication
	Simulating emotional expression
	Decreasing anxiety
	Normalization
	Maintaining identity
	Reducing isolation
	Addressing complex emotion caused by death and dying
Cognitive aspect	Increasing sense of orientation
	Simulating residual function
Spiritual aspect	Communicating with individual's belief
	Addressing existential questions
Family and caregivers	Supporting coping skills
	Increasing communication opportunities
	Addressing conflict resolution
	Addressing anticipatory grief (pre-bereavement)

1.4 Music Therapy for the Japanese Medical Field

There are very few music therapists working in the Japanese medical field, and applying music therapy practices in Japanese healthcare has been a challenge. The first music therapy practice was conducted in a psychiatry hospital in 1955. Since then, Japanese music therapists formed the Japanese Music Therapy Association and have awarded certifications to over 3000 Japanese music therapists to standardize competencies (Japanese Music Therapy Association, 2021). Major fields for Japanese music therapy practices are special education and geriatric care (Ichie, 2006). In comparison, according to a survey conducted by the Japanese Music Therapy Association in 2004, only 10 % of Japanese registered music therapists work in a medical field, and half of them work in the psychiatry field (Ichie, 2009; Ito, 2013). Another survey conducted in the end-of-life care field shows that most registered music therapists working in the end-of-life care field work part-time (Kitagawa, 2018). Nevertheless, clinical practice of music therapy for medical fields is very limited, and Japanese music therapy requires further training, research, increasing public awareness to establish significant medical music therapy practices in Japan.

1.5 Objectives of this report

This case report describes music therapy work for over three months with a 72-year-old male Japanese terminal cancer patient admitted to a palliative care unit in Japan. As this case report does

not follow case study research analysis, it will provide descriptive clinical case analysis focusing on the clinical meaning of active music listening for a Japanese terminal cancer patient. This case aims to demonstrate the meaning of music listening for a male terminal cancer patient, its impact on his clinical care, and the impact of music therapy intervention on overall palliative care as a part of an interdisciplinary medical care approach.

1.6 Role of authors

At the time of this study, the first author（HS）conducted this case. She is a registered music therapist who received professional training in Japan and the United States and has been practicing in the end-of-life field in both Japan and the United States. The second author is a palliative care physician who works with the first author and observes music therapy sessions regularly, providing occasional supervision regarding palliative care medicine.

2. Methods

2.1 Kenji-background information

In this report, we use pseudonym for a patient to maintain privacy. Kenji, seventy-two years old, was diagnosed with descending colon cancer. The main reasons for hospitalization were pain control, dyspnea, and fatigue. Upon hospitalization, Kenji was found lying unconscious at home and his son found him.

Kenji had a history of alcohol abuse. As for the family relationship, Kenji had conflict with his son, which he was ignorant of his family matters even when his wife passed away. Further there was a history of domestic violence from him to his son and from his son to him. Kenji had a stubborn and challenging character, and he often exhibited anger management problems even in the hospital. Before the admission, he lived with his son, due to family conflict he managed his daily living on his own until admission. Besides his son, Kenji had another family, an elder sister who lived far away from him, and they were estranged.

2.2 Music therapy treatment plans

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Kenji was referred to music therapy by the unit staff as he was interested in music. The registered music therapist（RMT）conducted an assessment session with Kenji to determine what clinical challenges Kenji encountered, how music therapy could address such challenges, and the applicability of music therapy sessions, including effective music therapy interventions.

RMT brought him to a unit lounge that had secure infection controls by maintaining physical distance and constant air ventilation. RMT explained the role of music therapy and RMT in the unit and offered him any musical activities he preferred. He showed an interest in music listening and

agreed to participate in a music therapy session. Kenji requested Mozart Symphony No. 40 1st movement and Beethoven Piano Sonata No.8. 1st movement. RMT played pieces from an iPad she owned, and Kenji reminisced about his music history and the relationship with his family as it played. Presentation of CDs, a CD player, and a digital tablet device stimulated his interest in purchasing a CD player after his discharge from the hospital. Besides music interaction, the RMT communicated with him, and Kenji showed discomfort towards the hospital environment and the care team: his complaints included the slipperiness of the hospital floor or unnecessary helps from the care team.

During the initial assessment session, Kenji exhibited discomfort towards the hospital as evidenced by contentious complains towards the hospital and the care team, and this created uneasiness of providing necessary medical care. In contrast, Kenji showed active participation in the music therapy and was highly engaged in active listening and communication with the RMT. Based on these assessments, the RMT determined to implement a 30 to 40 minutes weekly music therapy session to address Kenji's two psychological clinical challenges; 1) aggressive attitude to the healthcare team, and 2) overstress caused by the hospitalization. The objectives of music therapy interventions were to help Kenji adapt to the hospitalization and create meaningful time during hospitalization. For the latter, the RMT planned to provide music-based reminiscence and stimulating self-expression to identify the hospital as a place for self-exploration rather than a place of discomfort. For further details, please see Table 2.

Table 2 Music therapy plan for Kenji

Clinical challenges		• Anger management • Continues stress due to undesirable hospitalization
Objectives		• Increasing self-expression • Maintaining motivation of staying in the hospital
Intervention		• Active music listening • Music-based reminiscence
Treatment plans	Schedule	Once a week for 30 to 40min
	Place	Lounge area in the palliative care unit
	Instruments	Western classic CDs, CD players, Digital tablet device: iPad（Apple）

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3. Results

Kenji participated in nine music therapy sessions over three months. Kenji actively joined the sessions, and his main music activity was music listening via CDs or iPad as he requested. With narrative analysis, nine sessions were divided into three phases; phase 1'*Denial of the hospitalization*', phase 2 '*Acceptance*', and phase 3 '*Adaptation*'. Below is each phase with detailed descriptions.

3.1 Phase 1: Session 1-4, Denial of the hospitalization

3.1.1 Overall description

During this phase, Kenji denied his hospitalization, and resistance to all medical care was the primary challenge the care team shared. Unlike his declined mobility function, he did not welcome his primary physician's appointment, or nurses' routine care, he was unable to transport his body from the bedside to the bathroom. In contrast, he was calm and generous with frequent smiling during the music therapy sessions. His active engagement in music therapy and verbal communication surprised the care team as it presented Kenji's positive character unseen in routine medical care. Table 3 shows requested music in Phase 1（Table 3）.

Table 3 Lists of requested music pieces during phase 1

Music genre	Name of music piece	Name of Composers or Singers
Western classic music	'Pathetique' Piano sonata No.8, 1st movement	L.V. Beethoven
	Fugue g-moll BWV 578	J. S. Bach
	Recuerdos de la Alhambra	Francisco Tarrega
	'Appassionato' Piano Sonata No.23. Op.57, 1st movement	L.V. Beethoven
Jazz music	Kind of Blue	Miles Davis
Japanese popular music	Coffee rumba	The Peanuts

3.1.2 Free self-expression while music listening

Music listening was safe common ground for Kenji and the RMT to communicate. The main topic what Kenji discussed with medical teams was his medical conditions and it created conflicts between Kenji and the team. Music listening, on the other hand, had no relation to his medical status. So that Kenji could ease his emotions and was able to actively engage in communication with the RMT. Over three sessions, the RMT initially asked Kenji about his request for music listening and played the requested music pieces accordingly. Kenji had a particular musical preference, without doubt, so the RMT intentionally gave him autonomy to create time and space that he had control over choices. It was something the hospitalization barely offered. He expressed the reason for his preference for listening to music:

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> *"Listening to sound makes me feel more comfortable than visual information.（Why so?）Watching is just a tiring action."*

This approach met music therapy objectives; to help to adapt to the hospitalization and create meaningful time during hospitalization. After the music selection, Kenji initiated communication regarding his plans for post-hospitalization. At this moment, the care team had not even discussed his

discharge date, yet his conversation often involved things he would like to do at his home rather than what he could do while in the hospital. Kenji expressed his will to be discharged during the music therapy, and the RMT accepted his expression by acknowledging his will to provide a sense of acceptance while the hospital team cannot provide it due to ethical reasons. In relation to music listening, Kenji explained his musical knowledge related to the music pieces he requested. He showed confidence yet did not show an aggressive attitude, as evidenced by creating a space for RMT to develop further conversation together. He welcomed the RMT to join the conversation.

Music listening stimulated not only his music knowledge but Kenji also reminisced about his life memories during the third music therapy session while engaging in music listening (Bach Fugue g-moll BWV 578). He reviewed his time at high school, college, and a company; he explained his past hobbies such as mountain climbing and football. He reflected on his youth without comparing the current situation. Engagement in a life review was a positive experience for Kenji.

3.2 Phase 2: Session 5- 6, Acceptance

3.2.1 Overall description

The care team found a family conflict between Kenji and his son, and they needed to take extra caution on his family relationship: Kenji's son had a history of abuse to Kenji, and Kenji also has a history of neglect on his son. As Kenji continuously insisted on being discharged, this family conflict became a big issue since discharging might cause further abuse to each other. The care team involved the police and a social worker to investigate further details and the current actual relationship between Kenji and his son.

As for Kenji's medical condition, he showed a gradual decline with continuous resistance to medical care, and the care team regularly struggled with it. Even in the music therapy session, Kenji showed occasional lethargy and mild confusion within the conversation. To provide better care, Kenji needed to recognize and accept his actual physical condition rather than just being receptive and being defiant all the time. Along with all situations, Kenji's participation in music therapy sessions continued, and he appeared to enjoy music therapy sessions with the RMT without showing a negative attitude. Kenji regularly requested the same classical music pieces as phase 1 (Table 4), the music listening continued to be his favorite activity as evidenced by his feedback:

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> *"Listening to classical music is always good. (Why so?) It gives me the freedom to think in my imagination. I prefer absolute music rather than program music indeed."*

Music listening continued to support his life review process and connected Kenji to his positive side.

3.2.2. Ethics review meeting

The hospital ethics board set up a meeting with the care team regarding Kenji's care plan: Kenji wanted to return home, but his physical condition increasingly declined, and he had many challenges. Further, his relationship with his son had a conflict and required negotiation with his son for temporary discharge. A primary palliative care physician, nurses, a clinical psychologist, and the RMT（online）participated in the meeting. Besides routine care, physical therapy and music therapy were also discussed as additional care for increasing Kenji's quality of life during hospitalization. Kenji appeared to engage in both physical therapy and music therapy actively, and the care team concluded that both therapies contributed to increasing his motivation to stay in the hospital and overall satisfaction. Overall, the ethics board summarized that dischargement was the priority, yet it may not be realistic due to his decline. In fact, because of the physical and cognitive decline frequency of his resistance to routine care was decreased. Thus, the care team decided to observe his health conditions and consider temporary discharge as needed.

Table 4 Lists of requested music pieces during the phase 2

Music genre	Name of music piece	Name of Composers or Singers
Western classic music	'Pathetique' Piano sonata No.8, 1st movement	L.V. Beethoven
	Fugue g-moll BWV 578	J. S. Bach
	Recuerdos de la Alhambra	Francisco Tarrega
	'Appassionato' Piano Sonata No.23. Op.57, 1st movement	L.V. Beethoven
Jazz music pieces	Kind of Blue	Miles Davis
Classical ballet music	Nutcracker	P.I. Tchaikovsky

3.2.3. Short discharge

The care team decided to make Kenji's will come true by taking him back home for a day. This decision had to be a collaborative action with his primary caregiver, his son, to have supports at home, however, his son was denial to this idea and the care team encountered dilemma of managing timing and negotiating with his son since Kenji's physical condition was rapidly declined every day. With few days of tough negotiation with Kenji's son, the team finally arranged his one-day discharge. After the discharge, Kenji expressed his acceptance of his condition and appreciation to the care team for taking care of him. He was able to acknowledge his actual physical condition as he spent his time alone and managed daily living on his own during one-day discharge. The one-day discharge became a transition of Kenji's end-of-life style in the hospital, and Kenji showed easiness in communicating with the care team since then.

3.3 Phase 3: Session 7-9, Adaptation

3.3.1. Overall description

Kenji showed a physical and cognitive decline as he appeared to be more lethargic and confused. The care team decided to do temporary discharge for a few days to make his will come true. As for music therapy, he still showed his interest in music therapy. Overall, the decline did not withdraw him from what he had been enjoying. In this phase, Kenji engaged in two new activities: listening to CDs with a CD player in his room outside of the music therapy session and playing the keyboard during the music therapy. Kenji expanded his action and active engagement in music-related activities increased. As his capability of engagement in conversation gradually declined, he was more able to engage in active musical activities as represented by playing the keyboard.

3.3.2. Life review of family

Music therapy sessions continued as he requested, and Kenji constantly engaged in life review while listening to the music. In his life review, Kenji had reminisced his memory with his elder sister upon requesting a Japanese popular song called 'Coffee rumba' sang by female duo singer The Peanuts. Kenji had musical influence from his elder sister, and they used to sing this song together along with a radio. It was positive memory Kenji had with her. Nevertheless, his relationship with his elder sister was not good due to his stubborn character, and the sister finally visited him at the very end of his life.

This life review represented how Kenji cherished his memories with his family, and music therapy created a safe place to explore memories without negotiating reality. Table 5 shows requested music in Phase 1（Table 5）.

Table 5 Lists of requested music pieces during the phase 3

Music genre	Name of music piece	Name of Composers or Singers
Western classic pieces	'Pathetique' Piano sonata No.8, 1st movement	L.V. Beethoven
	Fugue g-moll BMV 578	J. S. Bach
	Recuerdos de la Alhambra	Francisco Tarrega
	'Appassionato' Piano Sonata No.23. Op.57, 1st movement	L.V. Beethoven
Japanese popular music	Coffee Rumba	The Peanuts
Jazz music pieces	Kind of Blue	Miles Davis

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3.3.3. Playing keyboard during session 8

Kenji played the keyboard for the first-time during session no.8. His only interest had always been music listening, as he regularly requested during music therapy. He often said he preferred music listening, and did not show interests in any of it. In session no.8, Kenji took his eyes on the keyboard

RMT for the first time. He actively played the keyboard, and explored each key to find and play chords and notes he knew. He was entirely focused on his fine movement to play accurately. His first trial of the keyboard was fully exploratory, and it expanded his musical experience.

4. Discussion

Music listening was a primary music activity throughout the therapy sessions, and playing classical music as a background created a space of freedom to talk without judgment. Further, the number of classical music pieces connected him with positive communication he rarely presented during the hospitalization. Kenji clearly showed a different side of himself in the music therapy compared to his regular aggressive attitude towards the care team, as he was calm, talkative, and gentle. His positive experience while listening to music listening was one of the keys to eliciting his positivity out of frustration and family conflict he experienced in the hospital. Below, the authors discuss the clinical meaning and effects of music listening observed in Kenji' s case.

Music listening showed positive effects on Kenji's psychological status during his hospitalization. This result was supported by previous research reporting positive clinical effects of music listening including reducing anxiety（Evans, 2002; Nilsson, 2008; Klassen et al., 2008）, reducing depressive symptoms（Chan et al., 2011）, and enhancing wellness（Batt-Rawden et al., 2005）. Kenji was in long-term hospitalization, experiencing frustration and anxiety related to his physical condition, and music listening had the clinical effect of reducing his anxiety caused by frustration within music therapy sessions. Reduced anxiety liberated him from his complex emotions towards the hospitalization and his family and triggered Kenji to express his thoughts with honesty. The psychological liberation enhanced the well-being and overall quality of life during the hospitalization.

Another clinical effect that might contribute to a positive result is a self-selected music listening method. Kenji had an opportunity to state his preference and make it into reality; in contrast, his will could not be considered in his care plan since it challenged his physical condition. However, there is no direct evidence in previous studies that self-selected music listening can reduce stress（Pelletier, 2004; Finn & Fancourt, 2013）. This contradiction needs further investigation by limiting the population to terminally ill patients since they have more complex psychological statuses than patients in general practices.

Besides the positive clinical effects music listening presented, this effect did not appear outside of music therapy sessions, where Kenji continued to be frustrated and annoyed until his end stage of life. This case only implemented music listening once a week during the music therapy accompanied by the RMT, which caused limited effects. Previous studies suggest implementing at least three days consecutive music listening interventions create long term effects（Le Roux et al., 2007）. To further enhance the effects of music listening, this case suggests planning a consecutive music listening

intervention for patients outside of music therapy settings.

The last important point in this study is the meaning of the presence of a registered music therapist. By definition, music listening is considered as music medicine which does not require trained music therapists and can be applied independently. In contrast, the RMT accompanied Kenji for every music listening by providing active listening, and stimulated Kenji to verbalize self-expression. This case suggests that allocating trained music therapists who can provide active listening and directive conversation based on music listening to elicit verbal interaction leads to overall satisfaction of such patients.

5. Conclusion

This case report presented the complexity of care for terminally ill patients and the clinical meaning of music listening in music therapy sessions. The combination of music interventions and conventional medical care has a boosting effect on supporting not only patients' well-being but also the understanding of patients by care teams. Further, the presence of trained music therapists has the potential to stimulate further self-expression that contributes to overall well-being among terminal cancer patients. This case shed a light on new potential of integrating music listening as a useful intervention for palliative care patients. Music therapy in Japanese healthcare settings is still under development due to lack of evidence and public awareness, yet its demands are increasing as shown in this case. For further development, it is strongly recommended to conduct clinical research with valid study designs to investigate the function of music therapy and the role of music therapists in the care team. Furthermore, it is important to advocate healthcare workers of potential of music therapy and music therapists in medical settings.

6. Acknowledgment

We are sincerely grateful to the patient who showed his interests and love in the music. We would also like to thank all of the care team at Palliative Care Unit, Saiseikai Kanagawaken Hospital.

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