Music Therapy Program for Older Adults
in Boryeong-Si, South Korea

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By

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MUSIC THERAPY FOR OLDER ADULTS IN BORYEONG-SI, SOUTH KOREA

MUSIC THERAPY PROGRAM PROPOSAL FOR OLDER ADULTS IN BORYEONG-SI, SOUTH KOREA

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A thesis submitted to the Department of Music Therapy of the State University of New York at New Paltz in partial fulfillment of the requirements for the degree of Master of Science in Music Therapy
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Abstract

The purpose of this thesis is to implement a music therapy program to the Geriatric Rehabilitation Hospital in Boryeong-Si (BGRH), South Korea. BGRH is a long-term health institution devoted entirely to the surrounding community. This music therapy program is designed to have a positive impact on older adults receiving treatment at BGRH. As the older adult population steadily increases in South Korea, a growing concern is whether there are appropriate plans that improve health or battle illnesses associated with older age. In Boryeong-Si, the older adults population over 65 years old has been increasing 1% every year (Kim, 2018). This proposal investigates the views of a holistic music therapy approach and how the music therapy influences older adults at BGRH. The music therapy program is designed to help diverse symptoms in aging related psychological disorders, neurologic disorders, and will also improve the quality of life for older adults in Boryeong-Si. Music therapy interventions will examine and address the aging symptoms especially related to depression, dementia, stroke, and Parkinson’s disease in older adults.

Keywords: music therapy, older adults, Boryeong-si, South Korea
Chapter 1

Introduction

The population trend in persons aged 60 years and over is growing substantially (WHO, 2014). In turn, this group demands more care and attention in order to prolong good health and well-being in the older adult. It follows that a critical approach is necessary to improve life against the illnesses susceptible to old age.

According to the Korean Statistical Information Service in 2017, the population of Boryeong-Si is 104,198 and the population aged 65 years and over was 23,622. The older adults account for 22.9% of the total population. It is the 11th highest population rate in its city. The overarching illness in the older adult involves dementia, depression, stroke, and Parkinson’s disease.

The precautionary and preliminary approach is becoming more critically aware of the problems along with the increasing population of older adults. The grant proposal will look at different aging related disorders while noting these different issues and problems with which they present. The music therapy program will be presented with their corresponding problems.

Statement of Need

While there are many reasons music is used in rehabilitation hospital for older adults, Hyun (2006) explains that a commonly cited reason for using music in rehabilitation is the presence of awareness and its connection with the emotional and motor systems. In another study performed by Clair (1991), it was found that musical activities for older adults with dementia within this context addressed specific behavioral objectives such as communication through verbal response, the ability to watch another group member or the therapist, singing/saying words within the song context, interacting instrumentally either imitating or spontaneously, and
remaining seated. People within later stages of the disease often become isolated and unable to engage in the society in a sensory or social manner (Clair, 1991). Especially, in a rehabilitation medical setting, older adults might feel more desperate. BGRH is identified as a famous hospital, since the goals of the quality care directly correlate with the evidence-based outcomes of music therapy. This hospital has a commitment of patient care by unifying and consolidating services (BGRH, 2017). Music therapy may facilitate maximizing the quality of life for those receiving treatment and services (Solé, Mercadal-Brotons, Galati, Castro, 2014). Therefore, music will allow physical, cognitive, and emotional needs to be met. Meaningful connections fostered through musical activities enhance quality of life and allow the client to move outside of the realm of isolation.

**Boryeong-Si Geriatric Rehabilitation Hospital**

BGRH is established for the improvements of regional older adults’ healthcare. Today, BGRH is reputable for providing exceptional health services to older persons for nearly a century. The professionals at BGRH value the regional older adult patients served by the hospital center, but at the same time, they recognize the complex public health issues they face. They believe that the older adult community take part an important role in living a healthy lifestyle and they continue to assemble and organize resources through collaborations with business entities, community groups, patients, and other health care providers. BGRH is a long-term care inpatient facility and it provides space to occupy up to 132 patients requiring medical treatment (BGRH, 2017). The hospital has semi-private rooms, which provide a more community-based environment for the patients. The hospital has semi-private rooms, which provide a more community-based environment for the patients. Most common causes of hospital admissions for older adults are dementia, Parkinson’s disease, stroke, and other aging-associated diseases
The mission of BGRH is to provide trustable quality, happiness, and comprehensive care to all patients (BGRH, 2017).

**Aging**

Aging is the continuous and complicated developmental process of becoming older (Cohen, 2014). Aging is not a disease or illness. It is a natural process that human beings experience. However, as people age, their metabolism naturally slows down and shows illness as a complication rather than an illness (Healthy Living in Your 50s, 2012). Due to the radical industrialization and aging population, society has changed rapidly in South Korea. The number and proportion of people in South Korea over age of 65 have grown steadily. According to the Korean Statistical Information Service (2017), the current rate of the older adult population is 13.8%. The effects of aging include the decline of bodily processes and may reflect on the physical and psychological effects of people (Charles & Carstensen, 2010). The aging process brings significant changes in all human developmental domains. The systematic study of the phenomena of aging involves the normal biological, social, and psychological processes of growing old (Ferraro, 2007). Aging can affect a person’s cognitive functioning, including one’s judgment, reasoning, comprehension of information, and memory (Weissman, 1983). This process can affect one's decision-making (Bright, 1996) and slow the reaction times (Pedersen, 1986). Aging may also affect an older adult’s perceptual motor functioning (Healthy Living in Your 50s, 2012). Overall organ functions become markedly less capable with age (Healthy Living in Your 50s, 2012). According to the National Dementia Epidemiology Survey of Korea (NDES) in 2012, the prevalence rate of dementia in elderly people aged 65 years or older in 2012 is 9.18%. By 2050, the rate of dementia will increase to 15.06% (NDES, 2012). The number of patients treated with Parkinson’s disease increased from 40,556 in 2010 to 80,888 in 2014, an
increase of nearly 40% over five years (NDES, 2012). The incidence rate of dementia in Korea was 18.8 per 1,000 persons per year (NDES, 2012). Information provided by the NDES allows researchers to observe the strong correlation between the older adult population and older age related diseases such as dementia, stroke, and Parkinson’s disease.

**Defining Music Therapy**

Music therapy has been used to assist to patients for over 68 years in the United States (American Music Therapy Association, 2018). Bruscia (1998) has defined music therapy as “a systematic process of intervention, wherein the therapist helps the patient achieve health using musical experiences and the relationships that develop through them as dynamic forces of changes” (p. 20). The American Music Therapy Association (2018) defines music therapy as an evidence-based field supported by quantitative and qualitative research. Music therapy can only be practiced by a qualified professional applying treatment plans to patients in a manner reflecting the education and training the therapist has undergone. The Korean Music Therapy Association (2018) stated that music therapy is a relatively new profession that improves the quality of life by using systematic music activities such as music making, reading music, and singing. Music therapy is not limited to the client’s psychological treatment, but it also improves people’s physical well-being and social health.

**Neurologic Music Therapy Training Course**

Neurologic Music Therapy is defined as the therapeutic implementation of music of the cognitive, sensory, and motor dysfunction due to neurologic disease of the human nervous system (Thaut, 2013). Neurologic Music Therapy is based on previously researched techniques (Thaut, 2013). Its treatment skills are based on the scientific knowledge in music perception, music production, and the effects thereof on nonmusical brain and behavior functions (Thaut,

To be qualified as a Neurologic Music Therapists, one must complete the neurologic music therapy training course. This course is created to educate the trainee with the necessary knowledge required to apply neurologic music therapy (NMT) within the 4-day-training period (The Academy of Neurologic Music Therapy, 2016). Specifically, this workshop will provide therapists with advanced clinical training skills and scientific knowledge in the field of NMT (The Academy of Neurologic Music Therapy, 2016). The music therapy implementation will be based on this training course. This training will start from June 13 to June 16, 2018 at The Alverno College, WI. The grant writer will be participating in this training as well.

**Purpose of the Thesis**

A combination of neurologic music therapy and group therapeutic singing may provide older adults who have complicated symptoms benefit both psychologically and physically. The purpose of this thesis is to provide how music therapy may be coordinated into BGRH’s program and support its mission from its influence. Furthermore, music therapy will also introduce potential plans of action within its program. The music therapist’s job description (including salary and initial expenses), how this program will be evaluated for efficacy, and how the program will expand and contribute to Boryeong-Si for years to come will also be a factor.
Chapter 2

Literature Review

Older Adults in Rehabilitation

Older adults in rehabilitation are complicated and require treatment for versatile physiological, psychological, communication, and cognitive issues associated with surgery, illness, or injury (Clark, Baker, & Taylor, 2012). Common reasons for hospital admission in South Korea encompass dementia, falls, stroke, and surgery such as hip or knee replacements (Korean Academy of Geriatric Rehabilitation Medicine, 2010).

To address chronic comorbidities, malnutrition, immobility, infection, and complex social issues, management is frequently required (Clark, Baker, & Taylor, 2012). In a rehabilitation setting, therapy is typically associated with a multidisciplinary approach and aim to have a holistic and comprehensive assessment for the clients’ systematic functions, psychological state, social, and environmental risk factors (Kim, 2005). For rehabilitation programs to be successful, it is imperative to set goals towards a collaborative effort (doctors, nurses, social workers, a case manager, a patient, and patient’s family) for appropriate rehabilitation therapies with the considerations of treatment goals (Kim, 2005).

Currently the rehabilitation service system in South Korea requires organization because comprehensive rehabilitation service cannot be provided after diagnose disease, which leads to prolonged hospital stay and high-priced treatment cost (Kim, 2014). Rehabilitation treatments for older adults who suffer from diseases or illnesses may cause encouragement in having a normal life-style back, and it also maintains optimal physical and psychological functional capacity for the patients (Korean Academy of Geriatric Rehabilitation Medicine, 2010).
Music and Brain

Music is a potential medium of therapy and a means of accessing and stimulating specific cerebral circuits (Trimble & Hesdorffer, 2017). The brain also has neural circuitry that responds to music. Discerning components such as pitch, rhythm, or timbre is important to understand musical behaviors related with perception and cognition (Trimble & Hesdorffer, 2017). Thaut (2013) stated “speech and music have structural similarities in regard to prosodic features: pitch, duration, timbre, intensity, accents, and inflection patterns built from those elements (p.1).”

Music processing involves motor, cognitive, and affective memory components in the brain. Regarding brain activity, people can understand the therapy process when people are performing musical activities. Music helps in people who are emotionally disturbed or affected by disabilities or diseases such as Alzheimer’s disease (Hodges & Gruhn, 2012). Additionally, Hodges et al., (2012) stated that regardless of the degree of disability or illness, it is possible for the individual to have a meaningful musical experience.

Music Therapy for Older Adults

Music therapy has been used as an efficient tool in the treatment of older adults with different needs. Music therapy is especially used in older adults to achieve individualized goals such as cognitive, emotional, physical, social, and spiritual domains. It is salient to understand the client fully and understand the significant factors of his/her characteristics in enhancing the therapeutic process. An important music characteristic found in older adults is voice range. However, their voice range may decrease (Abbott, 2012). In order to accomplish successful music intervention, musical elements must be within small interval changes, which include distinct pitch changes and simple rhythmic patterns (Abbott, 2012). Music therapists must carefully support older adults with special needs and be aware of their requirements. In music
therapy, there are several ways of older adults’ methods that individuals may use and these may be very personal.

Today, as the population of older adults has surged, interest in improving the quality of life of the older adults is increasing in South Korea. According to Kong & Park (2015), music therapy improves the quality of life and it decreases agitation in older adults affected by dementia. Music therapy not only enhances the quality of life of the older adults (Clair & Bernstein, 1990), but it helps to increase memory functions, social abilities, and positive emotions (Lord & Garner, 1993). It has been used as an effective intervention for preventing isolation and reducing behavior problems (Bonder, 1994). Music may have the ability to trigger memories of lived experiences and important relationships from the past (Abbott, 2012). This influential history of music can draw on here-and-now, inter- and intrapersonal interactions (Abbott, 2012).

**Group Therapeutic Singing**

Group singing includes singing familiar and unfamiliar songs together in a group (Abbott, 2012). Group-based music therapy provides an interpersonal context that can be more fully explored by employing qualitative methods (Stegemöller, Hurt, O’Connor, Camp, Green, Pattee, & Williams, 2017). Some objectives for older adults are to facilitate sensory stimulation and to promote cognitive stimulation (Abbott, 2012). Other objectives include increasing group activity involvement which increases a sense of community belonging. The level of therapy is augmentative (Abbott, 2012). Stegemöller et al. (2017) stated that the opportunity to connect with others with similar experiences led many to feel helpful for the older adult patients as they struggled with Parkinson’s disease changes, loneliness, and sadness. The research in South Korea showed that group therapeutic singing helps relieve emotional distress in older adults as it
relaxes them and decreases their anxiety (Choi & Ryu, 2007). According to Clements-Cortes (2015), singing in a choir is a worthwhile activity for older adults because it promotes environmental engagement and produces connections with others while synchronously creating important memories and significant moments. In addition, abdominal breathing used for singing causes air to fill a person’s lungs so that he/she experiences feelings of refreshment, relaxation, and energization (Clements-Cortes, 2015). Culturally, Koreans enjoy gathering and singing together, and especially the older adult generation. Clements-Cortes (2015) also found that therapeutic singing activities facilitate mood, happiness, and energy improvement, but also decreases the pain and anxiety level for people with dementia.

**Neurologic Music Therapy**

Neurologic Music Therapy (NMT) is a research-based application of music therapy to cognitive, sensory, and motor dysfunctions due to the neurologic disease of the human nervous system (Thaut, 2005). NMT is based on diagnostics and functional goals of individual clients, which use music for three domains: 1) sensorimotor, 2) speech and language, and 3) cognitive functions (Thaut, 2005). The impact of music and rhythm on the motor processes has become a focus of clinical practice in neurologic rehabilitation and has been foundational in the development of Neurologic Music Therapy (Thaut, 2005). Neurologic music therapists work with other disciplines, particularly in medical settings. Through this approach, therapists expect to increase motivation, use rhythm to structure body movements, aid relaxation and stress reduction, decrease length of stay in medical facilities, decrease the need for medication, evoke memories and emotions, and help in pain reduction (Thaut, 2005).
Dementia

Dementia is a cognitive disability in memory, motor, learning, and language skills (Korean Central Dementia Center, 2014). Alzheimer’s Disease is the most common type of dementia. Symptoms usually get worse over time, becoming severe enough to disrupt daily tasks and to make it hard to communicate with others (Korean Central Dementia Center, 2014). Even if older adults are in the rehabilitation for dementia, declines in cognitive abilities, including short-term and long-term memory, and attention, would gravely affect the progression of the patient’s illness (Belgrave, Darrow, Walworth, & Wlodarczyk, 2011). In the DSM-5, there are new forms of dementia, which are Major Neurocognitive Disorder and Mild Neurocognitive Disorder. In accordance with the DSM-5, there are three Criterions for Alzheimer's disease.

The following three indicators are present: (a) clear evidence of decline in memory and learning, and one other cognitive area, based on specific history or trials of neuropsychological testing, (b) steady cognitive decline, gradual decline in cognition, without periods of stability, and (c) no evidence of other psychological, neurological, or medical problems responsible for cognitive decline (American Psychiatric Association, 2013, p. 612).

Cognitive impairment is a result of dementia and dementia is the most common among the older adult. There are three different types of dementia: Alzheimer’s disease, Lewy body dementia and front temporal dementia, and vascular/mixed dementia. Researchers found it is injurious for people diagnosed with dementia to remain physically inactive (Korean Central Dementia Center, 2014). Thus, being physically active promotes healthy cognitive functioning and helps to facilitate their memories. Ultimately, physical activities prevent the onset of dementia (Korean Central Dementia Center, 2014).
Music Therapy in Dementia

Music therapy contributes to language abilities as well as social functions for people with dementia (Dassa & Amir, 2014). People with dementia are easily susceptible to neglect because he/she has difficulty communicating with others. Thus, it is important to provide a safe place accepting his or her own ability and social skill, and complement the client, which involves acknowledging and maintaining moments that are basically joyful, and fully engaging in social activities (Dassa & Amir, 2014).

Music is a powerful therapeutic tool for people with dementia. In Korea, there are several researches conducted for older adults with dementia. One of the studies showed that music therapy is effective on the patients’ cognitive function, behavior, and emotion (Sim & Jung, 2001). Music may provide a safe environment for both clients and the caregivers. Researchers demonstrate that by doing musical activities with social engagements, positive hormones such as dopamine in the brain are released (Tarr, Launay, & Dunbar, 2014). A person with severe dementia suffers from an identity of his/her self and he/she loses self-perception (Herbert, 2015). Thus, an unlimited understanding of people with dementia is needed for the music therapist to make a treatment plan. Therefore, music therapy assessments can be designed by the clients’ functioning levels, based on the information already gathered from other disciplines (Norman, 2012). When it comes to methods in music therapy, there are many ways to accomplish the client’s goals in dementia care (Cho & Kim, 2015). The music therapist provides the client with support, and/or adaptations needed to practice a preferred song or preferred therapy method (Cho & Kim, 2015). Above all things, non-judgmental understanding is the most important attitude to have as a therapist. Therefore, music therapy in dementia care would be an augmentative level of practice aimed to better the quality of life. The main purposes for the client
are to rekindle or maintain a previously enjoyed music or practice (Young, 2012). Thus, cognitive stimulation is the primary part in the process of a music therapy session in dementia cares. By playing a preferred instrument, familiar musical components also interact with the brain (Young, 2012). Researcher found that the specific music that a person listens during a lifetime can impact to the brain’s positive activities (Young, 2012). Music can help the client recall the memory of that activity, while also improving cognitive ability over time (Young, 2012). If the client is able to perform the instrument to their satisfaction, the therapist could arrange for them to have a weekly individual session (Young, 2012). This provides the client with the motivation, structure, and musical context to improve (Young, 2012). The roles of music therapists are an important factor and which also brings a positive impact to the people with dementia.

**Stroke**

Stroke is the No. 5 cause of death in the United States (The American Stroke Association, 2016) but also one of the most important causes of death in Korea (National Statistical Office of Korea, 2017). In Korea, the treatment of acute stroke and the improvement of risk factors of stroke declined by about 28.3% over the first decade of the 21st century. However, according to National Statistical Office of Korea in 2017, 26,500 people died from stroke. Stroke is still the leading cause of death (National Statistical Office of Korea, 2017). Stroke has a domestic mortality rate of 75 per 100,000 people and it is the disease with the highest death rate among single diseases (National Statistical Office of Korea, 2017).

Symptoms of stroke are

- Sudden numbness or weakness of the face, arm or leg (especially on one side of the body)
• Sudden confusion, trouble speaking or understanding speech
• Sudden trouble seeing in one or both eyes
• Sudden trouble walking, dizziness, loss of balance or coordination
• Sudden severe headache with no known cause (U.S National Library of Medicine, 2018)

Broadly there are several types of stroke – ischemic stroke, hemorrhagic stroke, and transient ischemic attack. A clot obstructing the flow of blood to the brain causes ischemic stroke (U.S National Library of Medicine, 2018). A blood vessel rupturing and preventing blood flow to the brain causes hemorrhagic stroke. A temporary clot causes transient ischemic attack. Stroke patients have psychological and emotional anxiety due to sudden changes in their body such as depression, loss, and distorted self-image (U.S National Library of Medicine, 2018). This may cause the decrease of motivation for effective physical rehabilitation (U.S National Library of Medicine, 2018). Stroke patients should consider not only physical rehabilitation, but also internal and psychological rehabilitation (Son, 2015). It is necessary to develop potential skills through positive thinking and improvement of self-confidence to maximize the possibility of rehabilitation (Son, 2015). Approximately 80% of patients require rehabilitation in any form of treatment, except when the stroke is fully recovered or the patient is deceased (Korean National Rehabilitation Center, 2014). Once the disease occurs, lifelong medical care should be necessary (Korean National Rehabilitation Center, 2014).

Music Therapy for Stroke

Different music therapy approaches and techniques can be applied to recovery of patients who suffer from stroke. Music therapist implements the sessions as part of a multidisciplinary treatment in neurologic rehabilitation for the patients. One of the common symptoms after stroke
is motor impairment, but productive therapies for these dysfunctions are insufficient. Music with neurorehabilitation is supported by studies showed significant improvement in fine as well as gross motor skills with respect to speed, precision, and smoothness of movements after stroke (Altenmüller, Marco-Pallares, Münte, & Schneider, 2009). In addition, different approaches and techniques with music are used in the stroke rehabilitation to enhance the patients’ cognitive and more functions but also psychological outcomes (Raglio, Zaliani, Baiardi, Bossi, Sguazzin, Capodaglio, Imbriano, Gontero, & Imbriani, 2017). Following goals are common for patients with strokes: increase communication skills, increase upper extremity strength, coordination, and/or range of motion, and increase static and dynamic sitting balance.

**Parkinson’s Disease**

Parkinson’s disease, which is rapidly increasing in older adults, is considered to be the third most common neurological disease along with dementia and stroke in South Korea (Park, 2017). Parkinson disease (PD) is a progressive neurodegenerative disease characterized by bradykinesia, rigidity, resting tremor, gait disturbance, stooped posture, autonomic dysfunction and mental symptoms, such as dementia, delirium and depression (Docu Axelerad, 2012). These symptoms are caused by a lack of dopamine in the brain (Park, 2017). However, even if dopamine is deficient, symptoms do not occur immediately (Park, 2017). Symptoms begin to appear only when the dopamine concentration in the brain decreases by 80% or more (Park, 2017). Therefore, early diagnosis of Parkinson’s disease is very important (Park, 2017). Currently, the public awareness of Parkinson’s disease and the lack of knowledge of it have led many patients to fail to receive appropriate treatment in South Korea (Park, 2017). Patients with Parkinson’s disease may experience depression or disability of cognitive functions due to movement difficulties, which requires emotional support and physical therapy (Park, 2017).
Intensive physical therapy, medications, and occupational therapy would be helpful, however these treatments would not change the progression of the disease (Kim, 2014). According to research, twenty minutes of exercise three times a week is best for therapy (Docu Axelerad, 2012).

**Music Therapy in Parkinson’s disease**

Music therapy for people with Parkinson’s disease has been validated to be a particularly effective method (Dobson, 2017). Several neuroscience studies have shown that certain types of music trigger the production of dopamine and serotonin – two neurotransmitters that are diminished in Parkinson’s disease patients (Dobson, 2017). Neurologic music therapy is generally used for the patients to encourage gait training (Dobson, 2017). Rhythmic Auditory Stimulation (RAS) involves metronomic or musical rhythm that stimulates the rhythmical movements (Thaut, 2005), especially related with their timing (Rizzonelli, Kim, Gladow, & Mainka, 2017). Music therapy treatment has been an effective way to improve their quality of life (Bae & Kim, 2016). Research has shown that psychological music therapy intervention for older adults with Parkinson’s disease can enhance their quality of life (Bae & Kim, 2016). Music therapy may reduce major psychological problems (such as depression or anxiety) of older adults with Parkinson’s disease indicating that music therapy methods can be effective in improving moods (Bae & Kim, 2016). However, research on music therapy and Parkinson’s disease is scarce (Bae & Kim, 2016).

**Music Therapy and Speech**

One technique of NMT developed to take advantage of this ability is Melodic Intonation Therapy (MIT). The goal of MIT is to strengthen the intact neural connections, which occur in singing in order to have them essentially take over language function.
In a study conducted by Meulen et al. (2014), patients were randomly assigned to either an MIT group or a control group. Participants in the experimental group received intensive MIT for 6 weeks, 5 hours per week. No other language therapy was allowed during this period. Participants in the control group received only intensive control treatment. Both groups improved in language repetition over time. Only the experimental group showed significant improvement over time on the functional tasks. This article showed that language training with MIT may have a beneficial effect on language production in severe non-fluent aphasia in the subacute phase post-stroke (Meulen, Sandt-Koenderman, Heijenbrok-Kal, Visch-Brink, & Ribbers, 2014). In another study performed by Conklyn et al. (2012), a modified version of MIT (MMIT) was created in order to widen potential treatment plans for music therapists working with patients suffering from Broca’s aphasia. In the study, participants were taught simple melodic phrases such as “I need a drink of water”, in conjunction with a rhythmic component. This was done repeatedly and used in order to answers to questions. For example, the corresponding question to “I need a drink of water” was “When you are thirsty and need a drink of water, what do you say to the nurse when she comes in?” The researchers found that those who engaged in MMIT sessions presented with improvement in speech output within the first session (Conklyn, Novak, Boissy, Bethoux, & Chemali, 2012). They also found that there was a significant gain in responsiveness and repetitiveness. It is important to note that prior to the MMIT sessions, participants were unable to repeat phrases or respond to questions when prompted by non-melodic speech.

**Music Therapy and Gait**

Disturbances in gait is one of the more prevalent deficits encountered from having a stroke (Lindaman & Abiru, 2013). A study by Thaut and Colleagues found that the use of RAS to
entrain patients with walking allowed improvements in stride time symmetry, stride length symmetry, and length of time participants could bear weight on their paretic side. In another study performed by Thaut, RAS was compared to other methods of gait training. It was found that gait velocity and stride length improved significantly more in the experimental group than in the control group (Lindaman & Abiru, 2013). There have been other studies that looked at aspects of gait beyond stride, such as trunk coordination and range of motion at the shoulder joint. In these studies, RAS was shown to have caused significant improvements in these aspects, indicating that the addition of RAS to gait training also influences positional and muscular control (Lindaman & Abiru, 2013).

Studies have also been performed looking at the impact of music therapy on people with Parkinson’s disease experiencing difficulty with gait. A study performed by McIntosh et al. (Lindaman & Abiru, 2013) found that people with Parkinson’s disease who underwent RAS gait training in conjunction with medication showed the greatest improvement in gait velocity and stride length when compared to individuals with Parkinson’s disease who were not taking medication and healthy control subjects. Another aspect of gait that is disordered in those with Parkinson’s disease is freezing of gait, in which a person’s gait is temporarily “frozen,” causing an inability to continue movements (Lindaman & Abiru, 2013).

**Music Therapy and Disorders of Movement**

Another common problem endured by older adults who have had a stroke or other form of TBI is hemiparesis: the weakness of either the left or right side of one’s body. About 75% of stroke patients have experienced some form of weakness in the upper extremities (Yoo, 2009). Music can play a role in strengthening certain motor functions by playing musical instruments. Therapeutic Instrumental Music Performance (TIMP) is a commonly used and cited NMT
technique that utilizes musical instrument playing to improve motor skills (Yoo, 2009). In this technique, instruments are chosen that replicate movements that are a part of one’s activities of daily life. The act of playing the instrument has benefits beyond music listening, as it not only provides auditory input, but also auditory feedback through one’s contact with the instrument that corresponds to cues that are visual, tactile, and musical in nature. This feedback also serves as a motivational tool, as it provides instantaneous information regarding correctness or success in an action.

In a study performed by Yoo (2009), stroke patients suffering from upper extremity impairments engaged in TIMP sessions geared towards improving muscular strength on the hemiparetic side. The participants played rhythmic instruments (tambourine, digital drum kit, drums, xylophone, metallophone, wind chime, hand drums, shakers, maracas, castanets, and mallets) geared towards improving and strengthening arm movements. The instruments were chosen based on the type of movement necessary for being played, including arm flexion and extension, forward reaching, shoulder abduction/adduction, lateral rotation, wrist flexion/extension, hand pronation and supination, and bilateral arm movement. They found that after undergoing 2 weeks of TIMP sessions, participants displayed improvements in arm function, decreased total movement times, and increased motor control and force (Yoo, 2009). Thus, the use of TIMP interventions within a rehabilitation setting has been associated with improvements in upper limb movement. It is also important to note that these sessions only lasted two weeks.

Difficulties with upper extremity functioning can also be tackled through other NMT techniques. In a study by Whitall & Waller (2013), training in upper extremity movements was provided using bilateral arm training with rhythmic auditory cueing (BATRAC). The BATRAC
is a machine on which a participant performs repetitive movements, such as reach and return of both arms to a rhythmic auditory cue. The BATRAC machine was adjustable for participants based on arm excursion ability. Use of the BATRAC was associated with improved arm function as well as increased daily use of the arm, with these effects being retained 9 weeks after training (Whitall & Waller, 2013). Thus, it is possible that several different NMT techniques can be applied to one presenting problem and show positive results.

Conclusion

Older adults who are institutionalized in the hospital have a unique set of problems and needs. A combination method of neurologic music therapy and group therapeutic singing activities can be an effective means of rehabilitation for these clients in helping them maintain or improve physical functions, cognitive functions, and the quality of life. Understanding the relationship between various symptoms and appropriate music interventions is crucial when the music therapist uses music for older adults. The music therapist should help the clients express their feelings comfortably and they support their physical and psychological needs by using music interventions. In addition, the music therapist must accept the clients’ every behavior as they are. Finally, if music is carefully selected with specific individuals in needs, music interventions may provide an effective medium for older adults at BGRH.
Chapter 3

Program Development

Target Audience

The target audience will be hospitalized inpatients receiving care as well as older adults with conditions related to the ageing process including depression, dementia, stroke, and Parkinson’s disease. Through a treatment meeting with staff members every week, a music therapy treatment intervention will be provided according to patients’ needs. In addition, the older adults who simply possess an interest in music itself will be included in the music therapy target audience. In music therapy, the music can be facilitated individual body movements and memories while music therapy can be implemented to older adults’ daily routines.

Target Domain

A combination music therapy approach is focused on four domains: emotional, physical, speech and language, and cognitive functions. Through this approach, we can expect to see an improvement in motivation, socialization, and rhythms to help structure body movements. We can also expect to see improved relaxation, stress reduction, decreased lengths of stay, decreased medication requirements, improved memories and emotions, and pain reduction.

Content of the Program

Each session will be implemented with individuals or within groups in order to accomplish the patients’ individualized goals. The writer will utilize best practices based on previous research to support this music therapy program. The patients may receive appropriate music therapy services depending on their daily physical and psychological conditions. The combination methods of NMT and group therapeutic singing procedures will be used in the older adult inpatient group. BGRH is in need of more services and programs that improve physical
health and the quality of life. The proposed music therapy program may benefit this hospital as research suggests that music therapy may decrease depression while increasing physical supports (Hilliard, 2006).

**Scope of Services**

The music therapist would work individually with patients as well as in group contexts, formed specifically by a common therapeutic need. The majority of the music therapist’s day will be spent in individual or group sessions. Patients suffering with diverse diseases or defects will require individualized attention, goals, and treatments. The music therapist will work directly with other members of the team through discussion of patient treatment goals in team meetings as well as working directly with other staff members. For example, the music therapist could work with a physical therapist to help a patient with motor movements or with a nurse to aid with pain management.

**Responsibilities of Personnel for Delivery and Administration**

The music therapist will attend daily team meetings and work within the interdisciplinary approach to treatment. The music therapist will work with team members, particularly physicians, nurses, social workers, and other therapists.

Typical responsibilities of the job include:

- Assessing clients' needs
- Planning and providing appropriate music sessions
- Actively participating in music sessions and encouraging clients to do the same
- Exploring a variety of musical styles and sounds with clients through singing, percussion, instruments and improvisation
- Maintaining records and case notes
• Reporting progress to families/care givers, relevant agencies or professional staff
• Attending conference and conducting research

Documentation

In delivery of music therapy services, music therapists follow a general procedure that includes (AMTA, 2018):

1. Referral, 2. Assessment, 3. Treatment plan, 4. Implementation, 5. Documentation, and 6. Termination. Standards for each of these procedural steps are outlined herein and all music therapists should adhere to them in their delivery of services. Decisions affecting the quality of services should be based on the professional judgment of the music therapist with regard to patient ratio and caseload, as well as the frequency, length, and duration of sessions. The Music Therapist will allocate time needed to execute responsibilities such as administration, in-service, and services relating to patient care. The order documentation will be presented in the following order:

1. Referral: If a staff member notices that music therapy would be beneficial for a particular patient, he/she will fill out a referral form. This form consists of information regarding the patient’s diagnosis, presenting needs, and why music therapy has been referred. See Appendix A for a sample referral form.

2. Assessment: An assessment is conducted at the first session with a patient. This gives the music therapist a clear idea of what the patient will need from music therapy sessions. If needed, an assessment will be done two or three times. An example of an assessment form can be seen in Appendix B.

3. Treatment Plan: A treatment plan will be formed after assessment. This outlines the goals and objectives of treatment, as well as intended musical interventions with rationale. It will be
updated and adjusted session by session in order to track progress (See Appendix C for treatment plan template).

4. Chart (DARP) Notes: For documenting progress, the music therapist will write DARP-format chart notes (see Appendix D for a sample DARP form). This consists of data about the patient and how he/she presented at the beginning of the session, the action taken in the session to address the patient’s presenting need(s), the patient’s response, and the plan for future sessions.

5. Weekly Progress Notes: A weekly progress notes is an important aspect of documentation. It clearly states that there should be a method in which each patient’s treatment plan is monitored (See Appendix E for weekly progress notes template).

6. Termination Report: Once music therapy sessions are no longer needed or the patient is to be discharged, the music therapist will create a termination report, which outlines the changes the patient has made throughout therapy, and suggestions for maintaining that progress post-therapy.

7. Program Evaluation: Program evaluations will be completed every 3 months in order to assess the effectiveness of the musical interventions being employed. The evaluation tool utilized will be a simple one-page questionnaire, which will address each person's assessment of overall satisfaction with the program; and suggestions for program improvement. Therefore, the program will be evaluated for efficacy through analysis of research conducted at the hospital as well as patient surveys and patient family surveys (see Appendix F for a program evaluation template).
Expected Outcomes

Music therapy group members or individual clients will have a 40% increase in positive motivation for a healthier and happier life through the rehabilitation process. There will be a decrease in the number of music therapy group members or individual clients suffering from anxiety and/or depressive symptoms. Group members or individual clients will be highly attentive during each session. Group members or individual clients will complete pre/post-standardized measures of the Hamilton Depression Rating Scale. Every staff member will investigate changes in anxiety and depression and improvement in physical movements for each participant.
Chapter 4

Program Advancement

Funding Source

Funding for a music therapy program will be developed after meeting with the city mayor, Kim. He has previously made investments towards the Department of Dementia at the Boryeong-Si Geriatric Rehabilitation Hospital. In March 2018, Boryeong-Si began construction of an intensive care unit for dementia at BGRH. According to the mayor, they are planning to hire additional neurologists, psychiatrists, and other related therapists. They currently have a $1,500,000 budget for the new hospital. The mayor recently announced that he is ready to support the music therapy program.

Proposed Salary

The proposed starting salary is $45,000 per year, including health benefits normally granted to full-time employees. In South Korea, there is no average salary range for music therapists. This salary is realistic for a starting position and also provides room to expand with experience.

Additional Expenses

Additional expenses will occur at the beginning of the program in order to build an inventory of instruments. Annual expenses will include conference costs, Korean Music Therapy Association membership, and maintenance and for instruments (see Appendix G for a budget outline).

Future Development

Developing an internship program would add to the education component of the rehabilitation hospital’ mission statement, providing an educational program beyond the current
residency program for music therapy students. Once the program is settled and secure, the next step would be to expand to the other hospital locations in South Korea. This would require hiring additional full-time music therapists and developing an internship program at each site in order to expand the scope of practice. Eventually, per diem music therapists may be hired to serve at the outpatient programs dispersed in South Korea.

Research

Because the rehabilitation hospital already has an established research program within the rehabilitation center, having the music therapist contributing to this therapy would not be of much difficulty, as many of the resources, such as required software, are present. Research will be conducted based on patient presenting problems as well as individual case analyses, at the permission of the patient. All research conducted at the rehabilitation hospital will be combined and consolidated in order to be presented at the Regional Conference of the Korean Music Therapy Association as well as the National Conference of the American Music Therapy Association. This will be an opportunity to further expand the name of the Korean Music Therapy, adding to its already stellar reputation.
References


www.stroke.or.kr/image/CRCS%20CPG%20%EA%B0%9C%EC%A0%95%20(ICH)20140625.pdf.


Korean Academy of Geriatric Rehabilitation Medicine. (2010). Introduction to older adults’


doi:10.1192/s2056474000001720


# Appendix A

## Referral

<table>
<thead>
<tr>
<th>Date: _______</th>
<th>Patient Name: ___________________</th>
<th>Date of Birth: ___________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Code: ___________________</td>
<td>Referred By: ___________________</td>
<td></td>
</tr>
</tbody>
</table>

### Diagnosis

**Medical Diagnosis:** ___________________

1. **Communicating:**
   - Relating to people one-to-one ___________________
   - Relating to people in a group ___________________
   - A way of expressing myself ___________________

2. **Physical:**
   - Gait Issues (Specify: ___________________
   - Motor Control/Coordination (Specify: ___________________
   - Extremity Movement (Specify: ___________________
   - Other (Specify: ___________________

3. **Emotional:**
   ___________________
   ___________________
   ___________________

### Reason for Referral

_________________________

_________________________

_________________________

### Other Details

_________________________

_________________________

_________________________
## Appendix B

### Assessment

<table>
<thead>
<tr>
<th>Patient Name: ____________________________</th>
<th>Date: ____________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis: ________________________________</td>
<td>Gender: M/F   Age: ____</td>
</tr>
</tbody>
</table>

#### Motor Function

<table>
<thead>
<tr>
<th>Sensory/Physical Limitations</th>
<th>Motor Activity</th>
<th>Gross Motor Coordination</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Hearing: Good/Fair/Poor</td>
<td>□ Normal</td>
<td>□ Full extension</td>
</tr>
<tr>
<td>□ Vision: Good/Fair/Poor</td>
<td>□ Excessive</td>
<td>□ Full extension</td>
</tr>
<tr>
<td>□ Pain Rate Likert 0-10: ______</td>
<td>□ Lethargic</td>
<td>□ Limited</td>
</tr>
<tr>
<td>□ Speech facility 0-10: ______</td>
<td>□ Slow</td>
<td>□ Impaired</td>
</tr>
<tr>
<td></td>
<td>□ Rigid/Tense</td>
<td>□ Unable to move</td>
</tr>
<tr>
<td></td>
<td>□ Restless</td>
<td>□ Unable to move</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Pain w/ mvt</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Pain w/ mvt</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambulation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Independent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Assistant needed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Wheelchair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Bedbound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Unable to move</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Sensory/Physical Limitations

- □ Hearing: Good/Fair/Poor
- □ Vision: Good/Fair/Poor
- □ Pain Rate Likert 0-10: ______
- □ Speech facility 0-10: ______

#### Motor Activity

- □ Normal
- □ Excessive
- □ Lethargic
- □ Slow
- □ Rigid/Tense
- □ Restless

#### Gross Motor Coordination

- □ Full extension
- □ Limited
- □ Impaired
- □ Unable to move
- □ Pain w/ mvt

#### Motor Activity Details:

<table>
<thead>
<tr>
<th>Gross Motor Coordination</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Upper limbs</td>
</tr>
<tr>
<td>-Lower limbs</td>
</tr>
<tr>
<td>□ Full extension</td>
</tr>
<tr>
<td>□ Limited</td>
</tr>
<tr>
<td>□ Impaired</td>
</tr>
<tr>
<td>□ Unable to move</td>
</tr>
<tr>
<td>□ Pain w/ mvt</td>
</tr>
</tbody>
</table>

#### Fine Motor Coordination

- □ Good/Fair/Poor

#### Cognitive Function: Mental Status

<table>
<thead>
<tr>
<th>Thought:</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Thought process</td>
</tr>
<tr>
<td>□ Thought content</td>
</tr>
</tbody>
</table>

#### Communication

<table>
<thead>
<tr>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Verbal</td>
</tr>
<tr>
<td>□ Fluent</td>
</tr>
<tr>
<td>□ Impaired</td>
</tr>
<tr>
<td>□ Non-verbal</td>
</tr>
<tr>
<td>□ Unintelligible</td>
</tr>
<tr>
<td>□ Uses adaptive communication devise</td>
</tr>
</tbody>
</table>

#### Memory

- Short term:
  - □ Good/Fair/Poor
- Long term:
  - □ Good/Fair/Poor

#### Attention Span:

- □ Good/Fair/Poor

#### Current Behavior

- □ Appropriate
- □ Intrusive
- □ Agrees without Complaint
- □ Agrees Reluctantly

#### Affect Observed

- □ Pleasant
- □ Bright
- □ Excited
- □ Appropriate
- □ Flat
- □ Blunted
- □ Depressed
- □ Upset
- □ Crying
- □ Labile
- □ Anxious
- □ Relaxed
- □ Withdrawn
- □ Annoyed
- □ Angry
- □ Irritable

#### Comments:

Musical

#### Comments:
### Appendix C

**Treatment Plan**

<table>
<thead>
<tr>
<th>Patient Name: ___________________________</th>
<th>Date: _____</th>
</tr>
</thead>
</table>

**Assessment Information:** ________________________________________________

____________________________________________________________________________

____________________________________________________________________________

**Presenting Problems:** ________________________________________________

____________________________________________________________________________

**Goals:**

1. **Short Term Goals:** ________________________________________________

2. **Long Term Goals:** ________________________________________________

---

**Music Therapy Interventions:**

<table>
<thead>
<tr>
<th>Target Behavior 1</th>
<th>Target Behavior 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
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</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Others:**
Appendix D

<table>
<thead>
<tr>
<th>Chart Note (DARP):</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DATA:</strong> Includes date, type of session (initial interview, assessment, baseline data collection, treatment implementation, or termination visit), physical status, presenting affect, presenting problems</td>
</tr>
<tr>
<td>___________________________________________________________________________________________________</td>
</tr>
<tr>
<td>___________________________________________________________________________________________________</td>
</tr>
<tr>
<td>___________________________________________________________________________________________________</td>
</tr>
<tr>
<td><strong>ACTION:</strong> Includes music therapy interventions used to address presenting problems (techniques, instruments, devises, other materials)</td>
</tr>
<tr>
<td>___________________________________________________________________________________________________</td>
</tr>
<tr>
<td>___________________________________________________________________________________________________</td>
</tr>
<tr>
<td>___________________________________________________________________________________________________</td>
</tr>
<tr>
<td><strong>RESPONSE:</strong> Includes patient response to music therapy interventions, how patient participated, patient quotes about intervention</td>
</tr>
<tr>
<td>___________________________________________________________________________________________________</td>
</tr>
<tr>
<td>___________________________________________________________________________________________________</td>
</tr>
<tr>
<td>___________________________________________________________________________________________________</td>
</tr>
<tr>
<td><strong>PLAN:</strong> Includes plan for future music therapy sessions</td>
</tr>
<tr>
<td>___________________________________________________________________________________________________</td>
</tr>
<tr>
<td>___________________________________________________________________________________________________</td>
</tr>
<tr>
<td>___________________________________________________________________________________________________</td>
</tr>
</tbody>
</table>
Appendix E

Weekly Progress Note

Music Therapist: _______________________  
Patient Name: _________________________  Date: ____

Services:

Individual Therapy ( )  Group Therapy ( )

30 min ( ) 45 min ( ) 60min ( )

Frequency:

Goals:
1. Short Term Goals: _______________________________

2. Long Term Goals: _______________________________

Music Therapy Interventions & Summary:

Reflections:

Plan:

Continue MT Services ( )  Terminate MT Services ( )
Appendix F

MUSIC THERAPY EVALUATION

Check the most appropriate answer:

1. How would you rate your overall experience with the music therapy program?
   Excellent   Average   Poor

2. Did the music therapist provide you with useful techniques, songs, and treatment plans to use with the patient?
   Excellent   Average   Poor

3. Did you feel that music therapist effectively addressed your current goals and objectives?
   Excellent   Average   Poor

4. Do you feel that music therapy has been useful service for the patient?
   Excellent   Average   Poor

Additional Comments:
## Appendix G

### Annual Budget

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary (derived from 2015 average salary of Music Therapist in South Korea)</td>
<td>$45,000</td>
</tr>
<tr>
<td>KMTA Membership</td>
<td>$50</td>
</tr>
<tr>
<td>Regional Conference (Includes conference admission and hotel)</td>
<td>$300</td>
</tr>
<tr>
<td>Instrument Maintenance/Repair</td>
<td>$200</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>$45,550</strong></td>
</tr>
</tbody>
</table>

### Initial Expenses

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guitar¹</td>
<td>$200</td>
</tr>
<tr>
<td>Keyboard</td>
<td>$300</td>
</tr>
<tr>
<td>Autoharp</td>
<td>$300</td>
</tr>
<tr>
<td>Percussion set (Includes ocean drum, cabasa, 6 egg shakers, 6 sleigh bells, 6 scarves, 6 pairs of rhythm sticks, 8” tambourine, 6 large maracas, 10” frame drum, 12” frame drum, 2 mallets, disinfectant spray, carrying bag)</td>
<td>$218</td>
</tr>
<tr>
<td>Djembe (2)</td>
<td>$110</td>
</tr>
<tr>
<td>Bongos</td>
<td>$50</td>
</tr>
<tr>
<td>Alto Glockenspiel</td>
<td>$97</td>
</tr>
<tr>
<td>Alto Xylophone</td>
<td>$360</td>
</tr>
<tr>
<td>Wireless Microphone</td>
<td>$50</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>$1,684</strong></td>
</tr>
</tbody>
</table>

¹ All instrument prices derived from http://www.guitarcenter.com