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### Music Therapy for Treatment of BPSD

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Running head: MUSIC THERAPY FOR TREATMENT OF BPSD

Music Therapy for Treatment of BPSD Benchmark Study

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In Partial fulfillment of

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### Executive Summary

Advances in healthcare are rising at an all-time high with innovation and growth taking over the medical field as we know it. With the development of new-found technology, physicians, nurses, administrators, and officials can perform tasks at a fast pace for a relatively low cost. One thing that is often overlooked in today's complex healthcare world are the fundamentals that have been there since the beginning. Simple interventions such as music therapy, relaxation, and guided imagery are often overlooked for the treatment of patient needs. The intervention of music therapy can be used in many situations, however, there has been significant evidence for its effectiveness for behavioral and psychological symptoms in Alzheimer's patients. Music therapy requires little to no cost and can be accessed easily. With the use of music therapy, other interventions such as medication therapy can be decreased. One area of the healthcare field that utilizes medications for BPSDs in Alzheimer's patients often is hospice. Hospice is provided to patients when they are diagnosed with a terminal disease (such as end stage Alzheimer's). These patients and their families are seeking comfort care during their last days and want to have the best quality of life as possible. With the use of medications for symptoms such as anxiety and agitation, patients can experience drowsiness, altered mental status, aggression, and other adverse effects. Music therapy can act as an alternative intervention to medications and can provide the caregivers with comfort knowing there is an easy way to decrease their loved one's symptoms without changing their character.

### Rationale

The prevalence of Alzheimer's disease and other forms of dementia continues to increase in today's society. Alzheimer's disease affects patient's mental and physical capabilities. While the emphasis is usually put on the patient's cognitive decline, behavioral symptoms can cause

just as much distress on the patient and their loved ones (Parent, 2013). When these patients begin to develop behavioral and psychological symptoms (BPSD), treatment with medications is often used. Medications to control symptoms of anxiety, agitation, and depression are costly and can produce unwanted side effects. With the use of music therapy or interventions, patient's can avoid these issues. Music therapy has been shown to decrease BPSDs in Alzheimer's patients and acts as a feasible, safe, and low-cost alternative.

### Literature Synthesis

There is a great deal of evidence that supports the use of music therapy for the treatment of BPSD. Music therapy has shown great benefits for patients and is easy to utilize. Music interventions can "reduce agitation, enhance daily functioning and improve quality of life for older adults diagnosed with Alzheimer's disease" (Parent, 2013). Pedersen et al. (2017) found music therapy to reduce agitation in patients with dementia in a meta-analysis study. The study suggested individual music therapy was more effective than group or passive music therapy and revealed an effect size of 0.61 for 12 different studies. Another study proclaimed that music interventions can reduce stress and promote relaxation in individuals with severe dementia (Sakamoto et al., 2013) This study by Sakamoto et al. (2013) revealed a decrease in BEHAVE-AD scores when using interactive music therapy as well as a decrease in caregiver burden. Another study found that music therapy increased the attention capacity of patients and led to greater interaction and cooperation with caregivers (Parent, 2013). The patients were also found to have more energy and were more cognitively aware of their caregivers.

Music therapy is versatile and there are a multitude of ways to implement music into a patient's routine. Patients can react differently depending on the setting, type of music, length of musical interventions, and more. The majority of the literature reviews focus on the use of music

therapy over a short period of time. Ledger and Baker (2007) suggest that music therapy provides short-term relief of BPSDs in Alzheimer's patients, however, more research is needed to determine long-term effects.

### Project Stakeholders

It is imperative that the key stakeholders are identified from the beginning of any project in order for the project to be successful. Without the help of these major players, this project cannot be implemented and evaluated in an effective way. The key stakeholders in this project consist of administrative staff, nurses, music therapists, patients, and the patients' families. Administrative staff consists of system administrator, patient care managers (PCMs), office administrators, and regional compliance officers. Approval from these individuals is required in order to implement the project. Nurses and music therapists are also important players because of their role to implement the project in an efficient and effective way. Last but not least, the patients and caregivers are key stakeholders because they are directly involved with the process and allow for the project to take place.

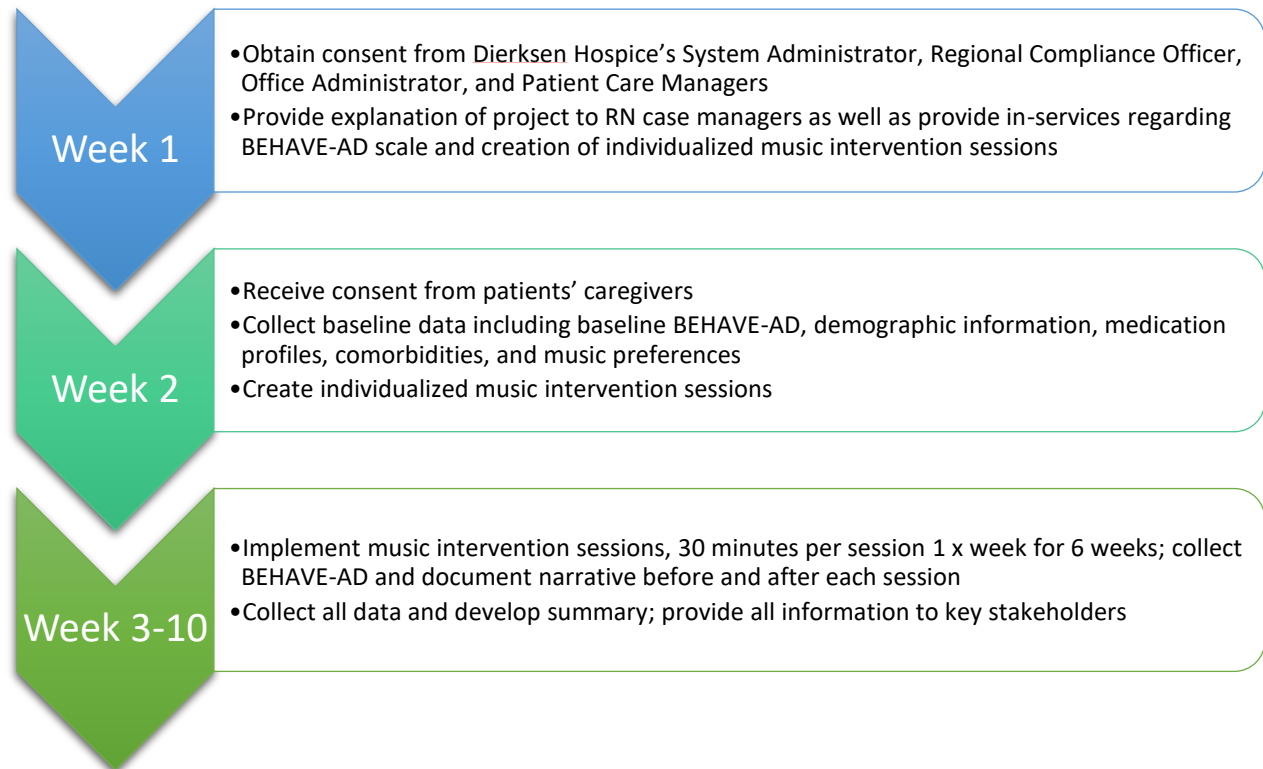
### Planned Implementation

The first step of the implementation process will include the presentation of the project to Dierksen Hospice's Administrator and Patient Care Managers (PCMs) in order to obtain approval. A literature review of all collected evidence-based articles along with the rationale of the project will be included in the presentation, as well as the step-by-step process required to implement the project. The next step will be providing a detailed explanation of the project and its components to the RN Case Managers that will participate. Each RN Case Manager involved in the project will receive a step-by-step project outline along with a timetable. There will also be

two in-services to discuss the BEHAVE-AD scale that will be used in the data collection process and the development of an individualized music intervention session. The in-service pertaining to the creation of a music intervention session will be held with a licensed music therapist. The music therapist will educate each RN Case Manager on the process of creating individualized music intervention sessions and how to implement them. Next, the patient population will need to be identified. This step can be done by reviewing a current census of patients on service with Dierksen Hospice at the time. Patients with an Alzheimer's diagnosis that are in stable condition and not in the transitional or active phases of dying will be chosen. After the patient population is identified, consent from the patient's caregivers, next of kin, or power of attorney will be needed. This can be done by providing an overview of the project in writing and obtaining signatures from the primary caregivers. When obtaining consent, each RN Case Manager will collect data obtaining to the patient's music preferences. This step can be done by creating a survey that the caregivers must fill out. At this point, they will also collect a baseline BEHAVE-AD, demographic data, medication regimens, and comorbidities of each patient. After the initial encounter, each nurse will document all data collected using a table and create an individualized music intervention session for each patient. The next step will involve the implementation of the music intervention sessions. The RN case managers will visit the patient's home one time a week to implement the personalized music session created for them. This will be done with the use of the case manager's cellphone or iPad using a music streaming service. Each session will be 30 minutes in length and the BEHAVE-AD scale will be utilized before and after each session to assess the effectiveness. The BEHAVE-AD scale scores along with time of day, people present during session, and a narrative of the patient's behavior before and after the session will be documented. This process will be done for a total of 6 weeks. After all sessions have been

completed, the findings and data recorded will be compiled using tables and charts. Once everything has been completed and evaluated, a review will be written, and all information will be presented to Dierksen Hospice's Administrator and PCMs.

#### Timetable/Flowchart



During week 1 of the project, consent will be obtained from management and an explanation/overview will be provided to the RN case managers that are participating. The RNs will attend two in-services, one discussing the use of the BEHAVE-AD scale and another with a music therapist who will educate on the development of an individualized music intervention session. In week 2, the nurses will receive consent from the patient's primary caregiver, obtain all baseline information (baseline BEHAVE-AD, demographics, medication profiles, comorbidities, and music preferences), and create an individualized music therapy session for



each patient. The music intervention sessions will be implemented one time a week for six weeks and will occur during weeks 3-9. During week 10, all information will be gathered from the RN case managers and synthesized using tables and a narrative summary.

### Data Collection Methods

The data collection process of any project is imperative to its success. The first set of data will be collected by the RN case managers during week 2 of the project. The nurses will be sent a template of a table for each of their patients. This will be sent to the nurses on their iPad, so it is easy to access and keep up with during the process. They will fill in the table accordingly with the following data: patient's age, sex, gender, race, comorbidities, and baseline BEHAVE-AD. They will also collect the patient's medication profiles and determine whether or not they have medications in place for BPSDs (anxiety, agitation, depression, etc.). This will be included on the table as well. All of this information will be obtained during the initial visit when consent is acquired from the patients' caregivers. A collective table will be created for all patients once this information is found. Once the process has begun and the nurses start to implement the music intervention sessions, they will collect a BEHAVE-AD score before and after each session. They will also type a narrative of each session including time of day, persons present, and the general demeanor of patient and their reactions to the music. Once all music sessions have been completed, a table with the mean BEHAVE-AD scores before and after each session will be created. A summary narrative will also be written after reviewing all of the narratives.

### Cost/Benefit Discussion

This project will require some costs for use of staff and resources. The in-service with the music therapist will cost approximately \$200. This amount is based off the average hourly rate

and potential mileage driven to and from the in-service. The RN case managers will receive \$10/session for each patient in addition to their current hourly wage. The average census is 85-95 patients with approximately 20-25 of those being Alzheimer's patients. If 20 patients were included in this project, the total cost would be \$1,200 for the RNs. The music intervention is feasible and will be at no cost due to ease of access. This brings the total to \$1,400 for the project. In the future, if patient caregivers were able to implement the use of music intervention sessions this would be a relatively low or no cost to them. If using music interventions is beneficial, this would allow caregivers to save money on prescription medications such as benzodiazepines, SSRIs, SSNRIs, etc.

### Project Discussion and Results

This project was a benchmark project and was not implemented due to COVID-19 restrictions. Although the results are unclear at this time, there are multiple goals in mind that would guide this project. The first is providing an alternative intervention for treatment of BPSD. Music therapy is non-invasive, feasible, and low cost whereas use of medications can be expensive and cause unwanted side effects. The next goal is for music interventions to decrease BPSDs in Alzheimer's patients. If music therapy was effective for BPSDs in Alzheimer's patients, it would allow caregivers to be equipped help their loved ones. This in return could decrease the overall anxiety and stress of caregivers.

### Recommendations

There are various recommendations pertaining to the future of this project. The first recommendation is the use of music therapy in elderly facilities such as skilled-nursing facilities (SNF), assisted living facilities, and independent living facilities. Music therapy could be

implemented in group sessions and could benefit not only Alzheimer's patients but other patients dealing with anxiety, depression, and other behavioral and psychological symptoms. The next recommendation is for caregivers to be educated on the initial admit visit about music therapy for decreasing BPSDs in Alzheimer's patients. Patient's who are admitted to hospice are seeking comfort care and want to have the best quality of life as possible. This can be accomplished with the help of music therapy and in return decrease unwanted side effects from medications. The last recommendation is normalizing education for nurses regarding music therapy and other non-invasive interventions for behavioral and psychological issues found in patients. Nurses should look for the least invasive method first when dealing with behavioral and psychological symptoms, as this allows for better care for patients and less stress for their loved ones. If more education was provided regarding interventions such as these, the use of controlled substances and even pain medications could be reduced in the future.

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