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Approval Sheet

Exploring Music Therapy as a Therapeutic Tool to Complement Conventional Breast
Cancer Treatment: for Women Living in Atlanta, Georgia

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Abstract Cover Page

Background: The process of recovery from breast cancer can be equally stressful as the diagnosis itself, which is exacerbated by physical and emotional symptoms, or side effects such as pain, discomfort, nausea, tiredness, high blood pressure, stress and anxiety as the disease progresses. Music Therapy (MT) and Music Medicine Intervention (MMI) strategies may be a safe and effective complementary therapeutic tool to use long with conventional treatment for women who are in recovery and survivorship to promote relaxation by reducing pain and suffering that they experience and to improve the quality of life.

Purpose: The aim of this study was to examine the role of music therapy and music medicine intervention strategies as a complementary tool for conventional breast cancer treatment for women living in Atlanta, GA., to evaluate the effects of music therapy as a safe and effective complimentary therapy to improve their overall physiological and psychological health and well-being, and to analyze the intermediate and long-term impact of MT over-time during survivorship and post-recovery.

Methods: The grounded theory method was chosen for this research design. Data were collected through a series of semi-structured, open-ended questions in one-on-one in-person and/or telephone interviews. Participants were comprised of 9 adult women from diverse backgrounds to include African American and Caucasian women living in the Southeastern and Mid-Atlantic region of the United States. The sample population was recruited using the snowball method based on participant's availability and willingness to take part in the study.

Results: Data from the study demonstrates that music therapy and music medicine intervention strategies that are used to cope with the side effects of conventional treatment such as radiation and chemotherapy for breast cancer survivors as a therapeutic tool may have a calming effect on the patient's physical and emotional health and well-being. There is evidence to show that the role of music therapy, music medicine intervention strategies, and independent music strategy (IMS) may alleviate stress and anxiety in patients before and after conventional treatment by redirecting their focus from pain and suffering to more positive thoughts and feelings that are uplifting and inspiring to the mind, body, and spirit. In-measured effects, evidence shows that patients may experience less sleep deprivation and perceived shorter waiting time spent in infusion center for treatment due to the calming effects of music therapy and music medicine intervention strategies, and IMS which improves the quality of life physically, mentally and emotionally.

Conclusion: Additional data collection and analysis is needed to determine the role and effects of music therapy, music medicine intervention strategies, and independent music strategy as well as how patients are informed and educated of complementary and alternative therapies in order to raise awareness of the potential positive impact of music therapy, music medicine intervention strategy, and independent music strategy on the overall physiological and psychological health well-being.

Cover Page

Exploring Music Therapy as a Therapeutic Tool to Complement Conventional Breast

Cancer Treatment: for Women Living in Atlanta, GA

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Chapter I: Introduction

Introduction and Rationale

Every 2 minutes, a woman in the United States is diagnosed with breast cancer, which is a malignant (cancer) tumor that develops from cells that affect the breast tissue (National Breast Cancer Foundation [NBC], 2016). Research shows that the various stages (I-IV) of breast cancer are determined by the spread of cancer cells beyond the size of the original tumor (Breastcancer.org, 2018b). The process of recovery from breast cancer can be as stressful as the diagnosis, as it is exacerbated by emotional symptoms or physical side effects such as pain, nausea, tiredness, stress, and anxiety in those who are coping with the disease.

Many cancer patients experience changes in their quality of life (QoL) that lead to long-term health challenges, such as the fear of losing control or not being able to perform daily routine activities at work and or at home. Other conditions also affect the life experience of women with breast cancer, such as difficulty with self-acceptance, changes in their appearance due to hair loss and scar tissue, early menopausal symptoms, and sex-related and reproductive issues after treatment. These conditions affect quality of life not only for the cancer patient but also for their families and caregivers (American Society of Clinical Oncology [ASCO], 2005). Therefore, managing conditions such as these requires a great deal of self-efficacy in the individuals' ability to maintain competence over their behavior and social environment to overcome the challenges that are a part of living with this disease.

According to the Centers for Disease Control and Prevention (CDC, 2017a), about 237,000 cases of breast cancer are diagnosed every year, and breast cancer is the

most common cancer among women, regardless of race or ethnicity. Based on statistics provided by the Georgia Breast Cancer Coalition Fund (2016), approximately 77% of breast cancers occur in women aged 50 or older, and 5% occur in women under 40; however, younger women who develop breast cancer have a lower survival rate. Moreover, the 5-year relative survival rate for breast cancer among African American women is 75%, compared with 89% among Whites (Georgia Breast Cancer Coalition Fund, 2016). Yet, regardless of these demographic differences, most women diagnosed with this chronic disease seek safe and effective complementary and alternative therapeutic strategies (CATS) to help them cope with the common fears, side effects, and insecurity that they experience before and after treatment.

The National Cancer Database (Bilimoria, 2008) revealed that between 1985 and 2005 nearly 8,000 women in Georgia will be diagnosed with breast cancer and 1200 will die from the disease. However, since 1990, death rates have been declining due to early detection screenings, increased awareness, and continual improvement and access to complementary and alternative treatment options (NBC, 2016). Fear, anger, depression, and confusion are some of the emotions that women often experience while undergoing conventional treatment (CT), as well as a stage of denial due to uncertainty of outcomes (Bilimoria, 2008). Bulfone (2009) noted that various music therapy interventions are safe to use alongside conventional treatment for breast cancer that reduce stress and anxiety.

According to the National Standards Board for Therapeutic Musicians (2018), patients suffering from pain management may find the use of music therapy as a therapeutic tool to help them alleviate physical pain and emotional discomfort. Although the journey to recovery may be long and daunting, research shows that music is

therapeutic and can play a vital role in helping women to improve their Quality of life while practicing self-care to regain a sense of control over their lives by relieving pain and emotional distress during their recovery process (Breast Cancer Research Foundation, 2016).

Problem Statement

There is a need for Complementary and alternative therapeutic strategies to assist women who are breast cancer survivors during their conventional treatment to ease the physical, social, and emotional symptoms that they experience as the disease progresses. Researchers in the field of oncology have begun to recognize music therapy as a complementary and alternative medicine (CAM) in palliative cancer care. However, there is limited research on the role and effects of music therapy as a therapeutic tool to complement conventional treatment for women with breast cancer to reduce pain, anxiety, and emotional distress over time as the disease progresses to improve their Quality of life.

Theoretical Framework

The theoretical framework for this study was based on the theory of self-efficacy, introduced by Bandura (1997), which supports the individual's belief that they have the self-efficacy, or confidence to change their behavior to "maintain life, health, and well-being" (Zhang, 2015, p. 20). Additionally, Author Ziner (2012) describes self-efficacy theory as the reflection of confidence in one's ability to control symptoms and feelings associated with having breast cancer, including the capacity to seek assistance, to describe and report symptoms accurately, and to manage day-to-day life during breast cancer post-recovery (Ziner, 2012).

Self-efficacy theory was used to guide this research design, which involved identifying themes, patterns, and trends to understand the role and effects of music therapy as a complementary and alternative therapeutic strategy, and to evaluate the intermediate and long-term impact of music therapy overtime to influence an individual's health behavior changes to cope with stress and anxiety within a population of breast cancer survivors currently undergoing treatment.

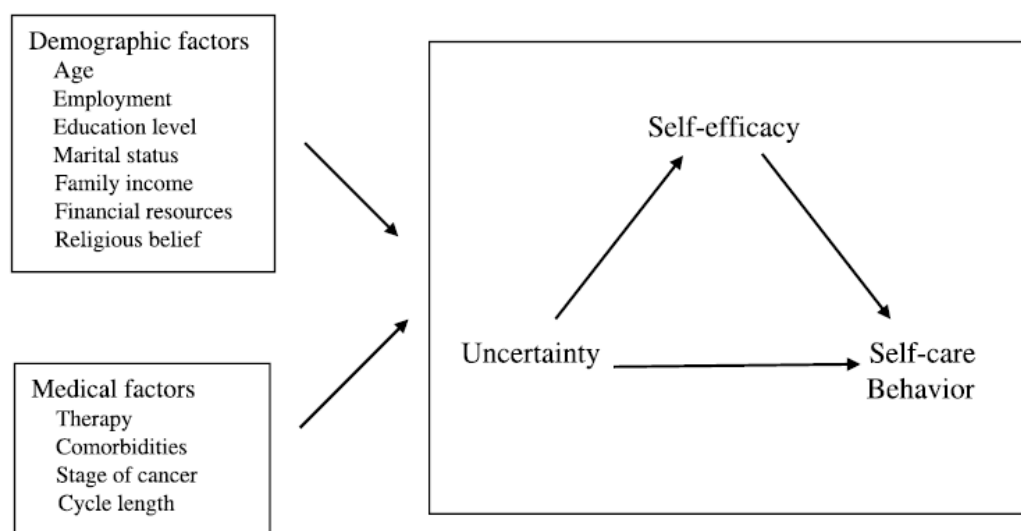


Figure 1. Concept of self-efficacy based on A. Bandura's 1997 self-efficacy theory. Adapted from "Uncertainty, Self-efficacy, and Self-care Behavior in Patients with Breast Cancer Undergoing Chemotherapy in China," by Y. Zhang, K. Kwekkeboom, & M. Petrini, M. (2015), *Cancer Nurse*, 38(3), p. 21. Copyright 2015 by Wolters Kluwer Health, Inc.

Purpose Statement

The purpose of this study was to examine the use of music as a therapeutic tool that is complementary to conventional breast cancer treatment for women living in Atlanta, Georgia; to explore what effect music therapy has on women diagnosed with

breast cancer; and to determine the psychological and physiological changes post treatment of the disease through music interventions.

Research Questions

1. What role does music therapy or music medicine intervention strategies play to complement conventional treatment of women with breast cancer to reduce or alleviate pain, anxiety, nausea, emesis, and emotional distress during radiation and chemotherapy treatment?
2. What are the overall effects of music therapy or music medicine intervention strategies on women who are in post recovery treatment for breast cancer in improving their physiological and psychological health and well-being?
3. What is the intermediate and long-term impact of using music therapy or music medicine intervention strategies during survivorship to improve the quality of life over time for women who are undergoing conventional treatment for breast cancer?

Significance Statement

The results of this qualitative research study led to the identification of music therapy and music medicine intervention as a safe, inexpensive, and effective complementary therapeutic tool to help form the design of a grant proposal and to show the perceived impact on participants' use of music therapy or music medicine intervention strategies as a complementary tool to conventional treatment for women ages 26 to 70 living in Atlanta, Georgia, who are recovering from breast cancer to help alleviate side effects such as pain, stress, and anxiety and to improve their physical, social, and emotional well-being.

Definition of Terms

This qualitative study included the following terms:

Breast cancer: A disease in which malignant (cancer) cells form in the tissues of the breast (NBC, 2016).

Breast cancer survivor: Any person diagnosed with breast cancer, from the time of initial diagnosis until his or her death (National Coalition for Cancer Survivorship, 2014).

Cancer survivorship: Someone who has finished cancer treatment and is no longer having signs of cancer or someone living with and beyond a cancer diagnosis through long-term treatment to reduce the risk of the disease from recurring or to manage the chronic disease (ASCO, 2005).

Chemotherapy: A medicine used to weaken and destroy cancer cells in the body, including cells at the original cancer site and any cancer cells that may have spread to another part of the body. Chemotherapy, often shortened to chemo, is a systemic therapy, which means it affects the whole body by going through the bloodstream (Breastcancer.org, 2017a).

Complementary and alternative medicine (CAM): Complementary means treatments used along with conventional medicine, and alternative means treatments used in place of conventional medicine (Mayo Clinic, 2014).

Conventional treatment (CT): Breast-conserving surgery (lumpectomy), mastectomy, and lymph node dissection, as well as prophylactic surgery and breast reconstruction and perhaps radiation, hormonal (antiestrogen) therapy, or chemotherapy (Breastcancer.org, 2016c).

Grounded theory: Theory inductively generated from fieldwork that emerges from researchers' observations and interviews in the real world rather than in the laboratory or the academy (Patton, 2015, p. 18).

Independent music strategy (IMS): Independent use of music without a professional therapist or practitioner (J. Alexander, personal communication, April 3, 2018).

Music medicine interventions (MMI): Listening to prerecorded music offered by a medical professional (Bradt, 2016).

Music therapy (MT): The clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved MT program to address physical, emotional, cognitive, and social needs of individuals (American Music Therapy Association, 2013).

Oncology: The study and treatment of tumors and cancers (ASCO, 2005).

Palliative care: Palliative care is specialized medical care for people with serious illnesses. This type of care is focused on providing relief from the symptoms and stress of a serious illness. The goal is to improve quality of life for both the patient and the family. Palliative care is provided by a specially trained team of doctors, nurses, and other specialists who work together with a patient's other doctors to provide an extra layer of support. It is appropriate at any age and at any stage in a serious illness, and it can be provided along with curative treatment (Get Palliative Care, 2018).

Physiological and psychological well-being: A branch of psychology that deals with the effects of normal and pathological physiological processes on mental life, also called psychophysiology (Merriam-Webster, n.d.-a).

Quality of life (QoL): How good a person's life is, such as physical well-being, social/family well-being, emotional well-being, and functional well-being (Kang, 2014).

Radiation therapy: Also called radiotherapy, it is a highly targeted and highly effective way to destroy cancer cells in the breast that may exist after surgery (Breastcancer.org, 2018a).

Self-efficacy theory: Self-efficacy, or confidence in "one's capacity to carry out a task or behavior" (Zhang et al, 2014, p. 20).

Stages of breast cancer: Stage 0 describes noninvasive breast cancer, Stage I describes invasive breast cancer in which the tumor measures up to 2 cm and non-lymph nodes are involved, and Stage II describes invasive breast cancer in which the tumor measures no more than 5 cm and has spread to the axillary lymph nodes or it measures larger than 5 cm but has not spread to the axillary lymph nodes (Breastcancer.org, 2010).

Therapeutic: Of or relating to the treatment of disease or disorders by remedial agents or methods; curative, medicinal, having a beneficial effect on the body or mind; producing a useful or favorable result or effect (Retrieved from <https://www.merriam-webster.com/dictionary/therapeutic>)

Chapter II: Literature Review

Introduction

A comprehensive review of the literature was conducted using references from peer-reviewed and music therapy journals published between November 1991 and

December 2017 from the following databases: the Cochrane Central Register of Controlled Trials (CENTRAL) at the Cochrane Library, PsycINFO (EBSCO) Emory Library and Information Technology, (<http://pid.emory.edu/ckbv1>), Emory Electronic Theses and Dissertations (2013 to 2017), MEDLINE National Library of Medicine, U.S. National Library of Medicine National Institute of Health, PubMed National Center for Biotechnology Information, and the Stephen B. Thacker CDC Library. The key terms included *music therapy, breast cancer, music medicine interventions, AND oncology OR cancer, radiation AND chemotherapy, complementary and alternative medicine OR interventions OR therapies, physiological AND psychological well-being, AND quality of life, palliative care, anxiety, depression, AND, OR fatigue therapy.*

Conventional Treatment for Breast Cancer

In the field of oncology, women diagnosed with breast cancer usually seek care for physical pain, emotional stress, and anxiety that worsen as the disease advances. Treatment for breast cancer generally falls under the umbrella of standard conventional treatment, which consists of a traditional sequence of procedures such as surgery, radiation therapy, and chemotherapy (Gimeno, 2010). The sequences in which these treatments are administered are different for each woman who experiences them and are based on the physical progression or stage of the disease (BreastCancer.org, 2017c). Surgery for breast cancer is generally the first line of attack for treatment against this illness, which includes a lumpectomy, which involves removing only the tumor and a small amount of surrounding tissue. A mastectomy is more refined and less intrusive because all of the breast tissue is removed during this procedure.

The next sequence of conventional treatment is radiation or radiotherapy. This highly targeted procedure is usually performed by a radiation oncologist and is used to destroy cancer cells in the breast that may linger after surgery. The last form of treatment is chemotherapy, which is a medical procedure administered through the bloodstream to weaken and destroy cancer cells that affect the whole body. Chemotherapy medicines are regimens that may consist of a combination of two or three medicines given simultaneously before surgery to shrink cancer cells during the early stage of treatment to lower the risk of cancer returning, or during the advanced stage of breast cancer to destroy cancer cells (Breastcancer.org, 2017c.)

Some of the drawbacks from radiation and chemotherapy that alter quality of life for women with breast cancer are anemia, low red blood cell counts, high blood pressure, diarrhea, fatigue, fertility issues, changes in skin tone color and hair loss, chest pain, heart and lung problems, infection, memory loss, menopausal symptoms, vaginal dryness, mouth and throat sores, changes in taste and smell, nausea, neuropathy, and changes in body weight (Breastcancer.org, 2017c). While the initial cycle of conventional treatment may involve several weeks, months, or even years of recovery time, the ultimate goal is to fight the cancer cells and prevent them from coming back into the breast tissue of women who are coping with this life-changing disease.

Due to the need for ongoing improvements in cancer care treatment, in 2011, during the European Multidisciplinary Cancer Conference, a new regimen of treatment known as the synchronous therapy was introduced to show that radiation and chemotherapy regimens could be administered together and produce the same effect as conventional treatment. Doing so could shorten the lengthy recovery time

(Breastcancer.org, 2011) and prevent the ongoing negative side effects as described above. For these reasons, examining the role, effect, and benefits of complementary and alternative therapeutic strategies such as music therapy or music medicine intervention could help to improve the Quality of life that women experience in survivorship, and that is the focus of this study.

The History of Music Therapy

An old adage quoted by English playwright William Congreve states, “Music hath charms to soothe the savage beast” (Goldman, 2008, p. 22). The use of music therapy dates back to ancient civilizations; people in China, Egypt, Greece, India, and Rome all recognized the healing power of music. The Greeks and Romans believed that music had a magical power to aid the body and soul in healing (Le Roux, 2006, p. 1). Current research indicates that because people’s bodies are a manifestation of their thoughts, attitudes, and beliefs, music can affect the state of mind (Le Roux, 2006, p. 13). In biblical times, music was used to give comfort to those in distress. For example, David, who was a servant and a warrior, used his hands to play soothing music on his harp to defend against evil spirits, which created an atmosphere of wellness to relieve King Saul of his troubles (I Samuel 16:23 NKJV).

In 1500 BC, Egyptians described music as “food for the soul” (Le Roux, 2006, p. 2). Spiritualists from India thought the combination of music and medicinal herbs as another way to cure the sick (Dobrzynska, 2006). Music was also used in ancient healing ceremonies as a source of health to communicate expressions that would alleviate the body of impurities (Le Roux, 2006, p. 3). In the Native American cultural traditions,

shamans also known as the medicine man, believed in the mystical powers of music, and alleged that a combination of singing songs and playing drums could be used to heal those who were sick and injured and to protect against wicked spirits (Gfeller, 2002).

Writings in Western history showed that ancient Greek philosophers reference music as the oldest form of creative therapy (Boyde, Linden, Boehm, & Ostermann, 2012). Aristotle believed that music could change an environment and help to achieve optimal mental and physical health (Ansdell, 2004). Research of contemporary Western history uncovered the theory of author Richard Bocklesby, a leading voice on the therapeutic benefits of music, in his first book titled *Reflections on the Power of Music*, who contended that music therapy was a Greek tradition and believed that music has the power to provoke emotions of tears, joy, and sadness (Ansdell, 2004; Boyde et al., 2012, p. 25).

The First Experimental Use of Music Therapy

In 1899, the first experimental study on music therapy was published by researcher James Leonard Corning in *The Medical Record: A Weekly Journal of Medicine and Surgery*. Corning theorized that musical vibrations could affect the human nervous system and emotions, especially when the patient is in a relaxed state of mind. Corning concluded that musical vibrations are an essential part of obtaining optimal mental health (Davis, 2012). In ancient Greece, Pythagoras of Samos, who was considered a wise teacher, articulated in his philosophy that the value and impact of listening to certain sounds of music could positively influence the body and soul, lead to changes in behavior patterns, and encourage healing (Le Roux, 2006, p. 3).

Since the 1980s, researchers in the medical field have examined music therapy to compare its therapeutic effects on positive emotions and the immune system of cancer patients (Burns, 2001). During the Great Depression era, author, self-taught music therapist, and founder of the National Foundation of Music Therapy, Harriet Ayer Seymour (1867–1944) defined music therapy as a way to stimulate the mental and physical health of patients and military service members by redirecting their minds off their aches and pains (Davis, 1997). Current research points to concrete and practical evidence of patients who have experience trauma or post-traumatic stress disorder may benefit from the therapeutic use of music therapy (Landis-Shack, 2017).

Music Therapy as a Healing Mechanism

The idea of using music as a therapeutic tool to obtain optimal health has been around for centuries, and scientists believe that music engages the emotional, motor, and cognitive parts of the brain and induces euphoria stimuli (Blood, 2001; Sacks, 2017, p. 2). Moreover, neurologists and other health professionals have used music therapy in nursing homes, rehabilitation centers, and hospitals to treat patients with Parkinson's disease, Tourette's syndrome, and amnesia, as well as those affected by strokes, while alleviating pain and emotional discomfort. The healing power of music was also used in wartime to help armed force members suffering from injuries during combat (Sacks, 2017, p. 2).

In the United States, Veterans Administration hospitals engaged disabled soldiers in active and passive music interventions during World War I and II through rehabilitation programs that involved using vocal songs and instrumental sounds performed by women in the military to help alleviate pain and aid those who suffered

traumatic war injuries and stressful life events. The Army Service Forces recognized the significance of music therapy in a program called Music in Reconditioning in Army Service Forces Convalescent and General Hospitals and noted that vocal songs and instrumental sounds are mechanisms that can be used as therapeutic tools to reduce pain and improve health outcomes (Block, 2017; Hamilton, 2017; Le Roux, 2006; Sullivan, 2007).

Music as Vocal and Instrumental Sounds to Promote Health and Wellness

The literature included descriptions of music as both vocal and instrumental sounds used to create harmonious tones to promote a general sense of well-being in the body. Music is a combination of chords containing rhythm, harmony, melody, pitch, and tempo that can be measured in beats per minute (bpm). Scientists have noted that music with 50–200 bpm is most common, and is equivalent to the extreme range of human heartbeats, and is associated with a corresponding physical state or emotion. For instance, up-tempo music may reflect feelings of joy and happiness, whereas low-tempo music can echo feelings of relaxation, sadness, or depression. However, researchers have indicated that there is no conclusive connection between heartbeats and music tempo, although there is a strong degree of inference between the two (Music Files, Ltd., 1999).

In comparison, music therapy refers to the clinical and evidence-based use of vocal or instrumental music interventions performed actively or passively by a certified professional to address physical, social, and emotional health needs (American Music Therapy Association, 2013). Therefore, the therapeutic benefits of listening to soothing music can activate the parasympathetic nervous system, which triggers positive emotions of love and affection (Le Roux, 2006, p.22). Music can be paired with words, voices, and

instruments to create songs that promote health and wellness and that bring into balance the mind, body, and spirit (Elwafi & Wheeler, 2016).

The Human Voice as a Healing Instrument and Human Emotions

In the human tradition and culture, we as individuals are accustomed to hearing vocal music expressed in song through singing, humming, chanting, and speaking, which we relate to emotionally. Goldman (2008), a leading researcher in the field of sound healing, contended, “Our voice is the most healing instrument” (p. 89). Scientists have indicated that vocal music may cause changes in the cells of the body to generate experiences of healing (Elwafi & Wheeler, 2016). Other researchers have explored how religious songs are used to cope with stress and life-changing events (Clements-Cortes, 2017; Hamilton, 2017). Such findings indicate possible link between vocal sounds and healing and provide an understanding of the role that music therapy plays as a complementary tool conventional treatment in oncology care for women with breast cancer. Since 1978, researchers have conducted meta-analyses and systematic reviews to study the effects of music therapy in palliative care, as administered by Munro and Mount, who used various approaches and methods of music medicine intervention to promote relaxation and to connect people to the impact of music therapy to reduce emotional distress during conventional treatment (Boyde et al., 2012).

Music Therapy in Oncology and Palliative Cancer Care

Music therapy is one of the oldest creative arts therapy forms available for therapeutic use in clinical settings. Today, the use of music therapy in palliative cancer care is increasingly recognized in the United States, Canada, Europe, China, and Japan (McClean, 2012; Boyde et al, 2012) as a way to treat patients with schizophrenia, pain,

dementia, and oncology care. Moreover, the Music for Health and Transition Program asserts that music therapy can help patients coping with Alzheimer's, comatose patients, and those with learning disabilities (MHTP.org, 2017, p.7). Gallagher (2011) reported that music therapy can be beneficial through the various stages of cancer care starting from the diagnosis phase through hospice care, actively dying, and the bereavement stage of supportive care.

Numerous randomized controlled clinical trials and mixed-methods studies were conducted between 2001 and 2011 to evaluate the pain and mood of cancer patients and the therapeutic use of complementary and alternative medicine to reduce pain in those receiving palliative care. The results of these studies indicated that music therapy is a therapeutic option to support the health and well-being of those coping with cancer-related pain to reduce exhaustion and anxiety. Studies also indicated that further clinical trials and research are needed to draw any conclusive evidence to prove the overall effect of music therapy (Beck, 1991; Boyde, 2012; Gimeno, 2010; Gutgsell, 2013; Knight, 2001; Lestard, 2013).

The McGill Pain Questionnaire is a multidimensional instrument used upon entry into the above-mentioned studies on pain and mood of breast cancer patients provided promising results of a significant decrease in pain from listening to music or sound. Beck (1991) describes the used of the Multivariate Analysis of Variance (MANOVA) as a way to measure pain based on listening to music and sound. The results of the study suggest that music could be used as an independent intervention to relieve pain. However, the study findings were inconsistent, and did not show an effect on mood.

Complementary and Alternative Medicines and Therapies in Cancer Care

Since 2008, studies involving complementary medicines and therapies when used alongside conventional treatment, or alternative medicines and therapies when used as a replacement for conventional treatment have explored the therapeutic effects of music therapy to reduce cancer-related pain and the burdens of the side effects most commonly associated with this disease, such as anxiety, fatigue, and depression (Bulfone, 2009; Owens, 2007; Tindle, Davis, Phillips, & Eisenberg, 2005). Consequently, complementary and alternative medicine is becoming more popular with the general public and is often used independently without seeking approval or medical advice from a license physician (Poonthananiwatkul, 2016; Rausch, 2011; Tindle et al., 2005).

The United States has led the way in the field of research on patients' preference for complementary and alternative therapies (CATS) and concluded that 25–45% of U.S. patients have used CATS during survivorship (Bulfone, 2009, p. 238). Research in the field of complementary and alternative medicine as well as complementary and alternative therapies provide insight to understanding the intermediate and long-term effects of music therapy to improve the quality of life for women undergoing conventional treatment for breast cancer.

The literature also includes other types of complementary and alternative medicine (CAM) that women with breast cancer have used to combat the negative conditions that they experience during pre-and-post recoveries, such as green tea, vitamin E, flaxseed, vitamin C, massage therapy, dietitians or nutritionists, spiritual prayer, meditation, and exercise. However, there are limited data to show that these CAM and

complementary and alternative therapies (CATs) are a trend (Boon, 2007; Kang, 2014; King, 2015; Rausch, 2011). Research conducted by King (2015) showed inadequate support, communication, education, and awareness between patients and health care practitioners on the various approaches and benefits to using complementary and alternative therapies and complementary and alternative medicine such as music therapy. As a result, further research is needed to investigate the protocol implemented by health care professional and practitioners to inform their patients of complementary and alternative therapies and complementary and alternative medicine along with conventional treatment for breast cancer.

Various Approaches to Music Therapy for Women with Breast Cancer

Researchers at the National Center for Complementary and Alternative Medicine identified various approaches to using the art of music and classified music therapy in the category of mind–body medicine, which is the monitored use of music by a certified music therapist to promote clinical change (Bulfone, 2009). In contrast, music medicine intervention is similar to passive music and involves patients actively listening to prerecorded music that fits the need of the patient and is provided by a medical professional (Bradt, 2016; Bulfone, 2009; Burns, 2001; Nightingale, 2013). In contrast, J. Alexander (personal communication, April 3, 2018), a certified music practitioner, noted that patients who listen to prerecorded music without a licensed music therapist or medical professional is known as an independent Music Strategy (IMS). Based on the literature, complementary and alternative therapies, complementary and alternative medicine are positive approached that can be used to improve the physical and psychological well-being of breast cancer patients by reducing stress and anxiety, as well

as inducing relaxation while undergoing conventional treatment (Boon, 2007; Burns, 2001; Kang, 2014; Rausch, 2009).

The Physical and Psychological Effects of Music Therapy in Breast Cancer Care

From 1991 to 2013, studies were conducted on the severity of the physical and psychological effects experienced by cancer patients, such as pain, nausea, loss of appetite, shortness of breath, fatigue, and high blood pressure (Beck, 1991; Gimeno, 2010; Gutgsell, 2013; Lestard, 2013). Cancer patients who listened to music during conventional treatment were found to have significant positive health outcomes in their comfort levels after listening to music ($p < .05$; Bilgic, 2017). These findings correlate to the role that music therapy plays as a complementary strategy to conventional treatment. Therefore, scientists believe that music may reduce nausea and emesis in patients with cancer during chemotherapy treatment.

Research published from 1999 to 2016 that focused on the psychological and emotional well-being of breast cancer patients found that a benign or malignant diagnosis can create emotional distress, such as anxiety, fear, and depression, which can affect their overall quality of life (Blow, 2011). Bulfone (2009), a well-respected researcher in the field of medical music interventions investigated the effects of music therapy on women with breast cancer through a randomized control group of 60 female patients' at Stage I-II who took part in a 12-week clinical experimental study to determine the effects of music therapy to reduce anxiety during chemotherapy treatment. Notable findings revealed that listening to music can put patients in a relaxed state that causes them to perceive a lesser degree of pain, which may improve the quality of life experienced by women with breast cancer.

Summary

In summary, for more than 20 years, numerous studies have been conducted on music therapy and music medicine interventions as a complementary and therapeutic tool in the field of oncology and other health practices. An increase in awareness by patients seeking alternative options to cope with the negative side effects of cancer care treatments has intensified over the years. The review of the literature indicated that music therapy and music medicine intervention can favorably improve the physical and psychological health and well-being of women who are breast cancer survivors during conventional treatment, and these outcomes may have a positive advantage in their quality of life during survivorship. However, the lack of research on the communication education, and awareness between health professional and their patients and the protocol that are used by physicians and oncologist to inform their patients of the therapeutic benefits of music therapy is comparatively deficient.

Chapter III: Methodology

Introduction

The primary objective of the case study was to explore the research questions related to music therapy and music medicine intervention strategies used by women who are breast cancer survivors, as stated in Chapter I. The methodology used to assess the research questions was based on an in-depth interview guide designed as an instrument to collect qualitative data during one-on-one interviews with study participants. The research questions are: (1) To identify the role of music therapy and music medicine intervention strategies in complementing conventional treatment among women with breast cancer to reduce or alleviate pain, anxiety, nausea, emesis, and emotional distress during radiation and chemotherapy in the sample. (2) To examine the overall effects of music therapy or music medicine intervention strategies on women in post recovery survivorship undergoing treatment for breast cancer to improve their physiological and psychological health and well-being. (3) To explore the intermediate and long-term impacts or effects of using music therapy or music medicine intervention strategies during survivorship to improve the quality of life over time for women undergoing conventional treatment for breast cancer. Finally, this chapter includes the following sections (a) Population sample, (b) Sample demographics, (c) Research design (d) Procedures, (e) Instruments, and (f) Data analysis methodology.

Population and Sample

The sample characteristics selected for this research were representative of the key demographics needed for this study. The sample consisted of nine women between the ages of 26 and 70 who were breast cancer survivors. The ethnicities of participants

included African American and Caucasian women living in the southeastern and mid-Atlantic regions of the United States. Seven resided in Atlanta, Georgia; one resided in New Orleans, Louisiana; and one resided in Baltimore, Maryland. The rationale for this selection was convenience sampling and participants' availability and willingness to take part in the study.

Table 1

Sample Demographics

	<i>n</i>	%
Region		
Southeast	2	22
Mid-Atlantic	7	78
Race or ethnicity		
African American	6	66
Caucasian	3	34
Age		
25–35	2	22
36–46	2	22
47–57	3	34
58+	2	22

Research Design

The grounded theory (Glaser and Strauss, 1967) was chosen for the research design and served as a guide to understanding the therapeutic effects of music therapy and music medicine intervention as effective strategies for women with breast cancer to

cope with a wide range of negative side effects associated with conventional treatment. The research design included a series of semi-structured (Merriam, 1998), open-ended questions for one-one-one in-depth interviews conducted by phone or in person.

Procedures

The study was approved by the Emory University Institutional Review Board (IRB) on June 1, 2017. The recruitment phase began over a span of 6 months that included informal networking with the director of guest and volunteer services at Emory Winship Cancer Institute Comprehensive Cancer Center, and the Emory Healthcare Breast Imaging Center in Atlanta, Georgia; along with the executive director and founder of Hope for the Journey Foundation in Carrollton, GA. Candidates were recruited using the snowball method, which produced women between the ages of 25 and 70 who had been diagnosed as a breast cancer survivor between 2005 and 2017, and were familiar with using alternative and complementary therapeutic tool during survivorship for better health and well-being. As a result, nine women were eligible and participated in the case study ($n = 9$).

Instruments

The data collection instrument consisted of semi-structured interviews with participants. An in-depth interview guide (see Appendix A) was designed and used to help facilitate the interview process and to gauge the responses of each subject. Interviews lasted between 25 and 45 minutes. Twenty interview questions were prepared and available to use as a way to probe and to encourage a richer discussion. Participants responded to a series of open-ended question about their experiences, views, and opinions on the topic of using music therapy, music medicine intervention, and, or independent

music strategy as a complementary and alternative therapeutic strategy, along with conventional treatment during survivorship.

The aim of this study was to gain an understanding of the perception, thoughts, and feelings of participants and the effect that music therapy, music medicine intervention, and or independent music strategy has on their physical and psychological health and well-being during survivorship and the potential of music therapy, music medicine intervention, and or independent music strategy to improve their quality of life. After obtaining permission from each participant, interviews were digitally recorded to capture the essence of their experiences and to ensure no responses were missed. As a precautionary backup, handwritten notes were taken in shorthand. The data collected were safeguarded at all times.

Data Analysis Methodology

After each interview, the data were transcribed and typed word-for-word from a digital recorder into a Microsoft Word document. Using the grounded theory, the data collected were then analyzed through the MAXQDA Qualitative Data Analysis System. This technique was selected as a way to color-code the data collected from in-depth interviews with participants to meet the objective of identifying patterns, themes, and trends that coincide with the literature. The aim of the study was to learn what women with breast cancer know and feel about the use of music as a therapeutic tool to use with conventional treatment and the participants' perception regarding the ability to apply the theory of self-efficacy while coping with stress and anxiety within a population of breast cancer survivors.

Qualitative analyses were based on data collected from nine digitally recorded interview responses. The transcriptions of the qualitative data collected were compared and analyzed simultaneously through a systematic and creative comparative analysis to determine similarities and differences that emerged. Prior to the interview process, deductive approaches were used to develop a codebook of codes based on keywords and phrases from the research questions and literature review.

Thereafter, using the inductive approach, the researcher combined emergent codes derived from the data collected with the previous deductive codes and then coded them using the MAXQDA color-coding system to identify themes, patterns, and trends for similarities and differences. Subsequently, the researcher applied the triangulation theory method to identify and compare single sets of data from multiple perspectives (Patton, 2015, p. 316). Concurrently, notes were jotted down throughout the process to keep track of ideas that emerged.

Lastly, an iterative process was used to analyze themes, patterns, and trends that emerged from the data and to compare them to existing literature on music therapy, music medicine intervention strategies as therapeutic tools to complement conventional treatment for women with breast cancer living in Atlanta, Georgia. Further analysis were conducted to determine the credibility, generalizability, and relationship to the theoretical framework of self-efficacy. The findings are discussed in the next chapter.

Chapter IV: Results

Introduction

This chapter covers the participant demographic characteristics at stage of diagnosis, qualitative analysis of findings and other findings. The initial purpose of the research was to examine the use of music therapy as a safe and effective therapeutic tool to help patients with breast cancer to cope with the negative side effects that they experience during conventional treatment to improve their health and well-being. The research questions as outlined in Chapter I of this thesis are as follows:

1. What role does music therapy or music medicine intervention strategy play to complement conventional treatment of women with breast cancer to reduce or alleviate pain, anxiety, nausea, emesis, and emotional distress during radiation and chemotherapy treatment?
2. What are the overall effects of music therapy, or music medicine intervention strategy on women who are in post-recovery treatment for breast cancer in improving their physiological and psychological health and well-being?
3. What is the intermediate and long-term impact of using music therapy, or music medicine intervention strategy during survivorship to improve the quality of life over time for women who are undergoing conventional treatment for breast cancer?

Participant Demographic Information

The study included nine African American and Caucasian women whose ages ranged from 26 to 67 and who were identified as breast cancer survivors. Additionally,

the geographic locations of participants spanned the southeastern and mid-Atlantic regions of the United States. See Table 1 for participant demographic information.

Qualitative Analysis Key Findings

Tables 2 and 3 reflect the participants' demographic characteristics at the stage of diagnosis. The qualitative data were analyzed based on participants' responses from a series of open-ended questions that directly related to their experiences, views, and opinions on the role of music therapy, music medicine intervention strategy, and, or independent music strategy as a therapeutic tools during conventional treatment to reduce or alleviate pain, anxiety, and emotional distress; the effects of music therapy, music medicine intervention strategy, and, or independent music strategy to improve their overall physical and psychological health and well-being; and the sustainability of music therapy, music medicine intervention strategy and, or independent music strategy over time to improve the quality of life of for nine breast cancer survivors, along with any differential effects of music therapy, music medicine intervention strategy, and independent music strategy.

Table 2

Participant Demographic Characteristics at Stage of Diagnosis

Characteristics	Yes	No
Had children at time of diagnosis	9	0
Cancer care treatment		
Chemotherapy	6	3
Lumpectomy	3	6
Mastectomy	4	5

Radiation	3	6
Reconstruction surgery	2	7
Chemotherapy	3	6
Complementary and alternative medicine (CAM)	1	8
Music therapy modalities		
Music therapy with therapist	0	9
Music medicine intervention with professional	0	9
Independently used music intervention on their own without a professional therapist or practitioner	9	0
Religious affiliation/spiritual practice	9	0
Family support during survivorship	9	0

Table 3

Additional Participant Demographic Characteristics at Stage of Diagnosis

Characteristics	<i>n</i>	%
Marital status at time of diagnosis		
Married	5	56
Single	4	44
Education		
Some college	1	11
College degree	8	89
Employment status		
Part-time/full-time	9	100
Unemployed	0	0
Cancer stage at initial diagnosis		

Stage 0	2	22
Stage I	3	33
Stage II	0	0
Stage III	3	33
Stage IV	1	11
Time since end of treatment		
Currently being treated/and/or on medication	5	56
No longer in treatment	4	44

To code the data, I applied the method of content analysis (Patton, 2015, p. 541) by searching the transcribed text from participants' statements and responses for recurring themes, patterns, and trends to ascertain similarities and differences between participants in relation to the research questions. The phrases were then color-coded and put into categories that were developed into themes (see Appendix B). To establish reliability and trustworthiness, I duplicated the content analysis on separate occasions. Based on the results, I was able to reach a tentative conclusion about the role and effects of music therapy, music medicine intervention strategy and independent music strategy for the nine participants by arguing how the identified themes, patterns, and trends related to their emotional health, well-being, and quality of life, including challenges with balancing their physical and psychological health and spiritual well-being during survivorship. Other findings that were relevant to the topic are described below.

Research Question 1

Research Question 1 was as follows: What role does music therapy, music medicine intervention strategy and independent music strategy play to complement

conventional treatment of women with breast cancer to reduce or alleviate pain, anxiety, nausea, emesis, and emotional distress during radiation and chemotherapy treatment? Participants indicated that they did not use music therapy, music medicine intervention strategy and, but they did use independent music strategy (IMS) as a complement to conventional treatment, which helped to reduce pain and anxiety by redirecting their focus, thoughts, and feelings while providing a perceived sense of distraction from pain and the current environment during long waiting hours when undergoing radiation and chemotherapy treatment. The following statement by one participant was similar to statements provided by other participants: "I used music as a distraction during long hours of treatment." Another stated, "Music is a great escape." Another says: "Music pushed me through the pain." Participants expressed that time passed faster while listening to music during conventional treatment, which provided a sense of peace and contentment while enhancing the effectiveness of their experience. These results showed that independent music strategy may improve patients' strength and control of their physical and emotional symptoms that they experience and are consistent with the literature and previous research in this field of complementary and alternative music therapies. Several participants stated, "I fear a lack of control over my normal daily routine and physical activities." When breast cancer survivors are able to shift their thought process and other physical behavior away from the pain that they are experiencing during conventional treatment, they are able to return to and endure the normal daily routine activities that are important to their survivorship.

Research Question 2

Research Question 2 was as follows: What are the overall effects of music therapy and music medicine intervention strategies on women who are in post-recovery treatment for breast cancer in improving their physiological and psychological health and well-being? Participants specified that they did not use music therapy or music medicine intervention strategies, but they did use independent music strategy as a way to help them improve their physical and psychological health and well-being and allowed them to cope with the side effects of conventional treatment, such as neuropathy, aching bones, and vision problems. One participant voiced an experience shared by several other participants: “Getting off the couch and walking to the bathroom was like climbing a mountain.” Independent music strategy was also instrumental in arousing their emotions and changing their moods, which contributed to improved motor skills, reduced the need for medication, which led to better managed stress levels, and enhanced well-being. One participant stated, “Music calms me to fight and not give up.” Another stated: “Just turn the music on and you will feel better.” Another argued: “I still listen to Christmas music even through its July; music helps me in every aspect.”

Research Question 3

Research Question 3 was as follows: What is the intermediate and long-term impact of using music therapy, music medicine intervention, and independent music strategy during survivorship to improve the quality of life over time for women who are undergoing conventional treatment for breast cancer? Participants pointed out that they did not use music therapy or music medicine intervention strategy, but they did use independent music strategy as a way to improve the quality of life by selecting significant

songs that took them back to a favorable times in their lives, which helped to lessen the need to focus on pain and anxiety or to take medication. Most of the participants stated, “Music is comforting.” Other participants stressed the need for a good night’s sleep, especially before surgery or follow-up treatment and chose instrumental music to help them relax. The literature indicates that soothing music relaxes the mind, body, and spirit. Another participant stated, “At night, I prefer sound or instrumental music versus singing.”

Other Findings

There were limited data in the literature to show that the use of music therapy, music medicine intervention strategy, and or independent music strategy poses a risk to patients who uses these strategies during survivorship. Furthermore, there were limited data to substantiate the protocol and practices of primary physicians and oncologists along with the procedures and best practices they follow to refer breast cancer patients to alternative and complementary therapies in order to combat the symptoms and side effects associated with cancer care. The majority of participants indicated that the practices of religious and spirituality were important to them in their recovery and these practices to be a source of comfort in their faith or walks with God. One participant responded, “Besides music, prayer and medication were the only things that comfort me.” Others pointed to listening to gospel and spiritual music as a source of encouragement to help them get through their pain. Several participants shared, “Reading scriptures from the Bible were a source of encouragement and lift my spirit.” Additionally, participants stated that support from family and friends played a vital role in their lives during survivorship and recovery. Another participant replied, “My daughter used to bring my

granddaughter over to see me every day and when I was going through treatment; I never told her how much my healing was responsible for her.” The love and care that family, friends, and support groups can bring to a cancer survivor helps to create a balanced life, especially when it comes to managing daily routine activities. Moreover, it creates a sense of normalcy and prevents feelings of loneliness, sadness, and depression. A participant stated, “My sister and cousins would be on the phone with me; they say you are just having a bad day, so let’s start over; they wouldn’t let me give up.”

An unexpected finding was that participants who chose to volunteer and give back to others in the community felt as though these deeds contributed to their healing. One participant responded, “Playing piano music for others helped me heal, and when other people can see that you have been through something similar is encouraging to me.”

Summary

In summary, participants noted that they did not use music therapy, and music medicine intervention strategy; however, their responses to using independent music strategy on their own were consistent with the findings in the literature and coincided with the use of music therapy, music medicine intervention, and independent music strategy as a therapeutic tool to complement conventional breast cancer treatment. Additionally, participants shared that spirituality and family support were also important to the quality of life that they experience during survivorship.

Chapter V: Discussion

Introduction

This chapter provides a summary of the findings on the role and effects of music therapy, music medicine intervention, and independent music strategy. Based on the results of interviewing nine participants, the researcher interpreted the implication that music therapy, music medicine intervention, and independent music strategy may have a positive effect on the physical and psychological health and well-being of women in post-recovery treatment for breast cancer. Additionally, the researcher surmises that the self-efficacy theory or confidence in one self could be a motivating factor to promote behavior change in women who use complementary and alternative therapies as a therapeutic tool during survivorship.

Summary of Study

There is a need for complementary and alternative therapeutic strategies to assist women who are breast cancer survivors during their conventional treatment and to examine the belief in one's ability to have the self-efficacy in behavior change to maintain life, health and well-being (Zhang, 2015, p. 20) as the disease progresses. The purpose of the study was to explore the role, overall effects, intermediate and long-term impact of using music therapy and music medicine intervention as a strategic approach to cope with the side effects associated with radiation and chemotherapy to improve the quality of life for women who are undergoing conventional treatment for breast cancer.

Discussions with nine women identified as breast cancer survivors in one-on-one interviews revealed that the majority of them did not use music therapy or music medicine intervention strategy as a result of receiving a recommendation from their

primary physician or oncologist; however, they selected to independently use music on their own without the supervision of a trained music therapist or professional because of their previous relationship with music. As a result, these women were able to experience significantly better health outcomes on their own with the use of independent music strategy. In conclusion, their behavior changes resulted in their ability to redirect their focus during conventional treatment by independently listening to music, which provided a distraction that took their minds off their pain.

Discussion of Key Results Findings

Literature from previous research studied the history of music therapy and music medicine intervention strategy in oncology, or palliative care (McClean, 2012; Boyde et al, 2012) during conventional treatment for women who are breast cancer survivors (Le Roux, 2006, p. 1; Dobrzynska, 2006; Boyde et al, 2012). Also studied were the various approaches of music therapy for women with breast cancer (Bradt, 2016; Bulfone, 2009; Burns, 2001, Nightingale, 2013), music therapy and the human voice as a healing instrument (Elwafi & Wheeler, 2016), the connection between music therapy and human emotions (Goldman, 2008), along with complementary and alternative therapies (Bulfone, 2009, p. 238) to improve the quality of life for women undergoing treatment, and the physical and psychological effects of music therapy in breast cancer care.

Research Question One

What role does music therapy, music medicine intervention strategy, and independent music strategy play to complement conventional treatment of women with breast cancer to reduce or alleviate pain, anxiety, nausea, emesis, and emotional distress during radiation and chemotherapy treatment?

The findings resulting from research question one show a positive and significant association between the role of an independent music strategy along with conventional

treatment to help reduce pain and anxiety in women who are breast cancer survivors. By employing the theory of self-efficacy, women were able to redirect their focus and thoughts away from feelings of pain and anxiety while experiencing a perceived sense of distraction. For women who are in post recovery for breast cancer treatment, these findings draw a direct connection with the literature in relations to independently using music strategy to cope with the negative side effects before and after long waiting hours of undergoing radiation and chemotherapy treatment. Music provided a sense of relaxation (Boyde et al, 2012). These findings are similar to the previous studies conducted by Bulfone, 2009; Owens, 2007; Tindle et al, 2005) involving complementary and alternative therapies to reduce the burdens of cancer-related pain, anxiety, fatigue and depression that are most commonly associated with this disease.

Research Question Two

What are the overall effects of music therapy, music medicine intervention strategies and, or independent music strategy on women who are in post-recovery treatment for breast cancer in improving their physiological and psychological health and well-being?

Comparable to the findings in research question one, findings for research question two revealed a positive correlation between the overall effects of an independent music strategy as a way to help improve the physical and psychological health and well-being for women in oncology care. As in question one, women who apply the self-efficacy theory had the confidence to better manage the side effects they experienced in association with conventional treatment to cope with symptoms such as neuropathy, aching bones, vision problems and early menopausal symptoms. These findings are closely connected to previous studies in the literature that focused on the severity of the physical and psychological effects experienced by cancer patients such as loss of

appetite, shortness of breath, and high blood pressure (Beck, 1991; Gimeno, 2010; Gutgsell, 2013; Lestard, 2013). As stated in the literature, cancer patients who listened to music during conventional treatment were found to have significant positive health outcomes in their comfort levels after listened to music (Bilgic, 2017).

Research Question Three

What is the intermediate and long-term impact of using music therapy, music medicine intervention, and independent music strategy during survivorship to improve the quality of life over time for women who are undergoing conventional treatment for breast cancer?

A review of the literature provided evidence to support the intermediate and long-term impact of using an independent music strategy to improve the quality of life for women who are undergoing conventional treatment for breast cancer. Similar findings for research question three also maintains that women who were able to use the self-efficacy theory demonstrated confidence in one's ability to select or choose songs with significant meaning that reminded them of favorable times in their lives. By doing so, they were less likely to focus on pain and anxiety or to take medication, which helped to improve their quality of life. Previous research published from 2006 to 2013, supports these findings as the literature notes that vocal songs and instrumental sounds are mechanisms that can be used as therapeutic tools to reduce pain and improve health outcomes (Le Roux, 2006; Sullivan, 2007; Hamilton, 2013).

Limitations

A review of the literature revealed that limited studies showed differences in health outcomes between patients who use a licensed music therapist or a music medicine

intervention professional versus using music independently, without the guidance or supervision of a professional therapist or practitioner. Moreover, the participants involved in this case study provided anecdotal evidence in their beliefs that physicians or oncologist do not make recommendations for music therapy or complementary and alternative medicine to reduce stress and anxiety because the physician's main concern is to focus on getting cancer out of the body verses the emotional and psychological experiences of their patients during cancer care.

Another limitation would have been to interview music therapist to learn their interpretation of what happens in their role as a music therapist, how patients are referred to them by oncologist, or medical professionals, and how they work together with other medical professionals to fill any gaps between the patient referrals and their protocols. Therefore, it would have been good to interview music therapists, physicians, and oncologist to obtain their views on the policy, protocol, and best practices for suggesting or referring patients to music therapists or the challenges that these health professionals may face.

A further limitation was the inclusion of only African American and Caucasian women in the study. To overcome this limitation, researchers could expand the research to include a broader demographic of ethnicities such as Hispanic and Asian populations. Despite these limitations, the study should be considered valuable because of the benefits and positive outcomes in various aspects of music therapy, music medicine intervention and independent music strategy. Therefore, the findings may be useful in promoting awareness and improving the quality of life in women who are breast cancer survivors.

Implications

The study demonstrated the effectiveness of music therapy, music medicine intervention, and independent music strategy as a complementary and alternation therapeutic strategy to improve the perceived side effects that women who are in treatment for breast cancer experience during survivorship. Music therapy, music medicine intervention, and independent music strategy could play a vital role to improving health outcomes for women who are breast cancer survivors, especially when they are feeling vulnerable and when they have a lack of control over their normal daily routines due to the side effects associated with conventional treatment. As these therapies are noninvasive, non-pharmacologic, and inexpensive to administer, they can be used in conjunction with conventional treatment, not as a substitute or a curative treatment, but as a complementary alternative coping strategy to improve the quality of life.

Recommendations

Further research is necessary to determine the protocol used to refer women who are breast cancer survivors to music therapists or professional music practitioners for alternative therapeutic strategies. To develop a better understanding of the protocols, it may be necessary to collect data from oncologists to learn more about their belief system in recommending alternative and therapeutic strategies to cancer patients. It may be helpful to develop an awareness campaign to educate oncologist and primary care physicians about the perceived benefits of music therapy, music medicine intervention as alternative coping strategies in palliative care. Lastly, it would be beneficial to interview music therapist to learn about their perspective as a music performer verse a music therapist.

Conclusion

The findings of this study were consistent with existing literature on the role and effects of music therapy, music medicine intervention strategy. As a result, it is appropriate to conclude that there are essential benefits to the use of music therapy, music medicine intervention, and independent music strategy as a safe, effective, and inexpensive complementary therapy to improve the overall physical and psychological health and well-being of women who are breast cancer survivors over time during survivorship and post-recovery.

References

- American Cancer Society. (2014a). *Cancer treatment and survivorship: Facts and figures 2014-2015*. Retrieved from <http://www.cancer.org/acs/groups/content/@research/documents/document/acspc-042801.pdf>
- American Cancer Society. (2014b). *Evolution of cancer treatments: Radiation: The history of cancer*. Retrieved from <https://www.cancer.org/cancer/cancer-basics/history-of-cancer/cancer-treatment-radiation.html>
- American Music Therapy Association. (2013). *What is music therapy?* Retrieved from <https://www.musictherapy.org/about/musictherapy/>
- American Red Cross. (2017). *Hurricane Harvey relief information*. Retrieved from <http://www.redcross.org/about-us/our-work/disaster-relief/hurricane-relief/hurricane-harvey-relief-information>
- Ansdell, G. (2004). Book review: Music as medicine—The history of music therapy since antiquity. *Psychology of Music*, 32, 440-444.
- ASCO Cancer.net. (2005). *Fear of treatment related to side effects*. Retrieved from <https://www.cancer.net/coping-with-cancer/managing-emotions/fear-treatment-related-side-effects>
- ASCO Cancer.net. (2015). *Types of oncologist*. Retrieved from <https://www.cancer.net/navigating-cancer-care/cancer-basics/cancer-care-team/types-oncologists>

- Bandura, A. (1977). Self-efficacy. Towards a unifying theory of behavior change. *Psychological Review*, 84, (2): 191-215. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/847061>
- Beck, S. L. (1991). The therapeutic use of music for cancer-related pain. *Oncology Nursing Forum*, 18, (8): 1327-1337. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/1762973>
- Bibleplus. (2018). *Music, songs, and musical instruments: David plays his harp to soothe King Saul. 1 Samuel 16:15 NKJV*. Retrieved from <http://www.bibleplus.org/music/music.htm>
- Bilgic, S., & Acaroglu, R. (2017). Effects of listening to music on the comfort of chemotherapy patients. *Western Journal of Nursing Research*, 39, 745-762. doi:10.1177/0193945916660527
- Bilimoria, K. Y., Stewart, A. K., Winchester, D. P., & Ko, C. Y. (2008). The National Cancer Data Base: A Powerful Initiative to Improve Cancer Care in the United States. *Annals of Surgical Oncology*, 15(3), 683–690. <http://doi.org/10.1245/s10434-007-9747-3>
- Block, S. (2017). *Music therapy can help patients improve emotional, mental, and physical health*. Retrieved from <http://www.uhconnorintegrativehealth.org/services/music-therapy>
- Blood, A.J., & Zatorre, R.J. (2001). Intensely pleasurable responses to music correlated with activity in brain regions implicated in reward and emotion. McGill University, *Proceedings of the National Academy of Sciences of the United States of America*, 98(20), 11818-11823. doi:10.1073/pnas.191355898

- Blow, A. J., Swiecicki, P., Haan, P., Osuch, J.R., Symonds, L.L., Smith, S. S., . . . Boivin, M.J. (2011). The emotional journey of women experiencing a breast abnormality. *Quality Health Research*, 2011 Oct; 21(10):1316-34.
doi:10.1177/1049732311405798
- Boon, H. S., Olatunde, F., & Zick, S. M. (2007). Trends in complementary/alternative medicine use by breast cancer survivors: comparing survey data from 1998 and 2005. *BMC Womens Health*, 7, 4. doi:10.1186/1472-6874-7-4
- Boyde, C., Linden, U., Boehm, K., & Ostermann, T. (2012). The use of music therapy during the treatment of cancer patients: A collection of evidence. *Global Advances in Health Medicine*, 1(5), 24-29. doi:10.7453/gahmj.2012.1.5.009
- Bradt, J., Dileo, C., Magill, L., & Teague, A. (2016). Music interventions for improving psychological and physical outcomes in cancer patients. *Cochran Database of Systematic Reviews*, 2016(8), Article No. CD006911. doi:10.1002/14651858.CD006911.pub3
- Breastcancer.org. (2011). *Giving chemo and radiation therapy at same time offers same benefits as sequential timing*. Retrieved from <http://www.breastcancer.org/research-news/20110925b>
- Breastcancer.org. (2015). *Types of radiation*. Retrieved from <http://www.breastcancer.org/treatment/radiation/types>
- Breastcancer.org. (2016a). *Chemotherapy medicines*. Retrieved, from <http://www.breastcancer.org/treatment/chemotherapy/medicines>

- Breastcancer.org. (2016b). *Managing other side effects of radiation*. Retrieved, from http://www.breastcancer.org/treatment/radiation/side_effects
- Breastcancer.org. (2016c). *Treatment & side-effects: Conventional treatment*. Retrieved from <http://www.breastcancer.org/treatment>
- Breastcancer.org. (2016d). *What is breast cancer?* Retrieved from http://www.breastcancer.org/symptoms/understand_bc/what_is_bc
- Breastcancer.org. (2017a). *Chemotherapy*. Retrieved from <http://www.breastcancer.org/treatment/chemotherapy>
- Breastcancer.org. (2017b). *Chemotherapy side effects*. Retrieved from http://www.breastcancer.org/treatment/chemotherapy/side_effects
- Breastcancer.org. (2017c). *Surgery*. Retrieved from <http://www.breastcancer.org/treatment/surgery>
- Breastcancer.org. (2018a). *Radiation treatment*. Retrieved from <http://www.breastcancer.org/treatment/radiation>
- Breastcancer.org. (2018b). *Stages of breast cancer*. Retrieved from <http://www.breastcancer.org/symptoms/diagnosis/staging>
- Breast Cancer Research Foundation. (2016). *Breast cancer*. Retrieved from <https://www.bcrfcure.org/blog/every-2-minutes-woman-us-diagnosed-breast-cancer>
- Bulfone, T., Quattrin, R., Zanotti, R., Regattin, L., & Brusaferrò, S. (2009). Effectiveness of music therapy for anxiety reduction in women with breast cancer in chemotherapy treatment. *Holistic Nursing Practice*, 23(4), 238-242.
doi:10.1097/HNP.0b013e3181aeceee

- Burns, S. J., Harbuz, M. S., Hucklebridge, F., & Bunt, L. (2001). A pilot study into the therapeutic effects of music therapy at a cancer help center. *Alternative Therapies in Health Medicine*, 7(1), 48-56. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/11191042>
- Centers for Disease Control and Prevention. (2017a). *Basic information about breast cancer*. Retrieved from https://www.cdc.gov/cancer/breast/basic_info/index.htm
- Centers for Disease Control and Prevention. (2016b). *Breast cancer: What you need to know*. Retrieved from <http://www.cdc.gov/cancer/breast/pdf/breastcancerfactsheet.pdf>
- Clements-Cortes, A. (2017). Singing and vocal interventions in palliative and cancer care: Music therapists' perceptions of usage. *Journal of Music Therapy*, 54, 336-361. doi: [10.1093/jmt/thx010](https://doi.org/10.1093/jmt/thx010)
- Davis, W. (1997). Music therapy practice in New York City: A report from a panel of experts, March 17, 1937. *Journal of Music Therapy*, 34(2), 68-81.
- Davis, W. B. (2012). The first systematic experimentation in music therapy: The genius of James Leonard Corning. *Journal of Music Therapy*, 49, 102-117. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/22803259>
- Dobrztnska, E., Cesarz, H., & Rymaszewska, A. K. (2006). Music therapy: History, definitions, and application. *Archives of Psychiatry and Psychotherapy*, 8, 47-52. Retrieved from https://www.researchgate.net/publication/282647747_Music_Therapy_-_History_definitions_and_application

- Egbert, N., & Parrott, R. (2001). Self-efficacy and rural women's performance of breast and cervical cancer detection practices. *Journal of Health Communication, 6*(3), 219-233. doi: 10.1080/108107301752384415
- Elwafi, P. R., & Wheeler, B. L. (2016). Listening to music as part of treatment for breast cancer: A qualitative content analysis of patients' listening logs. *Arts in Psychotherapy, 48*, 38-45. doi:10.1016/j.aip.2015.12.004
- Gallagher, L.M. (2011). The role of music therapy in palliative medicine and supportive care. *Seminars in Oncology, 38*, 403-406. doi:10.1053/j.seminoncol.2011.03.010
- Georgia Breast Cancer Coalition Fund. (2016). *Georgia's voice to end breast cancer*. Retrieved from <http://www.gabcc.org/news-resources/breast-cancer-facts-figures>
- Get Palliative Care. (2018). Retrieved from <https://getpalliativecare.org/whatis/>
- Gfeller, K. E. (2002). Music as a therapeutic agent: Historical and socio cultural perspectives. In R. Unkefer & M. Thaut (Eds.), *Music therapy in the treatment of adults with mental disorders: Theoretical bases and clinical interventions* (pp. 60-67). New Braunfels, TX: Barcelona Publishers.
- Gimeno, M. M. (2010). The effect of music and imagery to induce relaxation and reduce nausea and emesis in patients with cancer undergoing chemotherapy treatment. *Music and Medicine, 2*(3), 174-181. doi:10.1177/1943862110374622
- Glaser, B., & Strauss, A. (1967). The discovery of grounded theory. Hawthorne, NY: Aldine Transaction. Retrieved from http://www.sxf.uevora.pt/wp-content/uploads/2013/03/Glaser_1967.pdf
- Goldman, J. (2008). *The 7 Secrets of Sound Healing*. Carlsbad, California: Hay House, Inc.

- Growney, C. (2012). *The history of music and art therapy*. Retrieved from <http://musicandarttherapy.umwblogs.org/music-therapy/earliest-references-to-music-therapy/>
- Gutgsell, K. J., Schluchter, M., Margevicius, S., DeGolia, P. A., McLaughlin, B., Harris, M. . . . Wiencek, C. (2013). Music therapy reduces pain in palliative care patients: A randomized controlled trial. *Journal of Pain and Symptom Management*, 45, 822-831. doi:10.1016/j.jpainsymman.2012.05.008. Erratum in *Journal of Pain and Symptom Management*. (2014), 48, 1279.
- Hamilton, J. B., Stewart, J. M., Thompson, K., Alvarez, C., Best, N. C., Amoah, K., & Carlton-LaNey, I. B. (2017). Younger African American adults' use of religious songs to manage stressful life events. *Journal of Religion Health*, 56, 329-344. doi:10.1007/s10943-016-0288-6
- Harvey, A. W. (1980). The therapeutic role of music in special education: Historical perspectives. *The Creative Child and Adult Quarterly*, 5(3), 196-204.
- Hennink, M.M., Kaiser, B.N., & Marconi, V.C. (2016). Code of saturation versus meaning saturation: How many interviews are enough? *Qualitative Health Research*, 27, 591-608. doi:10.1177/1049732316665344
- Kang, D. H., McArdle, T., & Suh, Y. (2014). Changes in complementary and alternative medicine use across cancer treatment and relationship to stress, mood, and quality of life. *Journal of Alternative and Complementary Medicine*, 20, 853-859. doi:10.1089/acm.2014.0216
- King, N., Balneaves, L. G., Levin, G. T., Nguyen, T., Nation, J. G., Card, C. . . . Carlson, L. E. (2015). Surveys of cancer patients and cancer health care providers

regarding complementary therapy use, communication, and information needs.

Integrative Cancer Therapies, 14, 515-524. doi:10.1177/1534735415589984

Knight, W. E., & Rickard, N. (2001). Relaxing music prevents stress-induced increases in subjective anxiety, systolic blood pressure, and heart rate in healthy males and females. *Journal of Music Therapy*, 38(4), 254-272. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/?term=relaxing+music+prevents+stress-induced+increases+in+subjective>

Landis-Shack, N., Heinz, A. J., & Bonn-Miller, M. O. (2017). Music therapy for posttraumatic stress in adults: A theoretical review. *Psycho-musicology*, 27(4), 334-342. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/?term=relaxing+music+prevents+stress-induced+increases+in+subjective>

Le Roux, F. (2006). Music is healing: *Booksurg, LLC*.

Lestard, N. D., Valente, R. C., Lopes, A. G., & Capella, M. A. M. (2013). Direct effects of music in non-auditory cells in culture. *Noise & Health*, 15(66), 307-314. doi:10.4103/1463-1741.116568

Levitin, D. J. (2006). *This is your brain on music: The science of human obsession*. New York, NY: Penguin Group.

Li, X. M., Yan, H., Zhou, K. N., Dang, S. N., Wang, D. L., & Zhang, Y. P. (2011). Effects of music therapy on pain among female breast cancer patients after radical mastectomy: Results from a randomized controlled trial. *Breast Cancer Research and Treatment*, 128, 411-419. doi:10.1007/s10549-011-1533-z

- Mayo Clinic. (2014). *Complementary and alternative medicine: Overview*. Retrieved from <https://www.mayoclinic.org/tests-procedures/complementary-alternative-medicine/about/pac-20393581>
- McClellan, S., Bunt, L., & Daykin, N. (2012). The healing and spiritual properties of music therapy at a cancer care center. *Journal of Alternative and Complementary Medicine*, *18*, 402-407. doi:10.1089/acm.2010.0715
- Merriam-Webster. (n.d.-a). *Psychology and physiological well-being*. Retrieved from <https://www.merriam-webster.com/dictionary/physiological%20psychology>
- Merriam-Webster. (n.d.-b). *Therapeutic*. Retrieved from <https://www.merriam-webster.com/dictionary/therapeutic>
- Music Files, Ltd. (1999). What is Music. Retrieved from <https://www.mfiles.co.uk/what-is-music.htm>
- Music for Healing & Transition Program. (2017). *Handbook for students & graduates: An international educational certification program*. Retrieved from <http://www.mhttp.org>
- National Breast Cancer [NBC] Coalition. (2016). *The breast cancer deadline 2020*. Retrieved from http://act.breastcancerdeadline2020.org/site/DocServer/Deadline_Campaign_-_Executive_Summary.pdf
- National Breast Cancer Foundation. (2016). What is breast cancer? Retrieved from <http://www.nationalbreastcancer.org/what-is-breast-cancer>

- National Cancer Institute. (2015). *Complementary and alternative medicines*. Retrieved from <https://www.cancer.gov/about-cancer/treatment/cam>
- National Coalition for Cancer Survivorship. (2014). Defining cancer survivorship. Retrieved from <https://www.canceradvocacy.org/news/defining-cancer-survivorship/>
- National Standards Board for Therapeutic Musicians. (2018). Retrieved from <http://www.nsbtm.org>
- Nightingale, C. L., Rodriguez, C., & Carnaby, G. (2013). The impact of music interventions on anxiety for adult cancer patients: A meta-analysis and systematic review. *Integrative Cancer Therapies, 12*, 393-403.
doi:10.1177/1534735413485817
- Owens, B. (2007). A test of the self-help model and use of complementary and alternative medicine among Hispanic women during treatment for breast cancer. *Oncology Nursing Forum, 34*(4), E42-50. doi:10.1188/07.onf.e42-e50
- Patton, M.Q. (2015). *Qualitative research & evaluation methods* (4th ed.). Thousand Oaks, CA: Sage.
- Poonthananiwatkul, B., Howard, R. L., Williamson, E. M., & Lim, R. H. (2016). Why cancer patients choose in-patient complementary therapy in palliative care: A qualitative study at Arokhayasala Hospice in Thailand. *European Journal of Integrative Medicine, 8*, 260-265. doi:10.1016/j.eujim.2016.02.002
- Rausch, S. M., Winegardner, F., Kruk, K. M., Phatak, V., Wahner-Roedler, D. L., Bauer, B., & Vincent, A. (2011). Complementary and alternative medicine: use and

- disclosure in radiation oncology community practice. *Supportive Care in Cancer*, 19, 521-529. doi:10.1007/s00520-010-0846-5
- Rorke, M. A. (2001). Music therapy in the age of enlightenment. *Journal of Music Therapy*, 38, 66-73.
- Sacks, O. (2008, December). Wired for Sound. *O, The Oprah Magazine*. Retrieved from <http://www.oprah.com/omagazine/oliver-sacks-finds-the-bond-between-music-and-our-brains/all>
- Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press. Retrieved from <http://www.apa.org/pi/about/publications/caregivers/practice-settings/assessment/tools/trait-state.aspx>
- Stuckey, H. L., & Nobel, J. (2010). The connection between art, healing, and public health: A review of current literature. *American Journal of Public Health*, 100, 254-263. doi:10.2105/ajph.2008.156497
- Sullivan, J. M. (2007). Music for the injured soldier: A contribution of American women's military bands during World War II. *Journal of Music Therapy*, 44, 282-305. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/?term=Music+for+injured+soldier+by+sullivan>
- Theiss, E. (2011). Music therapy eases patients pain, helps on road to recovery. Retrieved from

http://www.cleveland.com/healthfit/index.ssf/2011/01/music_therapy_eases_patients_p.html

Tindle, H.A., Davis, R.B., Phillips, R.S., & Eisenberg, D.M. (2005). Trends in use of complementary and alternative medicine by U.S. adults: 1997-2002. *Alternative Therapies in Health and Medicine*, 11, 42-49. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/15712765>

Ziner, K. W., Sledge, G. W., Bell, C. J., Johns, S., Miller, K. D., & Champion, V. L. (2012). Predicting fear of breast cancer recurrence and self-efficacy in survivors by age at diagnosis. *Oncology Nursing Forum*, 39, 287-295. doi:10.1188/12.ONF.287-295

Zhang, Y., Kwekkeboom, K., & Petrini, M. (2015). Uncertainty, Self-efficacy, and Self-care Behavior in Patients with Breast Cancer Undergoing Chemotherapy in China. *Cancer Nurs*, 38(3), E19-26. doi:10.1097/ncc.0000000000000165

Appendix A: In-depth Interview Guide

In-Depth Interview Guide for Women Who Are Breast Cancer Survivors

Introduction

Good morning, my name is Johnnie Proby and I am from Emory Rollins School of Public Health. As a candidate of the Executive Masters in Public Health Program, I am conducting a research project as part of my thesis assignment. Therefore, I am talking to women in the Atlanta area about their experiences and opinions on the topic for using music therapy as an alternative and complementary therapeutic tool along with conventional treatment. The aim is to get a better understanding of the effects that music therapy has on their physiological and psychological health and well-being during survivorship. I feel that by talking with you, I can learn best what women with breast cancer know and feel about this topic, so please don't be shy, your views are very valuable to me and I am here to learn from you.

Your participation in this interview is completely voluntary. Therefore, if you do not feel comfortable with answering a question, feel free to skip it and we will move on to the next one. Lastly, we can stop the interview at any time. Again, your participation is greatly appreciated.

So that I am able to capture the true essence of your experiences without missing anything, I would like to digitally record our discussion, if that is okay with you. Our conversation today is completely confidential, and will only be shared with other associates that are connected to this research project. None of the research documents related to this discussion will mention your name or any other participant's name who

took part in the study. Do you have any questions? Do I have your permission to record our discussion?

Our interview will last about 30 – 45 minutes. I have a list of questions, but feel free to share anything that you feel might be relevant to the topic. Before we begin are there any questions?

Let's get started:

A. Diagnosis and Current Status

Warm Up

Tell me about your family? (Probe: children, grandchildren)

First, let's talk about the time when you were first diagnosed with breast cancer

1. When were you first diagnose with breast cancer? (Probe: what is the current status)
2. Tell me about your through and feelings of being diagnosed with cancer?
3. Can you describe for me what a typical day is, or was like since being diagnosed?

B. Recovery and Conventional Treatment for Breast Cancer

Let's talk about your current/recovery treatment for breast cancer

4. What type of conventional treatment are you currently undergoing for breast cancer?
5. Describe what your experience has been like for you during treatment?
6. What kind of family support do you have during this time of your recovery?

C. Pain, Nausea, Emesis, Fatigue and Emotional Distress

Let focus on the topic of side effects and conventional treatment

7. Tell me about any of the side effects that you have encountered, or experienced during radiation or chemotherapy treatment
8. Describe to me the role music therapy plays in helping you cope with these side effects?

D. Alternative and Complementary Therapies

Let's talk about alternative and complementary therapies as a part of your **recovery**.

9. Tell me about your perception of using alternative and complementary therapies as a part of your recovery process.
10. How did you learn, or become knowledgeable about music therapy as an option to support your recovery?

E. The Effects of Music Therapy

Let's focus on the effects/benefits of music therapy

11. Describe to me the genre selection or music preference that is most meaning for you during recovery treatment and why? (Probe: live/pre-recorded; spiritual/sound)
12. Tell me about your feelings while listening to music during treatment?
13. How have the effects of music therapy been beneficial to you during your recovery treatment? (Probe: pre-post diagnosed)
14. When do you think is the best time for you use music therapy along with conventional treatment? And why? (Probe: before/after/both and how often, or how long)

F. Survivorship and Quality of life

Let's talk about the future and survivorship.

15. Describe to me a time when you did not feel like using music therapy during your recovery survivorship.
16. What were the biggest changes that you have experienced while using music therapy as a part of your recovery process? (Probe: benefit, pre-post recovery)
17. How has the quality of your life been affected by the use of music therapy during recovery? (Probe: improve, worsen)

Closing Question:

18. Would you recommend the use of music therapy to another breast cancer survivor?
19. If you could tell another breast cancer survivor one thing about how music therapy has helped you, what would you tell them?
20. Is there anything else you would like to share with me about your experience on the issues that we have discussed today?

Thank you again for your time and for sharing your experiences with me. I had a wonderful time talking to and getting to know you. You really had such amazing views on the topic. Your contribution to the research is greatly appreciated.

Do you have any questions for me before we part?

Thanks again!

Appendix B: Themes

Interview Questions #1

Identified Themes, Patterns, and Trends and Contextual Phrases that Categorize Participant Responses	
Impact of Cancer Diagnoses/Survivorship Experiences	Contextual Phrases
Experiences of thoughts and feelings from initial diagnosis can create feelings of uncertainty and emotional imbalance.	Responses from Interviewees:
	"Scared; I thought it was a death sentence; early detection helped me."
	"I felt constantly bombarded with the word cancer "
	"I was scared and frightened."
	"I felt Fearful of physical appearance due to loss of breast, or hair."
	"I felt a lack of social support and loneliness."
	"I want to make sure that my family and children are protection."
	"I am feeling depress/angry/sad or emotional distress."
	"I felt a loss of control over my normal daily routine and physical activities."
	"I lack the knowledge on the best treatment options for me."
	"I am unable to afford certain treatments; it's a financial burden on me and my family."
	"The recovery and healing process is slow."
	"It's uneasy to cope with the anxiety that I feel."
	"I feel a sense of loss of self-worth and self-identity."
	"I fear of the side effects from drugs that can cause heart failure, aching bones, and early menopause symptoms."
	"I feel an inability to communicate my needs and desires to family and support team."

Interview Question #2

Role of Music Therapy and Music Medicine Intervention	Contextual Phrases: Quotes from Interviewees
Intended purpose for listening to music during conventional treatment has a perceived benefit of redirecting focus away from current pain and anxiety, distracting from current environment, time passes faster; provides a sense of peace and contentment in a stressful time.	"I used music to help me to prepare my mind for something else." "I used music to push me through the pain."
	"I used music for comfort in what I am going through."
	"I used independent music strategy for motivation during pre- and -post conventional treatment /surgery(radiation and chemo takes long hours)."
	"I used music to relax (stress reduction)."
	"I used music as a distraction during long hours of treatment (redirect focus)."
	"I used music that encouraged me to feel peace and contentment during treatment."
	"I used music as a distraction from the news and tragedies that are all over the world."
	"I used music as an great escape."

Interview Question #3

Effects of Music Therapy and Music Medicine Intervention	Contextual Phrases: Quotes from Interviewees
Physiological and psychological effects of music therapy can strengthen self-efficacy, provide inspiration, motivation, endurance, and feelings of peace and happiness and cleansing	" Music calms me to fight and not give up." (Strength)
	"I bathed myself in music." (Cleansing)
	" I just wanted to chill out and listen to jazz, which makes me feel relaxed." (peace, happiness and inspiration)
	" The music was just irreplaceable for me, it inspired me and brought me joy." (Contentment)
	" Music lift my spirit as I was going through the dark days." (Contentment)
	" You get to choose whatever music you like or enjoy that speaks to your heart." (Peace of mind)
	" Getting off the couch and walking to the bathroom was like climbing a mountain." (Self-efficacy)
	" You have these moments when you want to give up... you have to find a way to fight and the music will help you fight." (Self-efficacy, resilience)
	" I use music to cope with the side effects like vision problems, nausea, neuropathy." (Coping)
	" Music kept me from drowning in what would have been my sorrows and what I was going through." (Contentment)

Interview Question #4

	Contextual Phrases: Quotes from Interviewees
Music to improve Quality of Life and Sustainability Over-time Induce relaxation, improve restful night sleep, improve immune system, creates resilience, and better interactions with family and social support teams	" I used music to help me sleep at night." (Induce relaxation and improve immune system)
	" The music is comforting to me."
	" At night, I prefer sound or instrumental music versus singing." (induce relaxation)
	" Music helped me not to focus on myself, or to feel sorry for myself." (resilience)

Interview Question #5

Recommended CAM by Physician/Oncologist	Contextual Phrases: Quotes from Interviewees
Complementary and Alternative Medicine (CAM) therapies may not be readily recommended by physicians and oncologist that could generate longer recover time. Therefore education and awareness campaigns may be needed to increase awareness of CAMs and their benefits during survivorship.	"I learned to use music during recovery by reading an article in a magazine."
	" My family and support team told me to listen to music to make me feel better from the side effects."
	" My oncologist did not make me aware of complementary and alternative medicine, I learned on my own."
	" Doctors only care about getting the cancer out of our body, not about your mental, or emotional well-being."

Interview Question #6

Independently Used Music strategy on their own without a professional therapist or practitioner	Contextual Phrases: Quotes from Interviewees
Women who are breast cancer survivors may not find out about complementary and alternative music (CAM) therapies from their oncologist; but by exploring alternatives on their own may have a positive effect on their overall health and well-being pre-post-recovery. Establishing a relationship with music promotes self-efficacy; familiarity and improve quality of life; provides an escape from reality.	" I never stopped listening to music."
	" Music helps me to focus and meditate on what is coming out of my body during chemo treatment instead of what is going into my body."
	" I listen to music first thing in the morning to get me going."
	" For me, it is best to listen to music after radiation."
	" I put my headset on and listen to music for hours while I am in chemo therapy, it helps me escape."
	" I just close your eyes and put your ear plugs on and escape from watching people around you who are suffering."
	" Music in general is a good diversion."
	" Sometimes it takes me back to a memory or a time when I first heard the song and what was going on at the time; being on vacation, at the beach; a happy place; it helps you reflect and not give up." (Resilience)
	" Music has the ability to shoot through your heart like an arrow and transform you to wherever you want to me. "

Interview Question # 7

Various Genres of Music	Contextual Phrases: Quotes from Interviewees
Song selection and genres of music provided a sense of familiarity and create memories of happy times for breast cancer survivors.	" Listening to old beautiful hymns was very inspirational and uplifting to me."
	" Listening to jazz and 70s music makes me feel good."
	" I needed something to bring me down like healing music."
	" Listening to gospel music reinforces me." (resilience)
	" Country music has a lot of sweet stories that I like."
	" I like listening to pop music, sound tracks, and christian music."
	" I have a gift of selecting good music." (induce relaxation)
	" I choose songs of hope that help me deal with life."

Other Findings from Interview Questions #1

OTHER FINDINGS	
Religious Affiliation/Spiritual Practice	Contextual Phrases: Quotes from Interviewees
Establishing a relationship to Spirituality and Faith with a Higher Power may improve quality of life for women with breast cancer and provide to them a sense of peace and comfort that they are in safe keeping due to prayer and medication.	" Through music, as we praise we become spiritually stronger, physically, mentally, and emotionally." (Endurance and safe keeping)
	" The words were a source of encouragement and lift my spirit." (boost of confidence, resilience)
	" You can focus on the scripture reading and the words in the song to make you feel better." (higher power)
	" The music in and of itself was beautiful, but it was the lyrics that encouraged me." (resilience)
	" The bible tells us to guard our minds and hearts... keep your mind on the end-zone."
	" Old beautiful hymns was very inspirational and uplifting to me."
	" If you can medicate and listen and worship it can get you through the day."
	" Besides music, prayer was the only thing that comforts me."

Other Findings from Interview Questions #2

Family Support Prevents Feelings of Loneliness	Contextual Phrases: Quotes from Interviewees
Family plays a vital role in the lives of women who are breast cancer survivor. Their love and care helps to support a balance life to manage daily routine and to create a sense of normalcy and prevent feeling of loneliness/sadness/fear and depression.	" My sister and cousins would be on the phone with me; they said," you are just having a bad day, let's start over;" they won't let me give up."
	" My mother would have the radio on all the time, she played music in the morning, in the middle of the day and at night, so I have a innate ability to go to music."
	" My daughter used to bring my granddaughter over to see me ever day when I was going through treatment; I never told her how much my healing was responsible for her."
	" My sister arranged for a meal train so people could bring me food and she put me on the prayer list at church, I love my family."

Other Findings from Interview Questions #3

Encouraging Other Women who are Breast Cancer Survivors	Contextual Phrases: Quotes from Interviewees
Volunteering and giving back to others can be therapeutic tool; Boost self esteem and self-efficacy	" Find something that encourages you because it affects your thoughts, your mind, and your heart."
	" Music has the ability to navigate you away from the situation you find your self in and move you to a totally different place mentally, spiritually, and emotionally; utilize it every chance you get."
	" Music takes you away from sadness and what you are constantly afraid of until it is all over."
	" Music creates happy memories for you and take your mind off what you are going through."
	" Playing (piano) music for others helped me heal - when other people can see that you have been through something similar is encouraging to them and promote self-efficacy."