THE FLORIDA STATE UNIVERSITY

COLLEGE OF MUSIC

THE USE OF MUSIC THERAPY IN THE EMERGENCY ROOM FOR
PAIN AND ANXIETY MANAGEMENT

By

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I dedicate this thesis to my parents
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ABSTRACT

This study will focus on the effects of live music therapy, on adults, in the emergency room for pain and/or anxiety management and to ascertain benefits for emergency room management and quality of care. Clinical guidelines for emergency music therapy will be discussed. The music therapist provided a pre-test, the live music therapy intervention, and a post-test to all participants (N=30). Results of a t-test determined that there was a significant decrease in pain and a significant increase in comfort. There was an increase in quality of care and a decrease in anxiety, although they were not significant. Overall, music therapy was effective in decreasing pain and increasing comfort with 100% of patients indicating, “Yes” to requesting music therapy services again if admitted to the emergency room.
Music Therapy in the medical setting is a broad discipline that encompasses everything from working with neonatal infants to patients facing the end of life. In addition to working with patients, family members are also provided support in appropriate situations. Research in the medical field has focused on goals which include increasing relaxation, decreasing pain, reducing anxiety, increasing coping skills, providing procedural support, and improving quality of life. Results in studies have not only indicated that Music Therapy provides a more positive and comfortable experience in the hospital, but that it may also may result in a shorter hospital length of stay. The emergency room is a crucial and integral component of the medical field and thus is an important and relevant area for Music Therapy research.

According to the The Ambulatory and Hospital Care Statistics Branch of the Centers for Disease Control and Prevention’s National Center for Health Statistics, in 2008 there were 123,761 patients who visited the emergency room in the United Stated. The southern region of the United States has the highest percentage of emergency room visits at 38.9% compared with the other regions such as the northeast with only 19.8%. For males and females, the top three reasons for going to the emergency room were: chest pain, shortness of breath, and stomach pains. In the area of pain, 44.8% of people reported moderate to severe pain when entering the emergency room. While in the United States, the percentage of patients entering the emergency room is increasing every year, other countries have found effective ways to decrease the number of visits to the emergency room. According to Health and Medicine in Ireland, by implementing a workplace-smoking ban, there have been significantly less admissions to the emergency room, specifically with respiratory illnesses.

Alcohol and drug abuse related ailments are another major reason for emergency room visits, and this number has been increasing. Additionally, according to the National Institute on Drug Abuse (2011) in the Drug Abuse Warning Network (DAWN) there has been an 82.9% increase in the number of visits to the emergency room involving adverse reactions to pharmaceuticals between 2005 and 2009. The number of emergency
department visits involving nonmedical use of pharmaceuticals increased 98.4% between 2004 and 2009.

With the increasing and large number of patients being admitted to the emergency room there is a continuing concern with patient overcrowding. This is an issue that has become more problematic over the past few years. The American College of Emergency Physicians Roundtable (2008) determined that the emergency room is overcrowded when patients are: being turned away, treated in the hallways instead of a room, kept in the emergency room because there are minimal beds in the main hospital, and when the quality of care in the emergency room does not meet the standards of the community in which it is in. Some suggested solutions to the overcrowding in the emergency room include: having a physician be present with the patients during the triage process and “fast track units.” This would allow patients who may have less severe symptoms to be seen and then discharged more quickly from the emergency departments, thus allowing additional room for more severe patients (American College of Emergency Physicians, 2007).

Although there are numerous music therapy-related studies done in the main areas of the hospital, the emergency room and the benefits of music therapy have not been researched thoroughly. The majority of research has focused on having patients listen to music in the waiting room, and using music with children that may be anxious or are undergoing a procedure. There is limited research on music therapy with adults in the emergency room that have been admitted. The research that has been conducted has looked at using recorded music with patients to assist in decreasing anxiety, pain and increasing comfort. This study will focus on the effects of live music therapy, on adults, in the emergency room for pain and/or anxiety management and to ascertain benefits for emergency room management and quality of care. Clinical guidelines for emergency music therapy will be discussed.
Anxiety in the Medical Setting

Anxiety is a common issue in the medical setting. House & Stark (2002) describe anxiety as your body’s response to any threat, which could include hospitalization. Some symptoms of severe anxiety can include difficulty sleeping because of worrying, inability to relax, muscle tension, and irritability. Some responses to anxiety may include chest pain, dry mouth, the feeling of losing control or going crazy, shaking, or cold chills. According to a study by Yildirim & Hacihasanoglu (2010) 36.6% of patients admitted to the hospital for anxiety-related symptoms were hospitalized for at least two nights, and 61.4% of patients had symptoms of depression. Anxiety can occur at different points during hospitalization. Perez-San-Gregorio, Martin-Rodriguez & Galan-Rodriguez (2007) found that the majority of the anxiety with patients undergoing an organ transplant occurs when they are in the hospital after they had received the transplant. Anxiety decreased when the patient left the hospital.

Anxiety is a symptom that occurs frequently when people have been hospitalized. According to Chau & Lee (2008), patients that were experiencing a high level of pain had an average anxiety and depression level that was higher than the normal level that usually occurs during hospitalization. The more intense the pain was, the higher the level of anxiety and depression. From this study, we can determine that there needs to be an intervention to decrease pain and anxiety in a hospital setting. Overall, for hospital patients with anxiety, those who were in the hospital to cancer had more anxiety compared to other patients, including patients waiting to receive surgical procedures (Lucente & Fleck, 1972).

With children, even more than adults, it is important to treat anxiety before surgeries begin. Preoperative anxiety from an IV insertion is in the top 5 causes for anxiety for children in the hospital (McCann & Kain, 2001).

Although anxiety is common in a hospital setting, there are ways that it can be managed. Scott (2004) researched how anxiety can be managed before surgery. This study discusses the data and indicates that by having the nurse inform the patient, that this
can decrease patient anxiety before surgery. Furthermore, it indicated that positive nurse and patient relationships, individual nursing care, and patient-centered care, are all ways that anxiety can be decreased in the hospital. Ylinen, Vehvilainen-Julkunen & Pietila (2009) found a similar result when using non-drug interventions with patients undergoing a colonoscopy. Non-drug interventions such as talking calmly to the patient and explaining the colonoscopy process and why they may be feeling discomfort, proved effective. It assisted in decreasing the anxiety in both patients that began the procedure feeling anxious and as well as the patients who were not anxious.

Anxiety is not only found with patients in the medical setting, it can be found with staff and family members as well. Caplan (1994) determined that out of 322 general practitioners, 27% were found to be depressed or were borderline depressed, also, only 46% were found to not have any anxiety and depression. Ekwall, Gerdtz & Manias (2008) researched the level of anxiety in the people that accompanied patients to the emergency room to determine if there was a connection between the accompanying person’s anxiety levels and their satisfaction survey of the emergency room. The results indicated that the higher the anxiety of the accompanying person, the lower the satisfaction score. Consequently, the lower the anxiety at discharge, the higher the satisfaction score. From these studies, it has been determined that it is important to assist in managing the anxiety of the people accompanying the patient to the emergency room, as well as the patient.

Music and Anxiety

Anxiety is found in the medical setting in a variety of populations, and music has been found to be effective in different environments including the medical setting. Anxiety can be found in anticipation of a treatment, while waiting for the results of a treatment, and especially, during a treatment. Music has been found to be effective in a number of these circumstances.

Using music to reduce anxiety has been shown effective, especially with patients in the hospital. The majority of the research that has used music for pain and anxiety reduction during elective surgeries used recorded music. This has not only been shown effective with patients once they have been admitted to the hospital, but to patients that are being transported to the hospital. Stuhlmiller, Lamba, Rooney, Chait & Dolan
(2009), studied the effects of using recorded music during ground critical care transport ambulance. The results indicated that although having recorded music playing had a minimal decrease in anxiety on patients, 82.6% rated the critical care transport as not stressful, and the patients reported a positive impact of music on transport with improved comfort and relaxation.

Preoperative music has been used with adults in the medical field. Cooke, Chaboyer, Schluter, & Hiratos (2005) found that listening to music in the waiting room before surgery significantly reduced state anxiety in patients before going into surgery. In the patients that listened to music while waiting for their surgery, the results indicated that there was a 16% lower anxiety in patients that listened to the music compared to the patients who didn’t listen to music. Although there was a difference in their anxiety measured by self-report, there was no difference in their physiological measures, before, during, or after listening to the music (Wong, Kulkami, Dolev & Kain, 2002).

There are numerous studies that look at the effects of music on anxiety during procedures, invasive and non-invasive. Agwu & Okoye (2007) studied the effects of playing preferred music during a hysterosalpingography. Anxiety levels were measured before, after and during the procedure. The results indicated a physiological difference with the patients that listened to music with a significant decrease in pulse rate by 56%, compared to the increased pulse rate and blood pressure in the control group. Eighty-two percent of the patients in the experimental group were willing to repeat the procedure compared to 32% of patients in the control group who were willing to repeat the procedure. During fiberoptic bronchoscopies, music did not have a significant effect on decreasing state anxiety, but decreased trait anxiety after the procedure (Colt, Powers & Shanks, 1999). During breast core-needle biopsies, Bugbee et al. (2004) compared a tape with classical music and ocean sounds versus a relaxation script spoken over the music during medication for anxiety reduction. The music had no significant effects on anxiety reduction, however the medication had a significant reduction on anxiety reduction. The authors noted in this study that it was more difficult to measure significant changes in anxiety because not all of the patients were anxious before the procedure.

Music has also been studied in decreasing anxiety in patients with non-invasive procedures such as mammograms. Domar et al. (2005) researched the effects of using
music during mammograms to determine if women who had music would have decreased anxiety during the procedure. There was no significant difference in anxiety levels between the women who listened to music and the women who did not.

Ferrer (2005) is one of the few researchers that studied the effects of anxiety using live music and did so during chemotherapy treatment. The results indicated that there was a significant improvement for the patients that listened to live music. The music had a positive affect on their level of fear, fatigue, relaxation, and diastolic blood pressure, and their ability to relax. Although there was no significant difference on their heart rate and systolic blood pressure, they did indicate an increased quality of life.

Augustin & Hains (1996) researched the physiological and anxiety levels of using preferred recorded music 10 minutes before surgery. The results indicated that the patients that heard music before surgery reduced their anxiety and had a significantly lower heart rate than the group that did not listen to music before surgery.

Waiting for the results of a procedure can create an anxious feeling in patients. Haun, Mainous & Looney (2001) had women listen to 20 minutes of new age music through headphones while waiting for the results of their breast biopsy. There was a significant difference with reduced anxiety in the patients that had music. This demonstrates that while preferred music has demonstrated significant reduction in anxiety in patients, non-preferred music has also been effective in reducing anxiety as well.

Pain in the Medical Setting

Pain is a common symptom that is found in the hospital. Whelan, Jin & Meltzer (2004) determined that 59% of the patients surveyed in the hospital had pain and 18% of patients felt that their pain was not managed appropriately. From a national survey done by Apfelbaum, Chen, Mehta & Gan (2003), they found that 80% of patients experience pain in the hospital after surgery, and 86% of theses patients had moderate, severe, or extreme pain after they were discharged compared to when they were in the hospital. In addition, in the emergency room, 20% of patients reported that they felt as though they did not have effective pain relief (Muntlin, Gunningberg & Carlson, 2006). Pain management is a main concern in the medical setting.

Due to the recent studies in pain management, it has been noticed that people exhibit signs of pain in different ways. Pain perception and the way that pain is
communicated is personalized to each individual. Yates, et al. (1998), discussed that although men and women are experiencing the same level of pain, women overall were less willing to ask for management of their pain compared to men.

Treating pain is a priority with patients in the hospital. There is no objective way to measure pain. If a patient is describing their pain level, the medical staff needs to understand and treat the pain that the patient is describing. This can be made more challenging when working with patients that may not have the verbal skills to express their pain, such as with babies or patients that are unconscious. (McQuay, Moore & Justins, 1997). This has been also been found true in the emergency room. Baharuddin, Mohamad, Rahman, Ahmad & Him (2010), compared the pain scores that the patient indicated while at triage and what the emergency healthcare providers believed the patient’s pain score was based on their observation of the patient. The results demonstrated that the staff indicated the pain score for the patient to be significantly lower than what the patient indicated their pain to be.

Pain management is an important component of the emergency room; it not only affects the patient and their comfort level but also their perception of their stay in the emergency room. Downey & Zun (2010) found that patients that were given treatment for their pain when they arrived at the emergency room and had their pain decreased significantly, had increased distress relief, had more rapport with their doctor, and were more likely to comply with instructions given to them.

Music Therapy and Pain Management

Music therapy has been used to assist with pain management in a variety of environments and ages in the medical setting. This includes using music therapy before, during, and after surgeries or other procedures and include a variety of techniques. Michel and Chesky (1995) analyzed the techniques that were used by music therapists when managing pain. Overall, 41% use music for pain relief, and 59% don’t use music therapy for pain relief. Of those using music, 75% used both patient preferred music and therapist selected music was used. Only 25% used only patient preferred and 24% used only therapist-selected music. Ninety-five percent used music for relaxation with their patients in pain, 91% used music as distraction, 75% used music to alter patient’s mood,
52% used imagery, and 43% used guided imagery. This study also determined that the most popular population to use music therapy for pain relief with the elderly.

Having music therapy services during a procedure to reduce pain was studied by Bechtold, Perez, Pull & Marshall (2007) with patients that were undergoing outpatient colonoscopies. There was no significant difference between the control and experimental groups in terms of the amount of pain management medicine they were given, the procedure time, insertion difficulty, adequacy of sedation, and their pain experience. Although there was no significant difference, the patients that received music during their procedure had a higher patient satisfaction than the control group.

Music therapy has also been used after surgeries or procedures have been completed. Good, Anderson, Ahm, Cong & Stanton-Hicks (2005), identified the techniques that were used to reduce pain after intestinal surgery. The four groups included a group with only a relaxation script (no music), a group with preferred music, a group with a combination of the music with a relaxation script, and a control group. The researchers tested ambulation and rest on the first two days after the surgery. After the intervention was administered, 70% were asleep. Twenty-seven percent of the participants used music to relax, and 21% used music to distract from the pain, and 52% used music for relaxation and distraction from the pain. The results indicated there was 16-40% significantly less pain post-test in the intervention groups than in the control group. After the study was complete, 86% from the group that used the music and relaxation script said that they would use the recording again for another surgery and 94% would recommend the intervention to others.

Dunn (2004) reviewed the literature with post-operative pain and determined that there was an inconsistent response to using music to assist in decreasing pain. Although there were inconsistencies in the research overall, the patients’ experience of listening to music was positive, distracting the patients from the pain and increasing comfort.

Although pain reduction may not always be achieved, patient satisfaction is a quality that every hospital strives for. When using music for pain relief with patients with musculoskeletal trauma there was no significant difference between using standard care for pain (included ice, elevation, and immobilization), standard care and ibuprofen, and standard care and music. Nevertheless, the music did affect patient satisfaction and
every patient that received music expressed the desire to listen to music at all future visits (Tanabe, Thomas, Paice, Siller & Marcantonio, 2001). Taylor, Kuttler, Parks & Milton (1998), performed research to determine if music was effective in decreasing pain with women who had abdominal hysterectomies immediately after the procedure. Participants were split up into three groups consisting of patients who brought their own recorded music, those with headphones (no music), and the control group. Participants were asked to rate their pain every 15 minutes post-operatively. The results indicated that there was no significant difference between the three groups, although, most patients that used music mentioned that they enjoyed the music and it was helpful post-operatively.

Locsin (1981) used preferred music to assist in decreasing pain within the first 48 hours after surgeries with gynaecologic or obstetric patients. There was a significant difference between the patients that used music post-operatively 48 hours after their procedure, but there was no significant difference in reported pain after the first 24 hours. There was also no significant difference on amount of pain medications that were used.

Allred, Byers & Sole (2010) studied the effects of listening to music compared to a quiet rest period before and after the patient’s first ambulation after surgery. Although there was no significant difference immediately after ambulation, there was a significant difference in pain and anxiety over time with the music group compared to the control group. Bally, Campbell, Chesnick & Tranmer (2003) researched using self-selected recorded music before, during, and after a coronary on pain and anxiety. The results indicated that there was no significant difference in pain or anxiety after the procedure.

Music in the Emergency Room

The emergency area waiting room is one such area that lends itself to be studied as to the effectiveness of music therapy and those waiting to see a Doctor. The emergency room does not allow appointments, it is walk-in only unless one is brought in through an ambulance. Sitting in the waiting room for many hours can become stressful, and patients may become frustrated and irritable while waiting for care. Fottler & Ford (2002) discuss the ways emergency departments can manage the wait time for their patients. One way they mention, is improving the waiting area. Waiting is inevitable in the emergency room, so making it a comfortable area for patients and their families helps make the waiting more tolerable. Aversive ambient noise is something that is found in
the waiting room when there is no music present; there is coughing, talking, whispering and many other sounds that are in the environment (Wagner, 2009). Reducing this is recommended.

According to Press Ganey (2010), in 2009 people on average spent 4 hours and 7 minutes waiting in the emergency room. The time that a person spends in the waiting room has a major impact on a patient’s complete emergency room visit. Wellstooda et al. (2005) learned that the most common complaint that patients have about their emergency room visit was that the wait was too long. Due to the time that a person waits, the level of stress may begin to exist or increase.

The majority of the research done on the effects of music in the emergency room has been performed using recorded music rather than live music. Tansik & Routhieaux (1999) had a professor of psychiatry that was an expert on music and relaxation techniques, chose the recorded music that was played in the emergency room waiting room to increase relaxation. The results indicated that the patients listening to the recorded music in the waiting room had decreased stress and increased relaxation compared to the control group. Despite the fact that there was an increase in relaxation, there was no significant difference in the overall satisfaction of the patients’ emergency room experience.

There are numerous techniques that can be utilized in the emergency room to achieve goals, such as increasing relaxation. Although the research has focused more on recorded music, Hatler (1998) discussed how guided imagery can assist in increasing relaxation and help patients deal with the stresses of being in the emergency room. Hatler mentions how guided imagery can be used when a patient has an increased blood pressure, increased heart rate, and muscle tension. By using guided imagery there are no side effects, compared to giving someone some medication for their symptoms. Also, Dillard & Knapp (2005) described how using complementary and alternative therapies such as meditation, guided imagery, breathing exercises, or massage for a patient that is in pain, is a cost effect way to assist with a patient’s pain in the emergency room.

Holm & Fitzmaurice (2008) compared the effects of having aromatherapy and music in the emergency room waiting room and the anxiety level of patients. The
researchers found that the recorded background music had more of an impact on decreasing anxiety than aromatherapy.

Not only has music been studied with the patients in the emergency room, it has also been studied with the medical staff in the emergency room. When having recorded classical music playing in the emergency room for the professionals, 78% noticed a difference in the atmosphere when the music was playing. 48% believed that the music altered their performance; 85% believed that it altered their performance in a positive way and 15% felt it altered their performance in a negative way. When a survey was given to determine if the music should be kept, 96% said that the music should continue to be played and of the 96%, 76% indicated that there should be a variety of genres. (Gatti & da Silva, 2007).

In order for music therapy to be utilized more in the medical setting, the staff should be educated on what music therapy is and the appropriate referral for a patient needing music therapy services. A survey was given to ten emergency departments in the southeastern region of the United States to determine their knowledge of complementary therapies (which included music therapy in this study) and how often they refer patients for these therapies. The results indicated that back rubs or massage, music, and spiritual prayer were the most used complementary therapies. According to the survey, 70% of the staff wanted to learn more about these therapies and appropriate referral criteria (Taylor, Lin, Audrey, Snyder & Eddleston, 1998).

Music with children has been used effectively in the emergency room. The studies conducted with children have used music during procedures. Having recorded music and having the child listen to the recorded music during their procedure was preferred by children in the emergency room. The family also indicated that they appreciated having the recorded music for their child during the procedure (Young, Griffin, Phillip & Stanley, 2010). Additionally, Sinha, Christopher, Fenn, & Reeves (2006) researched the effects of using music and other nonpharmacological methods for pain and anxiety management during laceration repair in the emergency room. Sixty-three percent of the older children chose to use music as a distracter during their procedure when given a choice between using recorded music through headphones, video games, cartoons, bubbles and books. Barton (2008) studied music therapy and anxiety
and pain during invasive and non-invasive procedures with pediatrics in the emergency room. The results indicated that with these children there were no significant differences between the control and experimental groups. Although, 100% of patients and their families mentioned enjoying the music therapy services, 100% felt that music therapy improved their perception of the hospital, and 100% of the participants mentioned that they would like to receive music therapy services again if they ever returned.

The aim of this study is to determine if there is a significant difference between pain and anxiety scores before and after music therapy and to describe the techniques and positive effects of using music therapy in the emergency room to decrease pain and anxiety.

This thesis is divided into two main sections: an experimental pre/post comparison of pain, anxiety, comfort and quality of care for patients exhibiting those symptoms and a clinical description of other patients treated.
CHAPTER 3
METHOD

Experimental Study

Setting

Data were collected at a regional hospital in North Florida with an emergency center that opened in 2003 with 53 treatment areas. Patients of all ages and with a variety of medical conditions visit this emergency room. This includes patients with pain, anxiety, diagnostic treatment procedural requirements, vomiting, nausea, diarrhea, etc.

The emergency room is separated into 3 units and patients are assigned a number (1-4) based on the severity of their symptoms. If a patient is assigned a number one, they are in need of immediate assistance perhaps even in a life and death situation. Numbers two and three are patients that are seriously sick and require medical attention (such as patients with abdominal or back pain or Sickle Cell Disease pain). Patients who are determined to be a four are less severely ill such as patients who have stomachaches or are having nausea and diarrhea. Once the nurses in the waiting room have assigned the patient a number, the medical staff bring the patient back to the appropriate unit and place the patient into a room.

The three basic units in the emergency room are divided by function. The first unit serves patients that have been brought into the emergency room by emergency vehicle or that have severe symptoms. This unit is next to the trauma bay where other patients are brought if they require immediate attention. The second unit is designated for patients that have more moderate symptoms, and the third unit consists of patients that are in need of a procedure; this may include staples or stitches. The third unit admits patients that most commonly have broken bones and require x-rays and procedural support.

Design

This study was a pre/post comparison on self-report of pain, anxiety, comfort and quality of care (N=30).
Experimental Participants

Thirty participants, including women (n=22) and men (n=8) who had the symptoms of pain or anxiety as determined by self-report participated in this study. Obtained Tallahassee Memorial HealthCare (Appendix A) and Florida State University (Appendix B) IRB (Institutional Research Board) approval. Participants were referred to the music therapist (verbally) by the medical staff in the emergency room. Criteria for inclusion were that the participants were over the age of eighteen years old, were not confused or disoriented, and were able to read and understand the consent form as well as the pre and post-test procedure.

The following table identifies the three key factors in the participants who participated in the study:

Table 1: Patient Demographics-Gender, Age and Objective

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Experimental Procedure

When medical staff gave a referral for music therapy the researcher entered the patient’s room and informed the patient that he/she had been suggested for the music therapy study due to symptoms of pain or anxiety. The researcher asked the patient if he/she would like to participate and gave the patient a consent form to sign (Appendix C). Then the patient filled out a pre-test (Appendix D). Researcher then used live music therapy techniques that included: playing patient’s preferred music for distraction or relaxation using the iso-principle (matching the patient’s energy level and slowly bringing patient down to a lower level of pain and anxiety), or playing continuous instrumental music while verbally giving relaxation and breathing cues. After 20 minutes of music therapy, the participant was given a pen and asked to fill out a post-test (Appendix E) to determine if music therapy assisted in decreasing pain or anxiety.
Experimental Results

Data were collected from 32 (N=32) participants. Two participants were not given post-tests due to the patients being required to leave to go to medical tests and their 20-minute session could not be completed. Therefore, two participants were excluded from this study and only 30 (N=30) participants’ data were analyzed.

The first analysis performed was between the pre-test and the post-test of the participants' pain scores. A t-test was used to analyze that data with an alpha = .05 (t=4.67, d.f. = 58, critical value of t = 2.00). The results indicated a significant difference in the reduction of the participants’ pain scores before the music therapy session and then after the music therapy session. The mean pre-test score was 7.58 and the mean post-test score was 6.05 on a score of 0-10 with 0 being no pain and 10 being extreme pain.

The second analysis performed was between the pre-test and the post-test of the participants' anxiety scores. A t-test was used to analyze that data with an alpha = .05 (t=.62, d.f. = 58, and the critical value of t = 2.00). No significant difference was found between the patients’ anxiety score before music therapy and after music therapy. The mean pre-test score was 4.67 and the mean post-test score was 4.06.

The third analysis performed was between the pre-test and the post-test of the participants' comfort score. A t-test was used to analyze that data with an alpha = .05 (t=3.51, the d.f. = 58, critical value of t = 2.00). There was a significant difference in the improvement of the participants’ comfort score before the music therapy session and then after the music therapy session. The mean pre-test score was 4.8 and the mean post-test score was 6.58.

Lastly, the fourth analysis performed was between the pre-test and the post-test of the participants' quality of care score. A t-test was used to analyze that data with an alpha = .05 (t= .88, the d.f. = 56, and the critical value of t = 2.00). No significant difference was found between the patients’ quality of care score before music therapy and after music therapy. The mean pre-test score was 7.97 and the mean post-test score was 8.24, indicating a slight increase in quality of care although it is not significant.

When asked, “Do you feel that the music therapy service affected your visit to the emergency room in a positive way?” the average answer was 9.31 (on a scale from 0-10).
The average answer when asked about the effectiveness of the music therapy service on decreasing the participant’s pain or anxiety, the average was 7.72 (on a scale from 0-10). When answering the question if “If you needed to return to the emergency room, would you request music therapy services?” 100% of the participants answered “yes.”

**Experimental Discussion**

The effectiveness of music therapy was evident in the significant findings in the decrease of the pain scores. Since pain is one of the key symptoms patients have when they arrive at the emergency room, a significant reduction in this score indicates the impact of the music therapy session. Music therapy also had a significant effect on the comfort of the patient. The significant increase in the patient's comfort between the start and finish of the music therapy session helped to make a positive difference in their emergency room experience.

There was no significant difference in anxiety or quality of care, despite an overall decrease in the score for anxiety, and increase in the quality of care score. The fact that there was not significant difference in these scores could be a result of a variety of factors. One factor is that the majority of referrals were for pain management, and not necessarily anxiety; therefore, there would be no significant decrease in anxiety because the patient may not have had much anxiety in the beginning of the session. In fact anxiety pre scores this.

There were many treatment components that the music therapist had no control over when working with the patients. This included the number of interruptions from staff. Although the music therapist never stopped the music, the interruption of having staff enter the room to change fluid, observe a patient’s wound, or even just enter the room to drop off materials for a procedure that may be happening later, caused the patient to move their focus away from the music and onto the medical staff even. Another difficulty was the timing of the sessions. When the music therapist received a referral, she had to wait until the staff determined an appropriate time to see the patient. For example, if the patient was admitted and was going to receive an x-ray or a CT scan, the music therapist could not start the session until the patient returned to their room. During that time, the patient may have received pain medication from the medical staff; therefore, when the timing of the music therapy session was appropriate, the patient was
no longer in pain and as a result, was not included in the study.

All of the patients indicated that if they returned to the emergency room, they would request music therapy services. Even though none of the patients had ever participated in a music therapy session in the emergency room before, they were not opposed to being exposed to the experience, and as a result became educated about that service the hospital had to offer. Even the patients that did not demonstrate a difference in their pain or anxiety score, still indicated that they would like to receive services again. This universal desire from every participant to want music therapy services if they ever needed to return to the emergency room, is an important fact that emphasizes the value that the patients placed on their music therapy session.

The comments that were received on the post-tests, were all positive. Some comments included, “Excellent, hire her!,” “I felt better when I listened to the music,” “The music was very relaxing and it really helps to reduce pain. Thanks so much!,” “Made me feel a lot better,” “It took my mind off of the pain. It helped relax me very much,” and “I love music therapy. Very happy.”

Overall, music therapy was an effective intervention for the emergency room because it decreased pain and increased comfort. The majority of the patients that participated in this study were given a music therapy session within the first hours of being admitted to the emergency room. These data support the recommendation that having a music therapist provide music therapy services within the first few hours of a patient's arrival helps the patient feel more comfortable.

There are numerous music therapy research questions for further study of treatment in the emergency room. One might want to explore the use of live music therapy with family members of patients that have been admitted by ambulance. Due to the high stress level of the emergency room, that stress can also be felt by the family members of the patients, especially those arriving by ambulance. Using music therapy services during the time while these family members wait to speak to a medical professional about the status of their loved-one, might help reduce stress and provide family support. Another area for additional research would be to provide music therapy in the emergency room waiting room to assist with decreasing pain or anxiety and to increase the patient’s quality of care. Patients may be in the waiting room for hours
waiting to see a Doctor; music therapy could be there to assist in making the patient feel more comfortable before they are admitted.

Other Clinical Music Therapy Services

Attendance

Through the course of collecting the data for this thesis, the music therapist was in the emergency room for a total of 18 days. The music therapist went to the emergency room 2 times a day, once in the morning from 9:00am until noon, and then from 3:45pm until 6:30pm Monday through Friday. The majority of the referrals were obtained in the afternoon after 4:15. This was usually due to patients arriving after work or bringing their children after school. In the morning, the majority of the patients were patients that had been admitted to the emergency room in the middle of the night, and many patients were asleep when the music therapist arrived.

Materials

The study focused primarily on adults who were experiencing pain or anxiety, although staff made referrals for patients that did not meet that criteria but could benefit from music therapy, and this included children. The music therapist was in the emergency room with a guitar, notebooks full of songs from different genres, and instruments. Since the music therapist did not have an office or a place to keep the instruments, the instruments needed to be small enough to fit in the guitar case or into the bag with the music. The instruments and other materials included: shakers, bubbles, cabasa, maraca, small books and scarves.

Participants

The total number of participants that were seen over the course of the 18 days was 68 people. The referrals distributed were: 94 from nurses, 6 from medical doctors, and 1 from a physician assistant. There were 5 attempts, 28 refusals and 68 patients that were seen. The following table breaks down the reasons for the referrals and the amount for each.
Table 2: Categorization and Number of Referrals

<table>
<thead>
<tr>
<th>Referral Reason</th>
<th>Number of Referrals</th>
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<td>Pain</td>
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<td>Anxiety</td>
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<tr>
<td>Procedural Support</td>
<td>6</td>
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<td>Mood</td>
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<td>Confusion</td>
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<td>Relaxation</td>
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<tr>
<td>Stimulation</td>
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<td>End of Life</td>
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<td>Communication</td>
<td>1</td>
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<tr>
<td>Agitation</td>
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</tbody>
</table>

Procedures

The greatest number of referrals for procedural support was for working with children (under the age of 17 years old) and adults who were confused. The procedures that the music therapist assisted in were difficult IV starts and procedures that the patients were anxious about. Music therapy protocols included.

Sometimes, a standard music therapy protocol was used in a unique medical treatment. One specific procedure that was referred to the music therapist by a medical doctor was a lumbar puncture with an 8-year-old child. The doctor had seen the music therapist provide procedural support before and believed that the music therapy would assist in distracting the anxious patient during the procedure. The procedure could be performed with sedating the child, or it could be performed using standard anesthesia. After the procedure was completed (it was performed with minimal sedation), the doctor indicated he was very happy with the speed of the procedure as it was completed much faster than usual with the music therapy adding a distraction. The doctor then mentioned that having a music therapist present during the procedure saved the hospital a large amount of money because they did not have to completely sedate the child, which is common in a lumbar puncture. After the doctor saw music therapy in action during a lumbar puncture, the music therapist was called to provide procedural support in other
procedures as well.

**Referrals**

When the music therapist entered the emergency room, she made rounds at each of the units, including the waiting room. This included going to each of the units (3 units total) and asking the medical staff if there were any patients they felt would be appropriate for music therapy services. The music therapist then listed the goals and objectives that would be an appropriate referral, such as working with patients that were in pain, experiencing anxiety, needing assistance in coping, family support, increasing the quality of care or mood, or procedural support.

All of the referrals were given verbally to the music therapist and she then went to the room to facilitate the music therapy session. The music therapist introduced herself to each patient, explained who she was (a music therapist at the hospital) and who gave her the referral (which medical staff felt that music therapy would be appropriate). If the patient agreed to the session, the music therapist would lead a session for the patient. If the patient refused services, the music therapist would document that in the documentation system through the hospital. When a patient was not in their room, was sleeping, or unavailable at the time (in the restroom, speaking to medical staff, not in the room), the music therapist would return at a later time to talk with the patient; this was considered an attempt. Every attempt, refusal, or complete session was documented on the computer system through the hospital and put into the main census for the patients in the music therapy department.

After going to each of the units, the music therapist would go out into the waiting room and ask the staff who were checking-in patients if there was anyone they felt would benefit from music therapy. The session was usually done one-on-one in the waiting room and was documented appropriately.

The more the music therapist was in the emergency room, the more the medical staff approached the music rather than the music therapist approaching the staff. The music therapist also received more referrals from the medical staff who had seen the music therapist in a session and experienced the positive effect of the music therapy than the staff who had never seen a music therapy session in the emergency room.
Case Studies of Emergency Room Music Therapy

Case Study #1

Pinpoint:

Patient was a 55-year-old woman who has continuously been to the emergency room for pain management and was accompanied by caregiver. The patient’s nurse gave music therapist the referral for music therapy services for pain management.

Record:

When music therapist entered room, patient appeared to be in pain as evidenced by patient grimacing and holding onto bed sheets. Patient stated that pain score was an 8 at the beginning of the session. Patient’s heart rate was very high and never stabilized while talking with the music therapist.

Consequate:

The music therapist asked patient what their preferred music was and patient mentioned music from the 60’s and 70’s. While keeping the 60’s and 70’s music continuous, the music therapist also included phrases for relaxation, including, “continue to take deep breaths, relax, and listen to the music.” The music began with a simple strumming pattern, and then went into picking while keeping the music’s tempo consistent. If the patient opened eyes, the music therapist would go back to strumming, and then would return to picking once the patient closed their eyes again. This continued throughout the entire 20-minute session.

Evaluate:

The moment that the music therapist began to sing and play, patient’s heart rate stabilized; although it was still high, it was not fluctuating. When the music therapist gave the initial comment to, “Relax and listen to the music” at the beginning of the session, patient closed eyes and appeared more relaxed as evidenced by the patient taking deeper breaths and letting go of the sheets that patient was holding onto at the beginning of the session. Staff entered the room three times throughout the session and patient never opened eyes or acknowledged staff that entered room to change fluid and

22
medication. At the end of the session, patient stated that music was extremely beneficial in reducing pain and taking her mind off of the pain. She also stated that she wasn’t aware of the music therapy service that was offered and would request services again if she ever needed to return to the emergency room. At the end of the session, the patient stated that pain was a 5.

Case Study #2

Pinpoint:

Patient was a 50-year-old woman who had been brought to the emergency room due to medical problems with legs. The patient’s nurse gave music therapist the referral for music therapy services for anxiety management.

Record:

When music therapist entered room, patient appeared to have anxiety as evidenced by the patient consistently calling for the nurse to ask questions about medical treatment that had already been explained to the patient earlier. Patient was sitting up in the bed and looking out the door of room. Patient stated that anxiety score was a 10.

Consequate:

The music therapist asked patient what their preferred music was and patient mentioned 50’s music, especially Elvis. Before each song, the music therapist asked questions about the artist and asked trivia questions about the artist, such as asking if patient knew where Elvis was from and what his signature sandwich included. The music therapist then sang a song that Elvis had sung and encouraged the patient to sing along and to listen carefully to the lyrics. After the song, the music therapist asked specific questions that would be found in the lyrics to focus the attention on the lyrics and not on patient’s anxiety. The music therapist followed this schedule of discussing the artist, singing the song, and asking questions about the song for the 20-minute session.
Evaluate:

Patient responded positively to the music therapy as evidenced by the patient lying down in the bed. When the music therapist began asking questions about preferred artist, patient laid down in bed instead of sitting up and staring out the door. When medical staff did enter room to change medicine or to reposition patient, patient did not ask any questions to the medical staff, but continued to sing with the music therapist and answered questions about the music. The patient indicated at the end of the session that anxiety had decreased to a 5 and that she “really appreciated the music therapy.”

Case Study #3

Pinpoint:

Patient was a 53-year-old male who was admitted to the emergency room with possible kidney stones and severe abdominal pain. The patient’s nurse gave the referral to the music therapist directly after patient was brought back from the waiting room into his own room before given any pain medication. Family member accompanied patient.

Record:

When the music therapist entered the room, the patient appeared to be in pain as evidenced by the patient leaning forward and holding stomach, grimacing, taking short breaths and sitting up in the bed. Every few minutes, the patient would stand up and continue to hold stomach and grimace and then return to sitting on the bed. The patient indicated that pain score was a 10 and would, “Try anything to help with the pain.”

Consequate:

When the music therapist asked what patient’s preferred music was, patient mentioned not caring what the music was, he just wanted something to make the pain go away. When the music began, patient was standing up and holding stomach and grimacing. The music therapist used the iso-principle with the patient to assist in decreasing the pain. The session began with playing 70’s music at a louder volume and using a more complicated strum pattern. The music therapist matched the tempo of the music to the breathing pattern of the patient, which was faster. After about 5-7 minutes,
the music therapist continued to play continuous music from the 70’s and began to slow
the tempo of the music. Patient’s breathing began to slow down and the music therapist
matched the tempo of the music to his breathing, keeping the music continuous. After
another 10 minutes, when the patient’s breathing had become slower, the music therapist
then changed the musical style to picking on the guitar and singing. For the last 5
minutes, the music therapist continued to pick the guitar and sang 70’s music.

Evaluate:

Patient responded positively to the music as evidenced by the patient slowly
decreasing behaviors that indicated pain. At the beginning of the session, while the
patient was standing up, the patient would make eye contact with the music therapist and
nod to the beat of the music. When the patient sat down on the bed, the patient appeared
more relaxed listening to the music by the patient taking his hands off of his stomach and
placing them onto the bed and taking slower and deeper breaths. When the patient laid
down on the bed, the patient appeared the most relaxed, as indicated by the patient
tapping his toes to the music and closing eyes. At the end of the 20-minute session, the
patient stated that the music was very helpful and that pain had decreased to a 4. The
patient also mentioned that although the pain didn’t go away completely, it took his,
“Mind off of the pain and onto the music.”

Response from Patients

The emergency room patients have not only benefited from music therapy by
having a music therapy session, but the staff and patients are more educated about music
therapy and the service it provides to the hospital. Some patients admitted to the
emergency room are then admitted to the main hospital for further tests and to be
observed for a longer period of time. Three of the patients that were seen by the music
therapist in the emergency room and then admitted to the main hospital took the initiative
to ask their own nurse in the main hospital for music therapy based on their session in the
emergency room.

Staff members in the emergency room have asked specifically about music
therapy research and gave more appropriate referrals after being educated by the music
Clinical Recommendations for Music Therapy Emergency Room

After working in the emergency room, I feel that there is a need for a music therapist to be on staff in the emergency room. Although this study focused on pain, anxiety, comfort and quality of care there are other areas where music therapy can be effective in the emergency room. This could include staff wellness and team building. Due to the high stress level and intensity of the emergency room, having wellness music therapy sessions would be beneficial for the staff that works in that environment. Another area that can be focused on would be playing music in the waiting room to manage pain before being admitted to the emergency room. Lastly, providing music therapy during more procedures and immediately after patients have been brought in by ambulance would be an effective use of music therapy in the emergency room.

If one is looking to begin a music therapy program in the emergency room, here are some suggestions to think about when implementing a new program. The first step that needs to be performed, even before the music therapist starts providing services, is to schedule an in-service with the staff of the emergency room. The in-service is helpful because it allows the music therapist to educate the staff about the services that music therapy can provide, to inform them about the current research being done in the area of music therapy, and to discuss the referral process so that patients can receive music therapy. Once the music therapist is working in the emergency room and seeing patients, it is recommended to keep open communication with the staff to ensure that the staff is satisfied with the music therapy services and to see if there is anything the music therapist could be doing differently to help make the jobs of the emergency room staff run more smoothly.

Referrals are an important component of the music therapy services in the emergency room. It is important to work closely with the staff to determine the best method for the music therapist to receive referrals. For example, in the present study the best way to receive referrals in the emergency room was for the music therapist to be paged over the loudspeaker. This allowed the music therapist to meet the medical
professional to discuss the referral. In other settings, it may be more effective to receive referrals from medical staff via pager, phone, fax, or e-mail.

In the present study, as has been noted by other music therapists performing procedural support, the most successful music therapy sessions occurred when the music therapist was paged by medical staff well in advance, prior to the procedure. This was effective because the music therapist was able to meet with the patient before the procedure began, and build rapport with the patient. There were times when the music therapist was asked to enter the room when a procedure had already begun. When this situation occurred, if appropriate, the music therapist would ask the medical staff to have a few minutes to perform a few brief music activities with the patient to help them feel more comfortable in the room with the music therapist. After these activities, the procedure would begin again with the music therapist providing procedural support. When permitted, this process was found to be very successful. Also, when performing procedural support with young children, musical instruments and toys were used frequently for distraction and to refocus the attention of the child. When providing procedural support with adults, fewer instruments were used and the music therapist used primarily the guitar and their voice to distract the patient.

Location is an important component of providing music therapy services in the emergency. Visibility of the music therapist is an important factor in how referrals are acquired. When the music therapist is seen by the staff, it is a physical reminder that they are there, and available for referrals. The optimum situation would be for the music therapist to have their own office in the emergency room. While obtaining an office for a music therapist may be difficult, having a location such as a locked closet in which to store music therapy materials may be easier to obtain, and would be very beneficial. With a locked storage area, a large variety of instruments and music books could be safely kept and easily accessed by the music therapist. A list of instruments might include drums, tambourines, a xylophone, vibratones, shakers, cabasas, ocean drums, rainsticks, boomwhackers, and small wooden percussion instruments. Other materials could include books, puzzles, and animal puppets. By having the materials stored in the emergency room, it allows the music therapist more efficient use of their time and energy. If an office is not an option, a location for post-treatment documentation is also necessary. At
the minimum, access to a computer is crucial in order for the music therapist to document appropriately, although a computer specifically designated for the music therapist would be ideal. This would better ensure confidentiality of patient information and make documentation faster, allowing the music therapist to see more patients.

Documentation is an important part of being a music therapist. This is a way for the music therapist to document what happened in the session and how the patient responded so that other professionals can read it. At Tallahassee Memorial HealthCare, a computerized documentation system is used to document instances in which the music therapist had a session with the patient, attempted to see the patient but found that music therapy was not appropriate, or attempted to see the patient and the patient declined music therapy at that time. In addition to the computerized documentation, a daily census was kept to track the patients who were referred to the music therapist. This was only used and seen by the music therapists. The census was completed each day and the music therapist would write each patient’s name, goals, music preference, and other important information. This was beneficial because the music therapists could monitor patients they had seen previously and easily access their basic information.

From the author’s experience in conducting this study, a full-time music therapist working on weekdays from noon until 8:00 pm would be the most beneficial to the emergency room. This schedule is recommended because it can benefit the most patients, as there are typically more patients seen by the music therapist during afternoon and evening hours. Having a music therapist in the emergency room would make a strong impact on many patients and families who are undergoing a very stressful situation. In addition, it would expand music therapy to positively influence and educate more medical staff and patients about the powerful effects of music therapy. Emergency room music therapy is a growing field, and from this study music therapy is considered a beneficial component to patients in the emergency room. Once a patient has experienced a music therapy session in the emergency room, requests for music therapy services will become a the norm for emergency room visits.
APPENDIX A
HUMAN SUBJECTS APPROVAL FROM
TALLAHASSEE MEMORIAL HEALTHCARE
April 20, 2011

Brianna Negrete, MT-BC
3053A Black Timucua Circle

Dear Ms. Negrete:

Your study IRB # 2011-10 Titled: The Use of Music Therapy in the Emergency Room for Pain and Anxiety Management, Version 1 Date 4/4/11, met the criteria for review using the expedited review guidelines. On behalf of the Institutional Review Board (IRB) at Tallahassee Memorial HealthCare, Inc. (TMH) and in the role of Chairperson, the study and the supporting documentation were reviewed and approved pending modifications to the informed consent and Health Insurance Portability and Accountability Act (HIPAA) Compliance (Form 4c) form as indicated below on April 7, 2011. Please submit these amendments for consideration using the expedited review guidelines. Once the amendments are accepted the approval will expire April 6, 2012.

IRB # 2011-10

Intramural/Principal Investigator: Brianna Negrete, MT-BC
Co-Investigators/Key Personnel: Miriam Hillmer, MME, MT-BC, NICU-MT
Jayne Standley, PhD, MT-BC, NICU-MT

Informed Consent: Please modify to replace template information with study information, remove reference to Tallahassee Memorial HealthCare Human Subjects Protection Office, remove reference to insurance information since there is no billing associated with this study, add who to contact in writing to stop participating in the study, add an expiration date for the consent/authorization, and add how to contact the Florida State University IRB.

HIPAA (Form 4c): Please complete the form as you are accessing protected health information to conduct the study.

Protocol: Version 1 Date 4/4/11 Approved as is.

Other materials reviewed and approved: Pre-test and Post-test

Reporting Requirements:
• Report to the IRB any planned change in the study or informed consent and do not implement any change without receiving prior approval, except to eliminate immediate hazard;

FWA #00005166
Tallahassee Memorial HealthCare, Inc. Institutional Review Board is organized and operates according ICH-GCP standards and applicable laws and regulations.
- Report to the IRB any unanticipated problems involving risks to subjects;
- Report to the IRB any new information on the project that adversely influences the risk/benefit ratio;
- Report to the IRB any serious and unexpected adverse events;
- Report to the IRB any major protocol violations with in ten days. Minor protocol deviations may be reported at the time of the Study Progress Report (Application for Renewal). Maintain a log throughout the year and establish a plan of correction to minimize the deviations.
- Report to the IRB when the study is terminated or completed and submit a summary of the study findings.

Please request approval for advertising copy, recruitment flyers, publications, that appear in any medium prior to use.

**Supplemental Reporting Requirements:** None

**Expiration Date:** April 6, 2012

**Continuation Review Date:** April 6, 2012

**Continuation Review Requirements:**
At the time of renewal please check the Office of Research/IRB intranet site to ensure that you have the most current edition of the IRB Forms. The investigator must submit a completed Study Progress Report Application and supporting documentation packet to the Office of Research/IRB one month prior to the approval expiration date. Please note the expiration date to ensure timely review and processing of the study file prior to the study’s approval expiring. If you have any questions about the forms or submitting them, please contact Mary Sandell, Regulatory Readiness Coordinator at (850) 431-5676.

As the principal investigator you are responsible for ensuring compliance with the study protocol, the applicable IRB at TMH Guidelines and Code of Federal Regulations set forth by the Department of Health and Human Services. The IRB Guidelines and forms required to comply with reporting requirements are available on the TMH Intranet.

Enclosed are copies of the pre and post-tests which were reviewed and approved and have the IRB approval stamp for this year.

Sincerely,

[Redacted]

Larry C. Deeb, MD
Chair
APPENDIX B
HUMAN SUBJECTS APPROVAL FROM FLORIDA STATE UNIVERSITY
Office of the Vice President For Research  
Human Subjects Committee  
Tallahassee, Florida 32306-2742  
(850) 644-8673, FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 4/19/2011

To: Brianna Negrete  
Dept.: MUSIC SCHOOL

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research  
The Use of Music Therapy in the Emergency Room for Pain and Anxiety Management

The application that you submitted to this office in regard to the use of human subjects in the research proposal referenced above has been reviewed by the Human Subjects Committee at its meeting on 04/13/2011. Your project was approved by the Committee.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 4/11/2012 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major
professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is FWA00000168/IRB number IRB00000446.

Cc: Jayne Standley, Advisor
HSC No. 2011.6153
Informed Consent Form

Title of Project: Use of Music Therapy in the Emergency Room for Pain and Anxiety Management
Principal Investigator: Brianna Negrete, MT-BC

Participant’s Printed Name: ____________________________

This is a research study. Research studies include only people who want to take part. This form gives you information about this research, which will be discussed with you. It may contain words or procedures that you do not understand. Please ask questions about anything that is unclear to you. Discuss it with your family and friends and take your time to make your decision.

1. Purpose of the Research:
The purpose of this study is to determine the effectiveness of music therapy in the emergency room to manage pain and anxiety. You are invited to be in a research study focusing on techniques and effectiveness of using music therapy to assist in managing pain and anxiety during your visit to the emergency room. You are being offered the opportunity to take part in this research because a symptom that you mentioned for coming to the emergency room was either pain or anxiety. There will be approximately 30 people participating in this study.

2. Procedures to be Followed:
After you have given consent to participate in the study, the principal investigator will ask you to fill out a pre-test. The Principal Investigator will then use live music therapy techniques that will include playing participant’s preferred music for distraction or relaxation using the iso-principle (matching the patient’s energy level and slowly bringing patient down to a lower level of pain and anxiety), or by playing continuous instrumental music while verbally giving relaxation and breathing cues.

After 20 minutes of music therapy, you will be asked to fill out a post-test to determine if music therapy assisted in decreasing pain and anxiety. You are free to skip any questions on the pre or post test that you would prefer not to answer.

3. Discomforts and Risks:
There are no foreseeable risks for participating in this study.

4. Possible Benefits:
a. Possible benefits to you:
The possible benefit you may experience from the music therapy described in this research includes receiving the opportunity to potentially decrease pain and anxiety during your time here in the emergency room.

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b. Possible benefits to others:
Participation in this study may benefit others by expanding the knowledge of music therapy and providing information on the use of music therapy in the emergency room for pain and anxiety management.

5. Other Options that Could be Used Instead of this Research:
You do not have to take part in this research study.

6. Time Duration of the Procedures and Study:
If you agree to participate in this study, you will be provided with 20 minutes of a music therapy session. The pre-test before the session begins will take approximately 5 minutes and the post-test after the session will take approximately 5 minutes.

7. Statement of Confidentiality:
a. Privacy and confidentiality measures
Data will be collected on paper assessments. It will only be in possession of the Principal Investigator at all times during data collection and analysis process. The data will be kept in a locked cabinet at researcher's home. The researcher is the only one who will have access to the cabinet. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared. We will keep your participation in this research study confidential to the extent permitted by law. However, it is possible that other people may become aware of your participation in this study. For example, the following people/groups may inspect and copy records pertaining to this research.

• The Institutional Review Board at Tallahassee Memorial Healthcare, Inc. (a committee that reviews and approves research studies), and the Institutional Review Board at Florida State University.

Some of these records could contain information that personally identifies you. Reasonable efforts will be made to keep the personal information in your research record private and confidential but absolute confidentiality cannot be guaranteed.

8. Costs for Participation:
a. Costs:
There is no additional cost to you to participate in this study.

b. Treatment and compensation for injury:
Every effort to prevent injury as a result of your participation will be taken. It is possible, however, that you could develop complications or injuries as a result of participating in this research study. In the event of injury resulting from this research, medical treatment is available but will be provided at the usual charge. You will not lose any legal rights by signing this form.

9. Compensation for Participation:
You will not receive any compensation for being in this research study.

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10. Research Funding:
The institution and investigator are not receiving any funds to support this research study.

11. Voluntary Participation:
Taking part in this research study is voluntary. You do not have to participate in this research. If you choose to take part, you have the right to stop at any time. If you decide not to participate or if you decide to stop taking part in the research at a later date, please let Brianna Negrete know in writing at FSU, College of Music, Tallahassee, FL 32306-1180, there will be no penalty or loss of benefits to which you are entitled. The principal investigator may take you out of the research study without your permission. This consent and authorization expires upon completion of this study.

12. Contact Information for Questions or Concerns:
You have the right to ask any questions you may have about this research. If you have questions, complaints or concerns or believe you have developed an injury related to this research, contact Brianna Negrete. You may also contact her academic supervisor, Dr. Jayne Standley, at 850-644-4565 or jstandley@fsu.edu.

If you have questions regarding your rights as a research participant or you have concerns or general questions about the research, contact FSU Chair of the Human Subjects Committee, Institutional Review Board, through the office of the Vice President of Research, at (850) 644-8633 or the research protection advocate Cynthia Blair, Administrative Liaison/IRB, Tallahassee Memorial Healthcare, 850-431-5676. You may also call this number if you cannot reach the research team or wish to talk to someone else.

Signature and Consent/Permission to be in Research
Before making the decision regarding enrollment in this research you should have:
• Discussed this study with an investigator,
• Reviewed the information in this form, and
• Had the opportunity to ask any questions you may have.
Your signature below means that you have received this information, have asked the questions you currently have about the research and those questions have been answered. You will receive a copy of the signed and dated form to keep for future reference.

Participant: By signing this consent form, you indicate that you are voluntarily choosing to take part in this research.

Signature of Participant Date Time Printed Name

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**Participant’s Legally Authorized Representative:** By signing below, you indicate that you give permission for the participant to take part in this research.

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<table>
<thead>
<tr>
<th>Signature of Participant’s Legally Authorized Representative</th>
<th>Date</th>
<th>Time</th>
<th>Printed Name</th>
</tr>
</thead>
</table>

(Signature of Participant’s Legally Authorized Representative is required for people unable to give consent for themselves.)

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**Description of the Legally Authorized Representative’s Authority to Act for Participant**

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**Person Explaining the Research:** Your signature below means that you have explained the research to the participant/participant representative and have answered any questions he/she has about the research.

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<table>
<thead>
<tr>
<th>Signature of person who explained this research</th>
<th>Date</th>
<th>Time</th>
<th>Printed Name</th>
</tr>
</thead>
</table>

(Only approved investigators/research coordinators and those trained in obtaining research informed consent and familiar with this research may explain the research and obtain informed consent.)

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**Pre-Test**

Please circle, or fill in the appropriate answer:

Gender: Male Female

Age: _______

How long have you been in the emergency room (including the waiting room)? _______________

What is your current pain on a scale from 1-10:

(No Pain) 0 1 2 3 4 5 6 7 8 9 10 (Extreme Pain)

What is your overall comfort level in the emergency room on a scale from 1-10:

(Not comfortable) 0 1 2 3 4 5 6 7 8 9 10 (Comfortable)

What is your current anxiety level?

(No anxiety) 0 1 2 3 4 5 6 7 8 9 10 (High Anxiety)

How would you rate your overall quality of care in the emergency room?

(Low Quality of Care) 0 1 2 3 4 5 6 7 8 9 10 (High Quality of Care)

Comments:
Post-Test
Please circle, or fill in the appropriate answer:

Gender: Male Female

Age: ________

What is your current pain on a scale from 1-10:

(No Pain) 0 1 2 3 4 5 6 7 8 9 10 (Extreme Pain)

Currently, what is your overall comfort level in the emergency room?

(Not comfortable) 0 1 2 3 4 5 6 7 8 9 10 (Comfortable)

What is your current anxiety level?

(No anxiety) 0 1 2 3 4 5 6 7 8 9 10 (High Anxiety)

How would you rate your overall quality of care in the emergency room?

(Low Quality of Care) 0 1 2 3 4 5 6 7 8 9 10 (High Quality of Care)

Do you feel that the music therapy service affected your visit to the emergency room in a positive way?

(Not at All) 0 1 2 3 4 5 6 7 8 9 10 (Very Much)

How effective was music therapy in helping reduce your pain or anxiety?

(Not Effective) 0 1 2 3 4 5 6 7 8 9 10 (Extremely Effective)
If you needed to return to the emergency room, would you request music therapy services?

Yes  No

Comments:
REFERENCES


practitioners, and senior health service managers. *British Medical Journal, 309*(6964), 1261-1263.


Name: Brianna Johanna Negrete
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Education: California State University, Northridge
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Bachelor of Arts in Music Therapy
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Experience: Music Therapy Internship, Tallahassee Memorial HealthCare
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