Music Therapy with the Use of Gospel Songs in Reducing the Anxiety of Primigravid Mothers During the Third Trimester

Alyssa Rica Arandia Villanueva*, **Bernard Joseph Zubiri Villaflores and Maria Corazon S. Olayres, RN, MAN**

Stanford University Graduate School of Business, USA

***Corresponding author**
Alyssa Rica A. Villanueva, UST College of Nursing, University of Santo Tomas, Philippines, E-mail: alyssarica@rocketmail.com

Absract

Introduction: Pregnancy can place a woman's life into various instances that can induce anxiety. This anxiety can then cause serious complications that may occur throughout gestation. Hence, this study introduced music therapy as an intervention and evaluated its effectiveness in managing anxiety among third trimester primigravid mothers.

Method: A pre-test post-test quasi-experimental design was employed among 50 primigravid mothers in their third trimester of pregnancy that were divided into control (25) and experimental (25) groups. The experimental group received health education and music therapy that was given thirty minutes a day thrice a week for two weeks while the control group only received routine health teaching. Post-test anxiety was collected after two weeks for both groups. The Beck Anxiety Inventory (BAI), a 21-item standardized questionnaire with a Cronbach's alpha of 0.736 was used to measure the variables in the study. Power analysis showed a power of 1.00 with a large effect size of 2.08 at a= 0.05. Independent t-test, paired t-test, and analysis of covariance were utilized as measures to determine the effectiveness of the therapy.

Results & Discussion: The results showed a significant difference (p=0.0001) between the pre- and post-test scores of both groups. Furthermore, a significant difference (p=0.0001) was noted between the post-test anxiety scores of both groups. Music therapy especially containing gospel songs is an effective way in alleviating the anxiety experienced by primigravid women who are in their third trimester of pregnancy.

Keywords: Music therapy, Anxiety, Pregnancy, Prenatal.

Introduction

The links between mental health problems and maternal health are a major ground for concern as they directly or indirectly increase maternal morbidity and mortality as to the World Health Organization. An international research indicated that anxiety in perinatal women has a growing rate of approximately 25-45% compared to depression that was proven to affect 10-25% of women which was considered before as a major mental issue [1]. Mental health problems such as depression and anxiety are very common during pregnancy and after childbirth in all parts of the world. It was affirmed that one in three to one in five women in developing countries, and about one in ten in developed countries, have a significant mental health problem during pregnancy and after childbirth [2].

Anxiety is defined as an emotion distinguished by feelings of tension, worried thoughts, and physical changes which include an increase in blood pressure [3]. Anxiety in response to stress is certain in everyday life. Pregnancy can place women into situations which may induce anxiety. Through the course of pregnancy, a woman may feel agitated about the idea of bearing a child, but the stages of gestation itself also cause tension in the part of the

expectant mother. Pregnancy causes immense change in a woman's life that brings not only physical, but emotional and psychological deviations as well. A woman's attitude towards pregnancy relies a great deal on psychological aspects such as the environment in which she was raised, the messages about pregnancy her family communicated to her as a child, the society and culture in which she lives as an adult, and whether the pregnancy has come at a good time or less in her life.

Prasad identified that anxiety related to physical change, physiological change, outcome of pregnancy, and labor pains are more common in primigravid females which might affect the child care and proper development of the child [4]. Also, Parcells in 2010 indicated that high incidences of prenatal depression, anxiety, and stress happen during the third trimester [5].

Relapse of mental health in the mother has been associated with poor outcomes for the infant. It was found that maternal anxiety, particularly antenatal anxiety, significantly draws a relationship with the behavioral and emotional problems in children and was suggested that maternal anxiety may affect behavioral development in a child [6]. Past research findings were consistent in pointing to maternal anxiety as a risk factor for preterm delivery [7]. Also, anxiety caused by pregnancy was believed as one of the factors

leading to maternal mortality, both through adversely affecting physical health needs as well as more directly through suicide. As cited by WHO in 2008, the 1997-1999 Report of the Confidential Enquiries into Maternal Deaths in the UK identified psychiatric disorders and suicide in particular, as the leading cause of maternal death [2].

Mental health as an element of reproductive health has generally been unremarkable. The lack of attention it has received is untoward, given the significant contributions of both mental health and reproductive health to the global burden of disease and disability [8]. In order to prevent further problems caused by pregnancy-related anxiety, health care professionals have the responsibility to maintain the state of wellness a woman acquires throughout the pregnancy and into early parenthood. In line with this, a number of previous researches have been conducted to test the effects of medical and other complementary treatments to reduce anxiety. In a study conducted by Jeyanthi & Kavitha in 2008, it was suggested that relaxation therapies should be adapted to reduce the tension and fear of pregnant women and thus definitely decrease the level of anxiety and stress felt in pregnancy [9].

Mental preparation is important and must indeed be given to expectant mothers prior to their delivery. Few studies have proven that music therapy can positively affect the anxiety experienced during pregnancy. However, these studies only reported that music has been found to be effective for relieving anxiety of expectant mothers in the whole course of gravidity. No study has yet been reported whether this intervention can influence anxiety felt by primigravid patients during the third trimester of pregnancy specifically. Given this background, therefore, this study was conducted to evaluate the effects of introducing music therapy especially containing gospel songs as a nursing intervention in relieving the anxiety of primigravid women in their third trimester.

Research Impediments
The study determines the effectiveness of music therapy in the management of anxiety among third trimester primigravid mothers by means of utilizing control and experimental groups. The participants of the study were primigravid Filipino women on their third trimester with ages 18-35 years old who obtained Beck Anxiety Inventory (BAI) pre-test scores ranging from 10-63, indicating presence of anxiety.

The motivation of the participants and the environment where they received the intervention were considered as study limitations. In order to overcome these constraints, SMS reminders were sent to the participants to ensure compliance to instructions. The locations where the study took place may have affected the results of the study. To address this, however, no cultural differences were noted among the study locations. Lastly, the short length of study conduction and the limited number of respondents acquired were also considered as research limitations.

Significance of the Study
The study is significant to the following:

Pregnant women: The results of this study encourages pregnant women to consider music therapy as a strategy in reducing apprehensions encountered during pregnancy. This study also promotes improved quality of life and prevention of co-morbidities brought by pregnancy.

Healthcare team: This study can become a basis for suggestion and application of healthcare providers involved in perinatal management. Through the knowledge of the effect of music therapy, it can be a part of routine interventions rendered in pregnant women admitted in health care units. Furthermore, the materials used in this study can be utilized for dissemination to patients upon recommendation.

Nursing Administration: This study servea as a learning basis on the helpfulness of music therapy in reducing anxiety in pregnant women. Thereby, the findings of the study can aid nursing administrators in promoting the use of gospel songs for music therapy in obstetric facilities as a strategy for reducing anxiety levels of pregnant women through conducting programs and health instructions.

Nursing Education: The results obtained from this study contributes to the body of nursing education in the Philippines knowing that all the other studies that have been conducted concerning the effect of music therapy in reducing anxiety levels were all developed from foreign countries. With the conduct of this study, nursing students may be aware of the beneficial effects of music therapy and may be encouraged to render music therapy towards obstetric patients.

Nursing Research: This study can become a source and backbone of researchers in developing more comprehensive and explorative studies in the future. The results of this study can serve as their foundation for creating improved potential studies.

The Research Questions
This chapter entails the review of other literatures related to the study. In which, researches and information about pregnancy, anxiety, pregnancy-induced anxiety, effects of anxiety to pregnant women and unborn child, and music therapy specifically the use of gospel songs in reducing the anxiety in pregnancy were synthesized.

Anxiety
The definition of the term pregnancy anxiety is always anchored to the understanding of anxiety as a general term and its disorders. As to Keltner, Bostrom, & McGuiness, anxiety as a concept and process has been deliberated, defined, and described by many respected authors such as Peplau (1952), Sullivan (1953), Lazarus (1966), Levitt (1967), Beck and Clark (1997), and Aguilera (1998) [10]. Anxiety has been described as follows: 1) Participative experience that can be detected only by objective behaviors that result from it 2) Emotional pain 3) Apprehension, fearfulness, or a sense of powerlessness resulting from a threat that is less visible or definable than is fear that has a visible object or trigger 4)

Warning sign of perceived danger or threat 5) Emotional response that triggers behaviors aimed at eliminating anxiety 6) Alerting an individual to prepare for self-defense 7) Occurring in degrees 8) Contagious; communicated from one person to another, and 9) Part of a process, not an isolated phenomenon.

Anxiety in Pregnancy

Guardino & Schetter identified anxiety as a strong, negative emotional state that is accompanied by unease, worry, and unwanted intrusive thoughts [12]. It was held in the study that "pregnancy anxiety is an emotional state that is akin to state anxiety but distinct because it is specifically rooted in concerns among pregnant women in the context of their pregnancies." Dunkel Schetter defined pregnancy anxiety as a negative emotional state that which usually presents with worries about the health and well-being of one's baby, the imminent childbirth, and parenting role [13].

A study of Madhavanprabhakaran, Kumar, Ramasubramaniam, and Akintola in 2013 presented that the prevalence of anxiety varied according to the trimester of pregnancy with a moderate to severe prevalence rate during the third trimester. In the research, it was concluded that nulliparous pregnant women and those with high fear of childbirth had increased anxiety as well [14].

Effects of Anxiety on Pregnant Women and the Unborn Child

A literature review was conducted by Correia & Lenhares regarding maternal anxiety in the pre- and post- natal period. In the study, it was branded that the presence of high levels of maternal anxiety in the pre- and postnatal phase has been related with obstetric complications including vaginal bleeding and threats of abortion, and as to fetal development, it was identified that anxiety is related to differences in reactivity patterns and high heart rate, and with emotional and behavioral problems during childhood and adolescence [15]. In the research, it was affirmed that pregnancy-related anxiety creates negative impact on the mothers and on the development of their children.

Madhavanprabhakaran et al. conducted a study which aimed to identify the effects of pregnancy related anxiety on labor outcomes [14]. It was discovered in their study that pregnancy specific anxieties have an association with unplanned caesarian operations that were requested by the mothers. It was also discussed that anxiety also contributed to preterm birth.

Moreover, in a review of Dunkel Schetter & Tanner regarding anxiety, depression, and stress in pregnancy, it was concluded that anxiety is specifically associated with shorter gestation and has adverse implications for fetal neurodevelopment and child outcomes [13].

Music Therapy

The American Music Therapy Association defined music therapy as "an established health profession in which music is used within a therapeutic relationship to address physical, emotional, cognitive, and social needs of individuals." It was stated in their evidence-based practice support program regarding music therapy in mental health that specific outcomes such as reduced muscle tension, decreased anxiety/ agitation, enhanced interpersonal relationships, increased motivation, improved self-image, increased verbalization, and a successful and safe emotional release was obtained by the participants [16].

Complementary and alternative therapies are the most common choices for pregnant women attempting to avoid the side – effects associated with medications. Using music therapy to decrease psychological stress during pregnancy is therefore an appropriate alternative therapy [17]. With a background of modulating, expressing, or altering emotions, feelings and mood states, with the potential of a therapeutic effect, music was expected to create an impact in the field of psychiatry. Being a noninvasive intervention, music has been used in various forms that are just being used as a tool to provide a healing environment in a therapeutic setting, to its specialized use as a therapy, as in active music making and discussion [18]. A number of studies [17,19-22] have already been conducted to test the impact of introducing music therapy to pregnant mothers in different situations.

A selective evidence-based medicine review piloted by Wallace aimed to determine if music therapy can be a complementary treatment option for perinatal women having stress and anxiety [23]. In the said journal, the author was able to compare the researches of Chang et al., Tseng, Chen, & Lee and Yang, Li, Zhu, Alexander, Liu, Zhou, & Ren [19,24,25]. All of the said studies analyzed the use of music therapy intervention in pregnant and postpartum women who suffered from stress, anxiety, and depression. Two of the three studies reviewed demonstrated that music therapy is an effective treatment for perinatal stress and anxiety [17,23]. Hence, the review concluded that music therapy, with its low cost an ease of administration, can be used as a primary treatment option for perinatal stress and anxiety [23].

In the study of Chang et al. in 2008, the researchers examined the effects of music therapy on Taiwanese pregnant women's stress, anxiety, and depression. The use of pre-recorded CDs was implemented in their research. Participants were asked to listen to at least one disc for thirty minutes a day for two weeks at any time during the day. To determine the type and volume of music listening, participants in the experimental group were asked to maintain a two-week diary that stated which CD they had listened to and what they were doing while they listened to the music. It was demonstrated in their study that a prescribed two-week regimen of music therapy can significantly alleviate the stress, anxiety, and depression in pregnant women.

Moreover, in a recent experimental study conducted by Kalaivani in 2014 where participants also received pre-recorded CDs and asked to listen to at least forty minutes a day for one week at any time during the day also demonstrated that a prescribed one week regimen of music therapy can significantly reduce the stress, anxiety and depression in pregnant women.

Furthermore, the result yielded in a randomized control trial of Yang et al. in 2009 showed that anxiety levels decreased and physiological responses improved significantly in the intervention group of pregnant women on bed rest when introduced in music therapy. The program implemented music therapy for 30 minutes on 3 consecutive days. It was as well presented in their study that carefully selected music that fit in the patient's own preferences may offer an inexpensive and effective method to reduce anxiety for ante partum women with high risk pregnancies who are on bed rest.

Also, in the qualitative semi-structured interviews conducted by Carolan et al. it was determined that singing lullabies during pregnancies was effective in reducing stress and promoting relaxation [18]. It was inferred from their experiment that such low cost, non-interventionist approaches like the lullaby program can help reduce stress in pregnancy.

Another study by Shin et al. in 2010 was conducted to examine the effects of music therapy on anxiety, stress, and maternal-fetal attachment in pregnant women during a transvaginal ultrasound [21]. Part of their program consisted of providing general prenatal care and single 30-minute session of music therapy. Anxiety, stress, and maternal-fetal attachment were assessed and upon investigation, it was proven that the music therapy group showed statistically significant decrease in anxiety compared to control group but no significant difference was identified in stress and maternal-fetal attachment. The findings of the scholarly article thus offered evidence for use of music as a nursing intervention in prenatal care unit to reduce pregnant women's anxiety.

Contradicting the results of the aforementioned studies, a research by Tseng et al. in 2010 did not provide evidence that music can reduce stress and anxiety levels [24]. In the randomized clinical trial, listening to music at home for at least 30 minutes a day over two weeks and received regular postpartum care was implemented. It was found out that there were no significant differences in the stress and anxiety experienced by their participants.

Through the synthesis of the different literatures that were reviewed, it can be inferred that music therapy in management of different conditions occurring in pregnancy was proven effective in most studies. However, in one of the studies cited, the management yielded in contradiction. In line with that, the researchers aimed to explore on the reason why the intervention did not yield effective for the particular article through the careful observation of the factors that may affect the results of the study. Also, the studies that were included in this literature review were comprised of researches that were conducted in other countries. In the Philippines where the population is constantly increasing and where a huge number of women give birth and identified to be pregnant all day, there is a huge possibility that more of these women are experiencing anxiety. With this, the study that was conducted can be a basis on whether music therapy can be an aid in reducing anxiety levels in Filipino women.

Theoretical Framework

This study was anchored to Katharine Kolchaba's Comfort Theory since the researchers aimed to test the effectiveness of a proposed nursing intervention in managing anxiety. In Kolchaba's theory, it was described that comfort exists in three forms: relief, ease, and transcendence. If the specific comfort needs of a patient are met, namely the relief of an anxiety of a first time mother by providing a calming environment, the individual may experience comfort in the relief sense. The positive results that is hoped to yield from the study will put the patient in a comfortable state which is known in the said theory as comfort at ease. Lastly, from the health education and intervention provided, the patients may find meaning from the issues they faced and rise above these challenges, which can also be co-related to the third stage called transcendence.

Nursing is described as the process of assessing the patient's comfort needs, developing and implementing appropriate nursing interventions, and evaluating patient comfort following nursing interventions. Kolchaba defined a stimulus situation as a part of the entirety of environment to which people concentrate and respond during a given episode in their life. There are obstructing, positive, and interacting forces within a situation that is triggered by a stimulus. When negative tension arises and imbalances occur, nurses identify the subsequent needs for comfort and apply appropriate interventions to move tension in a positive direction.

Research Paradigm
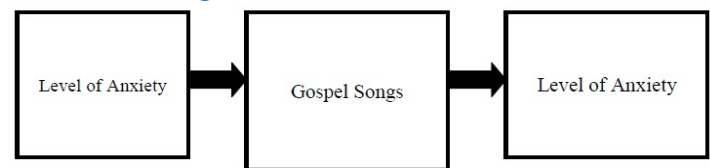
Figure 1: Music Therapy as a Stimulus in Managing Anxiety as related to Kolchaba's Comfort Theory.

Figure 1 shows that in the earlier phase of the study, participants were known to have presence of anxiety as depicted by their Beck Anxiety Inventory scores which ranged from 10-63 during their pre-test.

Katharine Kolchaba's Comfort Theory was used as the basis for managing the anxiety of the primigravid mothers. As mentioned in the theoretical framework, the anxiety took place because of the specific needs of pregnant women such as the relief of anxiety. In relation to Kolchaba's theory, music therapy was used as management of anxiety in this study. Music therapy was the stimulus that provided comfort to the primigravid mothers as indicated in the reduced BAI scores in the post test. The music therapy depicts a useful intervention in promoting comfort and reducing anxiety levels of third trimester primigravid mothers. The said intervention is the stimulus that could provide comfort, relief and ease the anxiety of the participant.

Research Questions

Main problem: The study determined to seek the effectiveness of music therapy through the use of gospel songs in reducing the

anxiety of primigravid mothers during the third trimester.

The study aimed to answer the following sub questions:
- What are the pre-test anxiety scores of the control and experimental group?
- What are the post-test anxiety scores of the control and experimental group?
- Is there a significant difference between the pre- and post-anxiety scores of the control and experimental group?

Hypothesis
The following are considered hypotheses in the study:
Null (Ho1): There is no significant difference between the pre- and post- anxiety scores of the experimental group.
Null (Ho2): There is no significant difference between the post-anxiety scores of the control and experimental group.

Definition of Terms
The following terms are used in the study:
Anxiety- refers to fear or nervousness on what might happen (Merriam-Webster). In the study, it refers to the participants acquiring Beck Anxiety Inventory scores ranging from 10 to 63 which were interpreted in the tool as scores indicating presence of anxiety in which they were subjected to the study.
Reduced anxiety level in the posttest as indicated in BAI scores is the evidence that the intervention was hence effective.

Gospel songs- defined as type of lyrical song related to church or reflection. In the study, the use of pre-recorded CDs containing Gospel songs to be played by the participants 40 minutes a day, three times a week for two weeks. Music therapy, specifically gospel songs was the intervention used in the study.

Primigravid Mothers- refers to first time pregnant Filipino women on their third trimester. In the study, primigravid mothers were the respondents.

The Research Methods
Research Design
A quasi-experimental research design was utilized in this study. This type of research design was deemed appropriate because control and experimental group were involved in the study. A variable was also tested. The study was conducted in small geographical areas. Moreover, quasi experimental research design lacks the element of random selection of the respondents. The researcher controlled the respondents by using criterions rather than random assignment to the treatment group. The study aimed to assess the effectiveness of music therapy in managing the anxiety of the primigravid mothers in the third trimester. True quasi experimental and quasi experimental design have both control and treatment group, however true experimental design have the element of random selection for the subjects that made it inappropriate for the study as compared to the quasi experimental that follows certain criteria.

Participants and Study Site
The study was conducted in different locales: in a lying-in clinic in San Pedro, Laguna, and communities in Malabon City and Looc, Occidental Mindoro. The study comprised of 50 respondents (25 controls, 25 experimental) acquiring a power of 1.00 with a large effect size of 2.08 at an alpha of 0.05 in the Power Analysis indicating that the sample size is sufficiently adequate. Participants were chosen using purposive sampling with inclusion criteria involving: 1) 18-35 year-old Filipino women which as reflected in the developmental theory of Erik Erikson, this age group is the stage of Isolation vs. Intimacy where a person creates intimate relationships to others and establishes foundations in creating a family. In this stage therefore, it is believed that factors that may induce anxiety can potentially arise. 2) Third trimester primigravid women 3) Beck Anxiety Inventory pre-test scores of 10-63 which indicates the presence of anxiety. Purposive sampling was utilized in the study for the researchers followed criteria in recruitment of participants; probability sampling was hence, inappropriate. Furthermore, exclusion criteria comprised of women having Beck Anxiety Inventory pre-test scores of 0-9 indicating absence of anxiety. Pregnant women who were undergoing emotional distress and mental disturbances were also excluded from this study to prevent evoking of unnecessary feelings or guilt during the whole course of this research.

Data Measure
The data gathered from the study were measured through the use of Beck Anxiety Inventory (BAI) in examining the effect of the music therapy management. The BAI is a standardized instrument which was used to assess the state anxiety scores of the respondents before and after the music therapy. It can be used to evaluate and establish a baseline anxiety level, to detect the effectiveness of treatment as it progresses, and to measure post-treatment outcome. Scoring and interpretation of the results was done with the guidance in the sample BAI test obtained. Results from the pilot test conducted yielded a Cronbach's Alpha of .736 which indicated that the reliability coefficient of the instrument was reasonably acceptable. The researchers were allowed to use and interpret the tool as a part of data gathering procedure given that it will only be used for survey purposes. In addition, the tool that was used underwent further validation by experts in the field of Obstetrics and Psychiatry in order to ensure its precision before the conduct of the study.

Furthermore, the type of songs that were used in the music therapy program was consulted to experts in the field of Music. The use of gospel songs was recommended to be utilized due to its soothing and calming effect; hence it was further validated and agreed upon by the chosen professionals. Also, the 2-week period allotted for the intervention was conferred with experts in the field of Psychiatry to determine if the specific length of time could show difference in the participants' condition. It was validated that a 2-week intervention can yield change as supported by related literatures having the similar management period.

Data Gathering Procedure
- Dissemination of letters of permission for conduction of study to the director of a lying-in clinic in San Pedro, Laguna and to

barangay captains of Brgy. Maysilo, Malabon City, and Brgy. Kanluran, Looc, Occidental, Mindoro
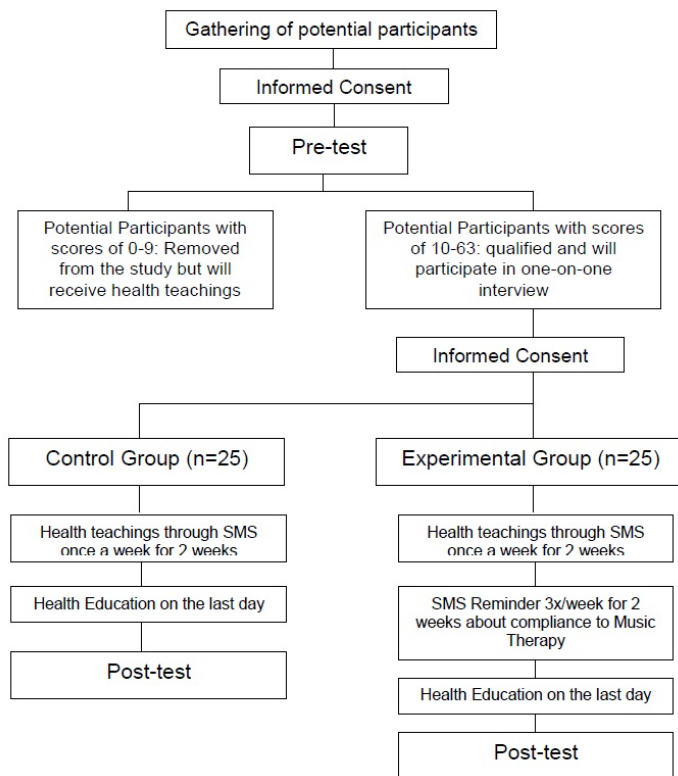

Figure 2: shows the data gathering procedure.

- Potential participants (primigravid women in their third trimester of pregnancy with the age of 18-35 years old) were already gathered and were given letters seeking for their approval to take part in the study.
- Full disclosure regarding the study was related to the potential participants.
- Beck Anxiety Inventory questionnaire was answered and scores were interpreted by the researchers.
- Potential participants who obtained scores of 0-9 were removed from the study for the reason of the absence of anxiety. Those who have obtained scores of 10-63 became qualified to be participants of the study due to presence of anxiety.
- The results of the pre-test scores of the qualified respondents were explained and consent forms asking for the subject's permission to participate in the 2-week program required in the study were given distributed.
- Upon approval, basic information were asked including the respondent's name, age, address, contact number, and expected date of delivery.
- CDs containing gospel songs were presented and participants were oriented to listen to the prerecorded music 40 minutes a day three times a week for two weeks. Both groups were informed of the schedule of the post-test and considered their time of convenience. For every Monday, Wednesday, and Friday of the week for two weeks, the researchers assured that the respondents have not missed the therapy by reminding them through sending SMS in the contact numbers that they

have provided to the researchers.
- On the last week of the music therapy, prior to conducting the post-test to each respondent, formal orientation to the study was again provided.
- Post-test was accomplished and the positive feedbacks of the respondents were entertained.
- Termination Phase: Researchers made it known that all the information divulged in the study will be kept anonymous during the entire data analysis.
- Respondents from the control cohort were given the same prerecorded CD used for the experimental group to assure fair treatment.

Ethical Considerations
The following ethical considerations were taken into account by the researchers:

Principle of Beneficence: Since the aim of the study was to introduce music therapy as a way of alleviating the anxiety experienced by pregnant women, it was expected that the implementation of the study only supports the benefit and will create no harm on the part of the participants.

Principle of Informed Consent and Autonomy: The participants were given sufficient information regarding the study to be conducted and the procedures that may be done. They were offered full disclosure by the researchers. Afterwards, the researchers asked for the consent of the potential participants to take part to the proposed intervention. Their autonomy was observed and they were free to decide on whether to accept or decline to take part in the study.

Principle of Confidentiality: Upon the approval of the participants to be part of the study, the researchers assured them that all of the information disclosed will be kept confidential. It was the obligation of the researchers to protect the patient's information from unauthorized access, disclosure, loss, or theft.

Principle of Anonymity: Throughout the conduction and analysis of the results to be obtained in the study, the participants remained anonymous. The participants were unidentified during the study to ensure their privacy and safety.

Principle of Justice: The researchers observed the practice of non-prejudicial treatment of subjects regardless of their ethnicity, social status, and educational background to ensure rightfulness. Furthermore, as the participants of the study were divided into control and experimental groups, it was made sure that both groups were given health education in the management of anxiety. After the post-tests were rendered by the end of the study, participants in the control group were able to acquire the material used by the experimental group to assure fairness.

Data Analysis
The study made use of the following statistical tools:
Beck Anxiety Inventory questionnaire, a 21-item standardized instrument, was given to the respondents to measure their pre-test

and post-test anxiety scores. Using SPSSS version 21.0, the mean scores of the pre-test and post-test of both groups were determined, which was then analyzed for significant differences.

The researchers used paired t-test to compare the values of means from the two related samples such as the pre- and post-test anxiety scores of the experimental group and control group. Also, t-test for independent variable was utilized to test the significant difference between the scores of both cohorts. Furthermore, Analysis of Covariance (ANCOVA) was calculated to determine the significance of differences between the control and experimental groups for the posttest.

Presentation, Interpretation, and Analysis of Data
This chapter presents, interprets, and analyzes the data that were gathered in the study.
Research Question 1: What are the pre-test anxiety scores of the control and experimental group?

	Mean	SD	Interpretation
Control Group	37.64	± 8.30	Severe Anxiety
Experimental Group	41.32	± 8.90	Severe Anxiety

Table 1: Mean Pre-Test Anxiety Scores of the Control and Experimental Group.

Mean Score Interpretation Legend:
0-9 No Anxiety
10-18 Mild to Moderate Anxiety
19-29 Moderate to Severe Anxiety
30-63 Severe Anxiety

Table 1 revealed the pretest anxiety scores of the control and experimental groups. The control group obtained a pre-test anxiety mean score of 37.64 which was interpreted as falling to the category of severe anxiety. Meanwhile, the experimental group obtained a pre-test anxiety mean score of 41.32 which was interpreted as severe anxiety respectively. It was noted that both groups had presence of anxiety as indicated in their pre-test scores which made the members of both groups candidates for the study.

Anxiety is a strong, negative emotional state that is accompanied by unease, worry, and unwanted intrusive thoughts [11]. Anxiety was characterized as a future-oriented emotional state which is caused byperceptions of uncontrollable threat. It was held in the study conducted by Guardino et al. in 2014 that pregnancy anxiety is an emotional state that is similar to state anxiety but at the same time distinctive in a way for it is specifically rooted in concerns among pregnant women in the context of their pregnancies.

Madhavanprabhakaran et al. explained in their study that the prevalence of anxiety varied according to the trimester of pregnancy with a moderate to severe occurrence during the third trimester [14]. Prasad identified that anxiety related to physical and physiological change, outcome of pregnancy, and labor pains

are more common in primigravid females which might concern child care and proper child development. Also, Parcells in 2010 indicated that high incidences of prenatal depression, anxiety, and stress often happen during the third trimester.

As supported by the literatures cited, it is therefore suggested that interventions like music therapy be introduced as a way of managing pregnancy related anxiety to thereby alleviate further complications.

Research Question 2: What are the post-test anxiety scores of the control and experimental group?

	Mean	SD	Interpretation
Control Group	30.88	± 8.55	Severe Anxiety
Experimental Group	11.44	± 4.09	Mild to Moderate Anxiety

Table 2: Mean Post-Test Anxiety Scores of the Control and Experimental Group.

Mean Score Interpretation Legend:
0-9 No Anxiety
10-18 Mild to Moderate Anxiety
19-29 Moderate to Severe Anxiety
30-63 Severe Anxiety

Table 2 shows that the control group obtained a post-test anxiety mean score of 30.88 indicating that there was still a severe presence of anxiety in the respondents from this cohort two weeks after the regular health education was rendered to them. Albeit the presence of anxiety inferred from this result, a decrease in anxiety was still observed by the researchers. Thus, it can be concluded that the health teachings delivered appeared to take effect in alleviating the anxiety felt by third trimester primigravid mothers.

The table also revealed that the experimental group obtained a mean score of 11.44 which was identified as mild to moderate anxiety. It was observed form this result that there was an evident decrease in the anxiety of the experimental group during the post-test result as compared to their pre-test scores. Therefore, it would indicate that health education, together with the intervention of music therapy, can lessen the anxiety felt by third trimester primigravid mothers within a two-week program.

The presented mean scores of both groups illustrate that the experimental group obtained a lower post-test mean score as compared to the control group. It could be due to the application of music in the experimental cohort.

To support this claim, in the study of Kalaivani et al. where music therapy was given to high-risk pregnant women yielded the same comparison as this experiment [22]. In the said study, it was identified that the mean post-test level of anxiety in the experimental group was lesser than the mean post-test level of anxiety in its control group. The findings of the abovementioned

research thus implied that music therapy was indeed effective in reducing anxiety among high-risk pregnant women.

Also, further justifying the result of this experiment, Chang et al. also obtained similar results as this study [20]. It was proven in their study that a prescribed two-week regimen of music therapy significantly reduced the intensity of stress, anxiety and depression in pregnant women.

From the results obtained in the post-test anxiety scores of both groups and evidences supporting this claim, it can be inferred that the usual teaching given to the control cohort as well as the added music therapy given to the experimental cohort can both affect the results of the study with the experimental group yielding a more positive outcome than the control group.

	Control Group		Experimental Group		ANCOVA	
	Mean	SD	Mean	SD	F	p-value (Two-tailed)
Pre-test Anxiety Score	37.64	±8.30	41.32	±8.90	35.66	0.137
Post-test Anxiety Score	30.88	±8.55	11.44	±4.09	208.09+	0.0001

Table 3: Pre- and post- test anxiety scores of the control and experimental group.

*: Significant at ≤ 0.05 level; +: Significant at ≤ 0.01 level

Research Question 3: Is there a significant difference between the pre- and post-test anxiety scores of the control and experimental group?

Table 3 reveals the comparison between the pre- and post-test anxiety scores of the control and experimental group. For the pre-test anxiety scores, the control group had a score of 37.64 while the experimental group had 41.32. During the 2-week program, the control group received health teachings regarding pregnancy while the experimental group received health teachings supplemented by music therapy using gospel songs. When post-test scores were collected and interpreted, the control group showed a score of 30.88. Meanwhile, the experimental group acquired 11.44. It was observed that the experimental group had a larger decline in anxiety score as compared to the control group.

Comparing the pre-test and post-test mean scores of the control group, it was noted to have a significant decline with a value of p=0.0001. This would point out that health education alone can already affect the anxiety manifested by primigravid women. Moreover, the comparison of the pre-test and post-test mean scores of the experimental group also resulted in a significant decline with a value of p=0.0001. This also verifies that health education with music therapy can relieve the anxiety of primigravid mothers. Furthermore, observing the comparison of the differences between the pre-test and post-test mean scores of the control group and the

pre-test and post-test mean scores of the experimental group, it can be inferred that the experimental group obtained a more significant decrease in anxiety with p=0.0001. Comparing the results of the post-test anxiety scores of both groups, it was then established that there is a significant difference between the scores of both groups. Therefore, the use of music therapy is deemed to be effective in managing of anxiety of third trimester primigravid mothers.

In the journal of Wallace, comparison of three previous studies related to the use of music therapy was presented [23]. It was made known that two of the three studies reviewed demonstrated that music therapy is an effective treatment for perinatal stress and anxiety. Hence, the review concluded that music therapy, with its low cost an ease of administration, can be used as a primary treatment option for perinatal stress and anxiety.

In addition to the positive claims, a study conducted at the College of Nursing at Kaohsiung Medical University in Taiwan also discovered the positive effect of music after a 2-week intervention. In their results, it was found out that there was a decrease in the level of anxiety of the experimental group as compared to the control group thereby agreeing with the result of this study.

Kalaivani stated that complementary and alternative therapies are the most frequent choices for pregnant women attempting to avoid the side effects associated with medications [17]. From the results presented in this study and the related researches cited to support each claim, thereby, this study is believed to sustain the argument that music therapy can indeed reduce the anxiety felt by pregnant women.

Summary

A total of 50 respondents were gathered for the study having a power of 1.00 or 100%. The respondents were then divided into two groups: the control and experimental group. The respondents were asked to answer the Beck Anxiety Inventory, a standardized tool which measured the state anxiety of the respondents.

SPSS version 21.0 was utilized for the tabulation and analysis. The pre-anxiety mean score of the control group that was obtained was 37.66 and 41.32 for the experimental group. The control group received health teachings while the experimental group received health teachings supplemented with music therapy specifically gospel songs. After the two-week program, the post-test anxiety mean score of the control that was obtained was 30.88 while 11.44 for the experimental group. It was discovered that the experimental group had a higher decline in the post-test anxiety scores after the music therapy compared to the control group who received usual health teachings.

Conclusion

From the data that have been gathered and analyzed, it was proven that there is a significant difference in the anxiety of third trimester primigravid women when introduced to music. Thereby, it is concluded in this study that music therapy especially containing gospel songs is an effective way in alleviating the anxiety

experienced by primigravid women who are in their third trimester of pregnancy.

Recommendation

It is recommended in the nursing practice to introduce music therapy to third trimester primigravid mothers due to its therapeutic effects in reducing feelings of anxiety promoting relaxation and positive effect on mental health. It is suggested that nurses be able to engage themselves in addressing psychological issues concerning their patients and appreciate the significance of the available non-pharmacological interventions like music therapy as management of the pregnancy-related anxiety and complications. From the results concluded in this study, it is encouraged that nursing students use music therapy as a relaxation method to promote health among pregnant women.

As for the field of research, since the study was conducted with a limited number of respondents during a short time period, it is recommended by the researchers that future studies of the same nature be implemented in a longer time frame and larger number of respondents to confirm the favorable outcome that this study has concluded. In addition, future researchers may include the type of song preference of the respondents.

Since one purpose of the study is to raise the awareness of health providers as well as the pregnant mothers regarding the alternative methods in reducing the anxiety of pregnant women, organizations could conduct programs in the community that will emphasize the importance of this intervention as an alternative and non pharmacological way in reducing pregnancy-related anxiety.

Refrences

1. Rallis S, Skouteris H, McCabe M, Milgrom J (2014) A prospective examination of depression, anxiety and stress throughout pregnancy. Women Birth 27: e36-42.
2. World Health Organization (2008) Millenium Development Goal 5- Improving Maternal Health.
3. http://www.apa.org/topics/anxiety/
4. Prasad J (2013) A descriptive study to assess the anxiety of primigravida women towards delivery and neonatal care in a selected hospital at Bangalore, Karnataka 1-17.
5. Parcells DA (2010) Women's mental health nursing: depression, anxiety and stress during pregnancy. J Psychiatr Ment Health Nurs 17: 813-820.
6. O'Connor T, Heron J, Glover V (2002) Antenatal anxiety predicts child behavioral/emotional problems independently of postnatal depression. J Am Acad Child Adolescent Psychiatry 41: 1470-1477.
7. Behrman R, Butler A (2007) Preterm birth: Causes, consequences, and prevention.
8. World Health Organization (2009) Mental Health Aspects of Women's Reproductive Health: A Global Review of Literature.
9. Jeyanthi I, Kavitha P (2008) Anxiety and stress among the primigravida and the multigravida: A comparative study. Cauvery Research Journal 1: 126-131.
10. Keltner N, Bostrom C, McGuinness T (2012) Keltner's Psychiatric Nursing Philippine Edition. Singapore: Elsevier.
11. Guardino CM, Schetter CD (2014) Coping during pregnancy: a systematic review and recommendations. Health Psychol Rev 8: 70-94.
12. Dunkel Schetter C (2011) Psychological science on pregnancy: Stress processes, biopsychosocial models, and emerging research issues. Annual Review of Psychology 62: 531-558.
13. Dunkel Schetter C, Tanner L (2012) Anxiety, depression and stress in pregnancy:Implications for mothers, children, research, and practice. Behavioral Medicine 25:141-148.
14. Madhavanprabhakaran G, Kumar K, Ramasubramaniam S, Akintola A (2013) Effects of pregnancy related anxiety on labor outcomes: A prospective cohort study. Journal of Research in Nursing and Midwifery 2: 96-103.
15. Correia LL, Linhares MB (2007) Maternal anxiety in the pre- and postnatal period: a literature review. Rev Lat Am Enfermagem 15: 677-683.
16. http://www.musictherapy.org/

17. Kalaivani S (2014) Effectiveness of Music Therapy on Stress among Pregnant Mothers 1: 26-30.
18. Solanki MS, Zafar M, Rastogi R (2013) Music as a therapy: role in psychiatry. Asian J Psychiatr 6: 193-199.
19. Chang MY, Chen CH, Huang KF (2008) Effects of music therapy on psychological health of women during pregnancy. J Clin Nurs 17: 2580-2587.
20. Carolan M, Barry M, Gamble M, Turner K, Mascareñas O (2012) Experiences of pregnant women attending a lullaby programme in Limerick, Ireland: a qualitative study. Midwifery 28: 321-328.
21. Shin HS, Kim JH (2011) Music Therapy on Anxiety, Stress and Maternal-fetal Attachment in Pregnant Women During Transvaginal Ultrasound. Asian Nurs Res (Korean Soc Nurs Sci) 5: 19-27.
22. Kalaivani G, Nalini J (2013) Effectiveness of music therapy on anxiety and depression among high risk pregnant women. Indian journal of clinical practice 24: 257.
23. Wallace S (2014) Is music therapy a complimentary treatment option for prenatal women experiencing stress and anxiety? PCOM physician assistant studies scholarship :200.
24. Tseng YF, Chen CH, Lee CS (2010) Effects of listening to music on postpartum stress and anxiety levels. J Clin Nurs 19: 1049-1055.
25. Yang M, Li L, Zhu H, Alexander IM, Liu S, et al. (2009) Music therapy to relieve anxiety in pregnant women on bedrest: a randomized, controlled trial. MCN Am J Matern Child Nurs 34: 316-323.