"An Experimental Study to Assess Effectiveness of Music Therapy in Labor Pain Reduction among Primigravida Mothers in First Stage of Labor in Selected Hospitals at Udaipur, Rajasthan"

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Abstract: *A true experimental study to assess effectiveness of music therapy in labour pain reduction among primigravida mothers in first stage of labour in selected hospitals at Udaipur, Rajasthan.The sample consisting of 60 primigravida mothers30 experimental and 30 control group who are in first stage of labour was selected by using simple random sampling technique. The tool comprised of visual analogues scale. In this study the level pain perception in primigravida mothers during the first stage of labour after receiving music therapy have been assessed. The study was a true experimental research approach with the post-test control group design. The mean score of post-test in experimental group 7.23 (24.01%) was apparently lower than the mean score of post-test in control group 9.7 (32.33%), suggesting that the music therapy was effective in labour pain reduction. The mean difference 8.23 % between experimental and control group was found to be significant. Findings of the study revealed that music therapy would be very helpful in reducing labour pain perception in primigravida mothers during first stage of labour*

Key words:*Assess, effectiveness, music therapy, labour, primigravidamother, post- test.*

I. Introduction

Labour pain is part of a normal process. Although expected during process, it is considered as the most undesirable and unpleasant aspect of the labour experience during childbirth. Labouring women often experience intense pain, uterine contraction resulting in visceral pain. During descent, the fetus head exerts pressure on the mother's pelvic floor, vagina and perineum causing somatic pain transmitted to the Pudendal nerve. As women's labour progresses, labour pain also increases especially for primiparas. Pain during birth involves two components; the physiologic component – that which includes reception by sensory nerves and transmission to the central nervous system and the psychological compared to other types of pain, labour pain is unique in the sense that is normal and self – limiting can be prepared, and end with a baby 's birth.[1]

Although considered as part of a normal process and is expected during labour, pain that exceeds woman's tolerance may have adverse physiological and psychological consequences both on the woman and her fetus. For the mother, severe labour pain increases metabolic rate and oxygen demand, increase production of catecholamine's, cortisol and glucagon and metabolic changes, and may inhibit/show down labour progress. Diverse intervention such as pharmacologic methods are Acupuncture, Biofeedback, Aromatherapy, Hypnosis, Relaxation techniques, breathing technique, Massage therapy, Warm shower have been used to relieve labour pain.[1]

There is more evidence to support the efficacy of pharmacological method, but they have more adverse effect. Music therapy as non-pharmacological intervention has been studied and is believed to restore, maintain, and improve emotional, physiologic and psychologic well-being and has been used as an adjunct to nursing practice. Music therapy has long history dating back to the time of Florence nightingale. Nightingale utilized music as a therapeutic intervention to maintain comfort and promote healing. Music as an intervention has been used on different patient population, in a variety of condition, means and delivers settings, primarily to reduce pain and induce relaxation, thus promoting overall sense of well-being of the individual. However, the application of music in pain management has gained popularity in medicine only in the last two decades only particularly in the treatment of psychological variables during pregnancy, and to facilitate the birthing process.

Listening to music causes distraction and diverts feelings of anxiety, and activates the release of endorphins the body's natural pain killers.[1]

International studies have shown that soothing music is effective in reducing distress, pain and for including relaxation reducing anxiety of the women during the latent phase of labour. Previous studies also cited that listening to music provided greater relaxation, assisted concentration and shortened labour. However, in the Philippines, especially in government hospital, little is known in the literature highlighting the use of music in alleviating and decreasing labour pain in Filipino women. Thus, this study was conducted to determines the effect of soothing music on the perception of pain during the latent phase of labour.[1]

The labour pain as stimuli of receptive neurons arising from contractions of the uterine muscles, which is referred to as the visceral, pelvic and lumbar and sacral areas. To date, labour pain management studies have focused on use of drugs that affect sensory awareness of pain, which may have the additional effect of impeding woman's active participation in giving birth (Chapman, 2003).[2]

Music therapy as an intervention to address perceived pain due to surgery can be beneficial to patients physically and psychologically. Hospitalization can result in physical stress from invasive surgery and therapies, as well as emotional stress due to unexpected news, unfamiliar environments, and a sense of losing control. There are several theories about how music therapy positively affects perceived pain: (1) music serves as a distracter, (2) music may give the patient a sense of control, (3) music causes the body to release endorphins to counteract pain, and (4) slow music relaxes a person by slowing their breathing and heartbeat (Roberts, 2002).[3]

It is important to recognize interactions between physical and psychological responses to pain. For instance, fear of surgery increases blood pressure, prolonging the healing process, enhancing the perception of pain, and in turn increasing blood pressure; the cyclical nature of psychology, physiology, and biology in the perception of pain results in difficulty when measuring pain, because it is a subjective experience. Just as music therapy is a holistic approach to medicine, the way music functions in reducing perceived pain encompasses whole human experience - psychological and physiological events.[3]

Music can also be used to direct attention away from pain. While the subjective experience of pain is not reduced, sound stimulation can effectively distract the patient and provide a cognitive strategy for pain control and suppression of pain responses Relaxation during childbirth ensures adequate oxygenation to vital areas and minimizes both physical and psychological fatigue. Most relaxation training exercise use a trigger stimulus for learned relaxation response and music has been shown to have excellent potential as a conditioned stimulus for relaxation.[4]

The field of music therapy had grown and developed for the period of last 20 years. Research found that music serves several functions in the natural childbirth process including attention focusing, distraction from pain, stimulating pleasure responses, focusing breathing, and a conditioned stimulus for relaxation.[5]

Overall, music does have positive effects on pain management. Prior research does not consistently identify the role music plays as described by the previously listed theories, but does indicate the consistent use of vital signs as a measure of stress in response to pain. Generally, patients report music intervention positively impacted their experience of pain associated with surgical procedures, and despite the weak findings of some studies, researchers recommend music therapy should be offered to patients as an additional method of pain management.[6]

Music entrainment is complementary to pain medication (Bradt, 2002). Even if playing as secondary role in managing pain, music therapy is non-invasive, has no negative side effects, is inexpensive to hospitals and patients, and can be completely personal, reaching a patient beyond the physical realm of drug therapies.[7]

Fairlie, et al 1999 much midwifery and medical research has indicated that the one - to-one support by a midwife in labour reduces the need of analgesia and improves the birth experience of the mother. It also shortens the length of the labour. Pain control during labour is a woman centered concept. There is much evidence to state that women are not always more satisfied by a birth experience that is pain free.[8]

II. Research Elaborations

Statement of problem-

"An experimental study to assess effectiveness of music therapy in labour pain reduction among primigravidamothers in first stage of labour in selected hospitals at Udaipur, Rajasthan"

III. Objectives

1. To assess the level of pain perception after music therapy among primi gravida mother in first stage of labour in experimental group.
2. To assess the level of pain perception among primi gravida mothers in first stage of labour in control group
3. To assess the effectiveness of music therapy in labour pain reduction among primi gravida mother in first stage of labour

4. To find out the association between the levels of pain perception with selected demographic variables among primi gravida mothers in labour.

IV. Hypothesis

H_1- There is a significant difference between pain perception of primigravida mother of experimental and control group in first stage of labour.

H_2- There is a significant association between level of pain perception among primigravida mothers with selected demographic variables in experimental and control Group.

V. Material and method

Population-Primigravida mothers.
Sample- Primigravida mothers who are in first stage of labour at selected hospital in Udaipur.
Sample size- 60 primigravida mother.
Settings- The study was conducted in M. B. government hospital and Geetanjali medical college and hospital at Udaipur.
Sampling technique- Simple random sampling technique.
The conceptual framework for the study was developed on the bases of Callista Roy adaptation Model.

VI. Research design

The research design selected for the present study waspost-test only control group research design.

E	X	O_1
C	-	O_1

Table 1: Post test only Control group design

Key

E   Experimental group
C   Control group
X   Music therapy
O_1 Observation made after the intervention in both control and experimental group

ETHICAL CONSIDERATION

After obtaining permission from research committee of Geetanjali College of Nursing, prior permission was obtained from Head of Department of Obstetrics &Gynaecological, and nursing superintendent of the selected hospitals at Udaipur.
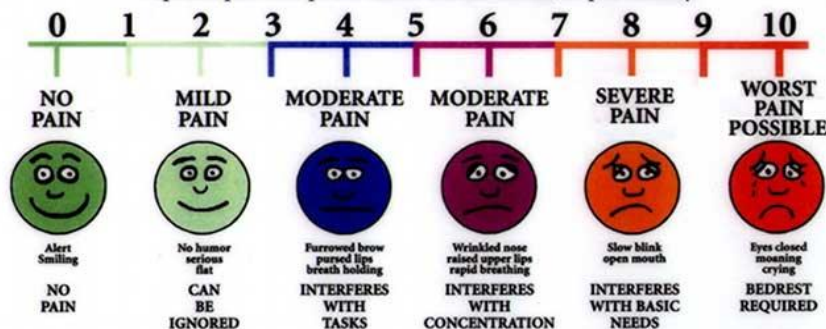
DESCRIPTION OF THE TOOL

Section A- demographic data: consists of selected demographic variab*les* such as age in year, education qualification, religion, occupation, types of family, life style, dietary pattern, cervical dilatation, gestational age, have you heard about music therapy.

Section - B Visual analogues scale, which is a given by Wong Baker pain scale selected for the assessment of the labour pain. The scale is grouped into five categories.

SCORING

0	-	No pain
1 - 3	-	Mild pain
4 - 6	-	Moderate pain
7 - 9	-	Severe pain
10	-	Worst pain

DATA COLLECTION AND DATA ANALYSIS
The data was presented under the following sections
Section-I: Description of socio-demographic variables of the respondents.
Section-II: Distribution of Respondents experimental and control group post-test level of pain score.
Section-III: Effectiveness of the music therapy in reducing perception of labor pain.

VII.   Result
Table 2: Assessment of experiment and control group posttest level of pai **N = 60**

Level of pain	Experiment		Control	
	No. of mothers	%	No. of mothers	%
Mild	0	0%	0	0.0%
Moderate	15	50%	0	0.0%
Severe	15	50%	09	30%
Worst pain	0	0.0%	21	70%
Total	30	100%	30	100%

Table 2: The result showed that, post-test pain level among primi gravida mothers, after music therapy, in experimental group 15(50%) of mothers are having moderate pain and 15 (50%) of them having severe pain whereas in control group 9 (30%) of mothers are having severe pain and 21 (70%) of them having worst pain.
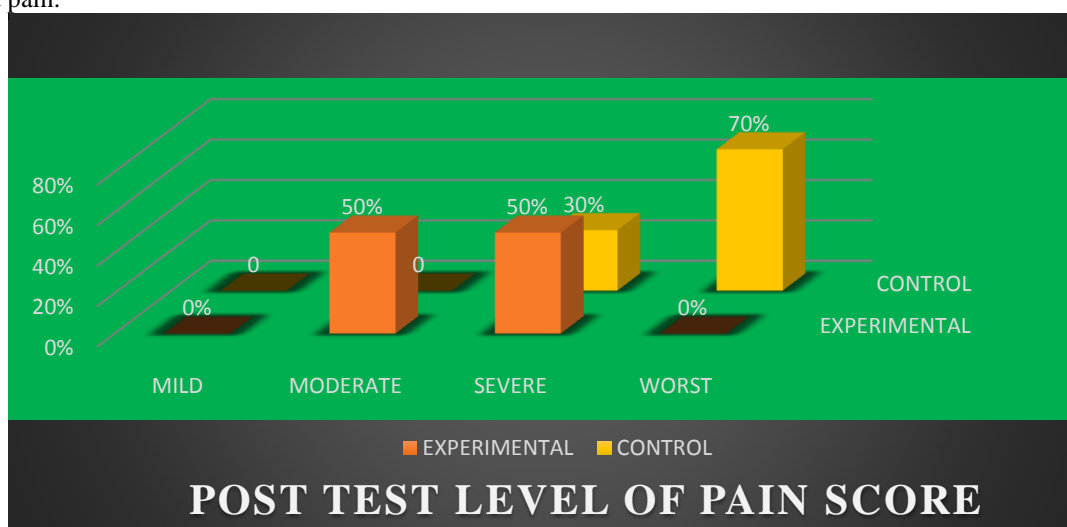

Figure 1: Distribution of respondents by post test level of pain

SECTION: III
EFFECTIVENESS OF THE MUSIC THERAPY IN REDUCING PERCEPTION OF LABOR PAIN.
The unpaired "t" value was computed to determine the effectiveness of music therapy in reducing perception of labour pain.
The following research hypothesis was stated
H_1- There is a significant difference between pain perception of primigravida mother of experimental and control group in first stage of labour.

H_2- There is a significant association between level of pain perception among primigravida mothers with selected demographic variables in experimental and control Group.

Group	mean	mean %	SD	Reduction in pain level	df	t value	Inference (p<.05)
Experimental group	7.23	24.1%	1.49	8.23%	58	8.82	S
Control Group	9.7	32.33%	0.45				

Table 3: Effect of the music therapy in reducing perception of labor pain **N = 60**
S= significant

Table 3: The result showed that the overall mean scores among experimental and control group. Mean percentage of 24.1 % was obtain in experiment group with mean score was 7.23 and SD of 1.49 and mean percentage of 32.33% was obtained in the control group with mean score was 9.7 and SD was 0.45. The difference was 8.23% pain score. Difference is large. This difference is statistically significant. Statistical significance was calculated by using student's independent 't'test. The 't' value was 8.82* (significant at 0.05 level)

VIII. Conclusion

This study concluded that there is reduced labour pain perception in first stage of labour in experimental group which indicates that the music therapy is effective. The demographic variables of patients significantly associated with the post-test score. Music therapy will help in the reduce labour pain perception.

Reference

[1].   Demir Y., non-pharmacological therapies is pain management. pain management current issues and opinions; 2012. available from: (http:// www.interchopen .com/books/pain management –current issues   and opinion/non pharmacological pain management).
[2].   Diane.M., Margaret A. Cooper,Myles text book for midwives.14[th]ed.Churchill Livingstone;2004.
[3].   Gunninghon, Leveno B., Text book of Williams obstetrics, 22th ed, Mc. Grow Medical Publishing Division, Toronto;2005.
[4].   JocabAnnamma, A comprehensive text book of mid wifery, Jaypee Company;2005.
[5].   Katharyn.A. Comprehensive Maternity Nursing, 2nd ed, J.B. LippinCott Company;1990.
[6].   Myles, Margarett.Text book for Midwives, 14th ed, Churchill Livingstone publication. (1989),
[7].   Katharyn.A. Comprehensive Maternity Nursing, 2nd ed, J.B. LippinCott Company;(1990).
[8].   Fairlie.journal of education and training studies, 2015; 33(20).