



A QUANTITATIVE STUDY TO ASSESS THE EFFECTIVENESS OF MUSIC THERAPY ON ANXIETY AND PAIN PERCEPTION AMONG PRIMI MOTHERS DURING FIRST STAGE OF LABOR

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Abstract:

Labor pain is one of the intensive pain, every mother encounter during the process of childbirth. Anxiety is closely related with pain. Pain and anxiety, when combined, can lead to fetal and maternal complications. The anxiety and pain perception in primi gravid mothers during the first stage of labour before and after the intervention of music therapy will be assessed. Experimental research design was adopted in the study as research design. The sample consisted of 30 primi gravid and a purposive sampling technique was used. The mean pain score of the experimental group and control group was 6.9 and 7.33 respectively, with a mean difference of 0.43. Statistically, there is a significant difference between the interventional and non interventional mean pain scores ($t = 3.09^*$, $df = 28$, $p 0.01$). The interventional group's and non interventional group's mean anxiety scores were 27.5 and 31.2, respectively, with a 3.7 difference in mean score. There was a statistically significant difference in the mean anxiety score between the two groups. There was a statistically significant difference in anxiety levels between the interventional and non interventional groups ($t-3.2^*$, $df-27$, $p 0.01$). The study found that music therapy could remarkably reduce pain perception and anxiety in primi gravid women during the first stage of labour.

Key Words: Anxiety, Labor, Music therapy, Pain perception, Primi

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INTRODUCTION:

Labor is a multiplex process influenced by physiological, psychological, and cultural factors. Delivery is a physiological and natural process that woman have undertaken with professional assistance over the years. (1) The mothers' experiences with labour end up causing them to be hopeful of the labour pain while also experiencing severe worries, stress, and anxiety, especially when the progression of labour is delayed. With progress from the start of contractions to full cervical dilatation, the intensity of labour pain increases as mild, moderate and severe. The intermittent pain occurs at the start of labour, manifesting as back and pelvic pain. Women experience severe level of pain and anxiety during progress of labour , especially primi mothers. (2)

Labor pain is an extensive, complicated, and subjective reaction to sensory information araised during childbirth. Labor pain, unlike other types of acute and chronic pain, is accompanied with one life's most fundamental and essential events: the birth of a child (3)

Labor pain patterns differ between nulliparous and multiparous women, and it is known that pain levels are greater in the nulliparous than in the multiparous when no prenatal counselling is provided. Because of the sudden stimulation of nociceptors surrounding the vaginal vault, vulva, and perineum, as well as the foetus' rapid descent, nulliparous women appear to experience more severe pain during the pelvic phase of labour. Labor pain is not only uncomfortable for the mother, but it may also be harmful to the foetus (4)



Music therapy is the systematic implementation of music to treat physiological and psychological aspects of illness or disability (5). Music therapy, as defined by the American Music Therapy Association, is the clinical and proven application of music therapies by a professional therapist who has completed an affiliated music therapy curriculum to achieve specific goals within a therapeutic goal (6)

Most women were unable to cope with the labour process due to their profound anxiety about it. There are numerous alternative methods for reducing labour pain and anxiety (5). Music therapy administration is a popular alternative approach. Music diverts a woman's attention away from her pain, which reduces anxiety (7)

Music increases endorphin release and decreases the need for analgesic drugs. It alleviates anxiety and depression by distracting from the perception of pain (8)

In China, music therapy is commonly used, particularly in midwifery nursing. According to nursing research, music therapy helps in reducing postpartum depression [9], relieves pain for primi, reduces labour hours, and promotes postpartum recovery [10]. It also lowers anxiety and depression in induced abortion patients [11]. In the Western world, music therapy has been shown to reduce pain and anxiety in women in labour [10, 11].

Statement of the problem

Assess the effectiveness of music therapy on anxiety and pain perception in primi mothers during first stage of labor

Objectives:

- assess the anxiety and pain perception in both interventional and non interventional group before receiving the music therapy
- assess the anxiety and pain perception in both interventional and non interventional group after receiving the music therapy

- associate the relationship between anxiety and pain perception in primi mothers during the first stage of labour

Hypothesis

H1- There will be a significant difference between the average pre and post test score of anxiety **H2-** There will be a significant difference between the average pre and post test score of pain perception

H3- There will be a significant co-relation between post test anxiety and pain perception scores

Research design and approach: The study approach is quantitative approach with experimental design

Population: Parturient primi mothers

sample size: Sample size consists of 30 primi mothers in first stage of labour at Govt General Hospital Karaikal

Sampling technique: The convenient sampling technique was used to identify the study's subject.

Variable: Independent variable was music and dependent variable were anxiety and labour pain

Tool: The tool consist of demographic variable of parturient mothers, Mc caffery numerical pain scale and Speilberger's State Trait Anxiety Inventory (STAI) were adopted for describing the intensity of pain and to assess the level of anxiety of mother respectively.

Setting: Labour unit in Govt General Hospital, Karaikal

Analysis: Inferential statistics were used to analyse the collected data. To compare pretest and posttest values, a paired,,t test was used. Karl Pearson's correlation coefficient was used to determine the relationship between anxiety and pain level scores (r).

Ethical consideration: The study's objectives were informed to the mothers, obtained written consent, and confidentiality was ensured. During the data collection period,



there were no issues. The administration and staff were completely cooperative.

Plan for data analysis: According to the objectives and hypotheses of the study, as well as the opinions of the experts, it was planned to organise, tabulate, analyse, and interpret the data using both descriptive and inferential statistics. A paired „t test was used to compare pretest and posttest values. The correlation coefficient of Karl Pearson was used to determine the relationship between anxiety and pain level scores (r).

Results:

Finding related to demographic characteristic. Demographic data from both groups showed that the majority of the mothers, 53 percent, were between the ages of 21 and 25 and

33percent were between the ages of 26 and 30. In both interventional and non interventional groups, 14 mothers (93 percent) were Hindus. Twelve mothers, 80 percent in the interventional group and 60 percent in the non interventional group, had a higher level of education. Mothers in the interventional group were 53% unemployed, while primi women in the non interventional group were 80% unemployed. 100 % primi women in the interventional group were from urban, while 80% mothers in the non interventional group were urban. 80 % of mothers in the interventional group and 87 % of mothers in the non interventional group were from joint families.

Hourly pain score of interventional and non interventional group N=30

Labour process	Mothers		interventional N=15		Non interventional N=15		Mean difference	Unpaired 't' value
	Exp.	Control	Mean score	SD	Mean score	SD		
1 st hour	15	15	4.4	2.1	4.7	2.25	0.3	0.38NS
2 nd hour	15	15	5.2	2.3	5.6	2.4	0.4	0.47NS
3 rd hour	15	15	6	2.53	5.9	2.52	0.1	0.11NS
4 th hour	15	15	6.6	2.67	6.7	2.68	0.1	0.163NS
5 th hour	15	15	7.7	2.87	7.4	2.81	0.3	0.29NS
6 th hour	15	14	7.71	2.76	8.21	2.90	0.52	2.77*
7 th hour	13	12	9.6	3.18	9.2	3.12	0.41	2.32*
8 th hour	06	14	6	2.08	9.10	3.12	3.72	285*
9 th hour	01	03	00	0.01	10.1	1.68	00	-
10 th hour	00	02	00	00	10.2	1.2	00	-



. Table 1 shows that both the interventional and non interventional groups' mean pain scores increase from the first hour to the end of the first stage of labour. The interventional group's mean pain score is lower in some hours (1st,2nd,4th) compared to the non interventional group, and the non interventional group's mean pain score is lower in the 3rd and 5th hours. Statistically there is significant difference in the mean pain score of the interventional and non interventional

groups for the first five hour of the first stage of labour. On the 6th and 8th hours, the non interventional group's mean pain score is higher (8.2- 9.7) than the interventional group's (7.7- 6.0), while in the seventh hour, the interventional group's mean pain score is 9.6 and the non interventional groups is 9.2. From the sixth to the eighth hour of the first stage of labour, there is a statistically significant difference in pain scores between the interventional and non interventional groups.

TABLE – II

Mean anxiety score and standard deviation of interventional and non interventional group

N=30

Overall anxiety	Max score	Mean score	SD	Mean score %	Mean difference	Unpaired 't' test
Interventional (N=15)	60	27.5	3.68	45.83	3.7	3.2*
Non interventional (N=15)	60	31.2	1.73	52.0		

The interventional group's mean anxiety score (27.5) is lower than the non interventional group's (31.2) There is a statistically significant difference in anxiety score between the interventional and non interventional groups (t- 3.2*, df-28)

Discussion: Relaxation techniques which are widely used include massage, breathing exercise, position change, meditation, water therapy, music therapy, yoga and walking. These relaxation activities divert mother and keeps her mind calm. The study's findings found some interesting facts, including the fact that music therapy was effective in lowering pain perception, anxiety and total duration of progress of first stage of labour in primi women. Other studies by Yang, M., et al. (2009), Tournaire M., et al. (2010), found that mothers in the music therapy group experienced significantly low pain and anxiety, and the music is an important therapy in pain and stress

management during the labour and birth process (12-14).

Music therapy helped to reduce labour pain and promote relaxation among mothers. It is also similar to the studies of Liu et al. [13], Yang et al. [14], Chang et al. [15], and Kwak [11]. Liu et al. [13] showed that primi mothers who were applied music therapy during first stage of labour noted significantly low pain than the intervention group. The current study's findings show that the intervention group experienced less anxiety than the non intervention group. In this study, the same thing was found. The current study's findings also revealed that administering music therapy resulted in a significant reduction in anxiety. Cruzik and Jokic-Begic (2011) found that anxiety was significantly associated with maximum and average labour pain expectancies, whereas trait anxiety was significantly associated with maximum labour pain expectancies. [16]



CONCLUSION: The findings of the study showed that music therapy reduces pain perception and anxiety score in primi mothers during the first stage of labour in the interventional group. The interventional and non interventional groups' mean pain scores were 6.9 and 7.33, respectively, resulting in a mean difference of 0.41. The mean anxiety score for the non interventional group is (31.2), which is higher than the interventional group's (27.5).

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