

Effect of Lamaze Method on Pain Perception, Anxiety and Fatigue among Primi Mothers During Labour Process

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Abstract: Labour pain is the most severe pain a woman might ever experience in her life. Severity of pain and duration of labour psychologically affects a mother. It may lower the confidence, self-esteem and increase the level of anxiety and fatigue. The main purpose of the study was to evaluate the effectiveness of video based Lamaze Nursing care intervention on pain perception, anxiety, and fatigue and labour outcome among Primigravidae women admitted during childbirth. The conceptual framework for the study was developed based on Ernestine Wiedenbach's helping art of clinical nursing theory. A quasi-experimental study was conducted, which included 200 women in first stage of labour (100 primigravidae in experimental group and 100 primigravidae in control group). The tool consists of Demographic variables and labour state information, Universal pain scale for Pain Perception, Anxiety Scale and Fatigue Assessment Tool. The study findings shows that Lamaze method and the techniques used in it were effective in reducing the pain, anxiety and fatigue during child birth and leads to a fine labour outcome. These results throws light on the potential use of Lamaze method as one of the complementary therapies for coping with labouring process and recommends nurses to implement such specific nursing interventions to improve maternity care.

Keywords: Lamaze method, pain perception, anxiety, fatigue, labour outcome

1. Introduction

Pregnancy is a unique, exciting and often joyous time in a woman's life; it is tremendously powerful stage of development that brings a woman to motherhood, a couple to family and a beautiful child into the world. Keeping birth normal and the striving to interfere as little as possible with the natural process can be defined as a goal for the midwife. The underpinning philosophy of Lamaze method is a midwife led care on normality and the natural ability of women to experience birth with minimum or without routine interventions. In India, antenatal preparation is still less of a formality and knowledge of the birth experience and care of children is passed from mothers to daughters or from traditional birth attendants to those in their care. Many women, especially first-time mothers, attend antenatal classes which prepare them for labour and delivery. Rhythmic breathing during labor maximizes the amount of oxygen available to the mother and the baby. Breathing techniques can also help to cope with the pain of

contractions. When women's are tense and frightened, the breathing becomes shallow and rapid. Panic breathing cuts down the amount of oxygen the women take in for herself and for her baby. The women feel light-headed and out of control. In labor, the aim is to conserve energy as much as possible, and give the baby plenty of oxygen to help in cope with the stress of being born. According to Baby Centre Medical Advisory Board (2008) .Goal of Lamaze is to increase a mother's confidence in her ability to give birth this help pregnant women understand how to cope with pain in ways that both facilitate labor and promote comfort, including focused breathing, movement and massage, Mayo clinic (2011).

2. Need for the study

Pregnant women commonly worry about the pain they will experience during childbirth and how they will react to and deal with that pain. The amount of pain a women experiences during contractions differs according to her expectations of and preparation for labor, the length of the labor, the position of the fetus and the availability of support people around her. The pain she experiences compounded when fear and anxiety are also present.

3. Objectives of the study

- To assess the effectiveness of Lamaze method on level of pain perception among gravid women in experimental and control group.
- To assess the effectiveness of Lamaze method on level of anxiety among gravid women in experimental and control group.
- To assess the effectiveness of Lamaze method on level of fatigue among gravid women in experimental and control group.
- To associate the selected demographic variables with pain, anxiety and fatigue in the experimental group.

4. Operational definitions

A. Effectiveness

Effectiveness refers to determine the extent to which the

breathing and relaxation techniques, massage and positions produce significant changes in labor process by using statistical measurements.

B. Lamaze method

The Lamaze method is the most popular method also termed as psycho prophylactic method. In this Study it includes a brief Video based module on techniques like breathing and relaxation, massage and position change that is incorporated in nursing care during first stage of labor.

C. Pain perception

It refers to level of pain perception experienced by mothers and is measured by verbal descriptor scale.

D. Anxiety

It is a state of experiencing worry or unease which is measured by anxiety scale.

E. Fatigue

It refers to extreme tiredness which is measured by fatigue assessment tool.

F. Gravid women

In this study it refers to primi woman who has completed 37 weeks of gestation in first stage of labor with cervical dilatation less than three centimeters identified by per vaginal findings by the investigator or as documented in the case records.

G. Delivery

Delivery is described as the physiologic process by which the fetus, placenta and membranes are expelled through the birth canal. Child birth and labor process are terms interchangeably used in the study

5. Conceptual frame work

The present study aims finding the effectiveness of Lamaze method during labor process. The conceptual frame work of the present study is based on Ernestine Wiedenbach's helping art of clinical nursing theory.

6. Methodology

- *Research Approach:* Quantitative research approach
- *Research Design:* Quasi experimental study (Post-test only design).
- *Research Setting:* The research was conducted in first stage of Labor Room
- *Accessible Population:* Primigravida mothers 37 to 40 weeks of gestation were admitted in the Cosmopolitan Hospital (from July to December2012)
- *Method of Sampling:* Convenient sampling.
- *Sample size:* The sample size was 200 primigravida mothers (100 in each group).
- *Description of the tool:* The tool was initially written in English and was then translated to Malayalam.

The tool used in the study consists of five parts.

- Part-i Demographic variables
- Part-ii Pain verbal descriptor scale
- Part-iii Anxiety scale
- Part-iv Fatigue assessment tool
- *Process of data collection:* Formal administrative permission was obtained from the Administrative officer and chief OBG Consultants of Cosmopolitan Hospital, Pattom, Thiruvananthapuram, to conduct pilot and the final study. The study assured anonymity and confidentiality of the scores. A brief video assisted training module was given during first stage and data collect.

7. Results

Table 1
Comparison of overall Pain based on group

Group	Mean	SD	N	t	P
Exp. Group	2.6	1.4	100	4.11**	0.000
Cont. Group	3.6	1.9	100		

** : Significant at 0.01 level

The obtained Mean score of pain in experimental group 2.6 (SD=1.4) was lesser than the control group 3.6(SD=1.9).The obtained 't' value t=4.11(p=0.01) was significant. Hence the null hypothesis was rejected and alternative hypothesis was accepted. It was inferred that pain perception in experimental group had significantly reduced when compared to control group. Thus Lamaze method was effective among primigravida mothers in coping with labour pain in first stage of labour.

Table 2
Comparison of overall Anxiety based on group

Group	Mean	SD	N	t	p
Exp. Group	2.8	1.2	100	6.44**	0.000
Cont.Group	4.0	1.5	100		

** : Significant at 0.01 level

The obtained Mean score of Anxiety in experimental group 2.8 (SD=1.2) was lesser than the control group 4.0(SD=1.5).The obtained 't' value t=6.44(p=0.01) was significant. Hence the null hypothesis was rejected and alternative hypothesis was accepted. It was inferred that Anxiety in experimental group had significantly lower level when compared to control group. The Lamaze method was effective.

Table 3
Comparison of overall Fatigue based on Group

Group	Mean	SD	N	t	p
Exp. Group	2.6	1.1	100	9.09**	0.000
Cont. Group	4.3	1.5	100		

** : Significant at 0.01 level

The obtained Mean score of fatigue in experimental group 2.6 (SD=1.1) was lesser than the control group 4.3(SD=1.5).The obtained 't' value t=9.09(p=0.000) was significant at 0.01 level. Hence the alternative hypothesis was accepted and null hypothesis was rejected. It was inferred that fatigue in experimental group had considerably lower when

Table 4
 Association between overall Pain perception and selected demographic variables in the experimental group

Variables	Mild pain	Moderate/ Severe pain	Z#	p	
Age	18-21 years	13 (81.3)	3 (18.8)	7.22**	0.007
	22-25 years	51 (75)	17 (25)		
	>=26 years	6 (37.5)	10 (62.5)		
Education	Upto High School	3 (25)	9 (75)	6.11*	0.013
	Graduates	39 (75)	13 (25)		
	Post graduate	28 (77.8)	8 (22.2)		

#Kruskal Wallis Test **: Significant at 0.01 level *:at 0.05 level.

Table 5
 Association between overall Anxiety and selected demographic variables in the experimental group

Variables	Mild anxiety	Moderate anxiety	Z#	p	
Age	18-21 years	11 (68.8)	5 (31.3)	10.51**	0.001
	22-25 years	65 (95.6)	3 (4.4)		
	>=26 years	16 (100)	0 (0)		
Duration of marital life	1year	65 (97)	2 (3)	8.27**	0.004
	2 -3 years	20 (87)	3 (13)		
	>3 years	7(70)	3(30)		
Onset of labor	Spontaneous	70 (95.9)	3 (4.1)	5.5*	0.019
	Induced	22 (81.5)	5 (18.5)		

#Kruskal Wallis Test **: Significant at 0.01 level *:at 0.05 level.

Table 6
 Association between overall Fatigue and selected demographic variables in the experimental group

Variables	Mild fatigue	Moderate fatigue	Z#	p	
Age	18-21 years	16 (100)	0 (0)	5.48*	0.019
	22-25 years	56 (82.4)	12 (17.6)		
	>=26 years	11 (68.8)	5 (31.3)		
Onset of labor	Spontaneous	65 (89)	8 (11)	6.92**	0.009
	Induced	18 (66.7)	9 (33.3)		

#Kruskal Wallis Test **: Significant at 0.01 level *:at 0.05 level.

compared to control group. So the Lamaze method was effective among primigravida mothers in reduction of fatigue in first stage of labour.

It was evident that there is association between the effectiveness of Lamaze method for pain and selected demographic variables such as age and education. Inference using Kruskal Wallis test shows association between age and pain perception of respondents Z# =7.22 which was found to be significant at 0.01 level. Kruskal Wallis test results also showed association between education and pain perception of respondents Z# =6.11 which found to be significant at 0.05 level. There is no significant association between overall pain perception and occupation, income, family size, duration of marriage, religion and area of living.

The study finding reveals that there is association between overall anxiety and selected demographic variables such as age, duration of marital life and onset of labour. Inference using Kruskal Wallis test shows association between age and anxiety of respondents Z# =10.51, duration of marital life and anxiety during first stage of labour Z# =8.27 and onset of labour and anxiety during first stage of labour Z# =.5.5, which were found to be significant at 0.01 level and 0.05 level subsequently. However, there is no significant association between overall anxiety and education, occupation, family income, family size, religion and area of living in experimental group.

Analysis shows that there is association between fatigue and selected demographic variables such as age and onset of labour in experimental group. Statistical inference using Kruskal

Wallis test value establishes association between age and fatigue of respondents Z# =5.48 was found to be significant at 0.01 level. Analytical test reveals that there is significant association between onset of labour and fatigue during first stage of labour Z# =6.92 was found to be significant at 0.01 level. There is no significant association between fatigue and education, occupation, family income, family size, duration of marriage, religion, area of living.

8. Limitations

- Random selection and True experimental study was not done.
- Intervention was done only on the day of child birth
- The study was done on top antenatal women who attended cosmopolitan hospital, Pattom, Thiruvananthapuram.
- Extraneous variables such as environmental conditions, nursing staff, and physicians, time of day, month, and year cannot be controlled and may not even be identified.

9. Nursing implications

A. Nursing practice

- This study will provide insight regarding physiological changes during labor
- The finding will help the nursing professional to

utilize video assisted child birth preparation classes

- The finding of the study enlighten the fact that Lamaze method can be used to cope up with pain anxiety and fatigue during first stage of labor.

B. Nursing education

- Helps to know various complementary and alternative therapies.
- To know the effective utilization of research-based practice.
- The video based instruction is useful to enhance student's knowledge, attitude and practice level and skill in educating the antenatal mothers regarding child birth process.

C. Nursing administration

- To formulate policies and protocols
- To conduct seminar, workshops on non-pharmacological management.
- To provide opportunities for nurses midwives to attend training programme on complementary therapies.

D. Nursing research

- To promote more research on effective pain management, anxiety and fatigue during labor.
- To promote utilization of research findings on labor pain management, anxiety, and fatigue and labor outcome.

10. Recommendations for further study

Based on the highlight of major findings following recommendations are put forth.

- Randomized controlled trial can be done with larger samples for better generalization.
- Case study method can be conducted to get in depth knowledge about small group of laboring mother.
- To assess the comparative labor pain perception

between primi mothers and multi mothers.

11. Conclusion

Numerous non pharmacologic methods of pain relief can be applied for a woman in labor. The findings of this study indicated that Lamaze nursing care intervention helped the women to cope up with the birthing process. It is a simple, easy to implement and most acceptable way to tackle pain anxiety and fatigue among parturient mothers. Nurses and childbirth educators must be willing to provide comprehensive childbirth education that introduces women to a variety of pain management options. Nurses and childbirth educators must also be willing to provide sensitive, continuous care that is a collaborative effort with the woman to assist her in coping with pain and mastering the experience of childbirth. The excavator results supported that the incorporation of Lamaze method in nursing care is one of the best intervention to cope up with labor process.

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