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RESEARCH ARTICLE

A STUDY TO ASSESS THE EFFECTIVENESS OF LAMAZE BREATHING EXERCISE ON LABOUR PAIN AMONG PRIMI GRAVID WOMEN ADMITTED IN LABOUR WARD AT MGMC & RI, PUDUCHERRY

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ABSTRACT

Reproduction is a basic function of human beings. Pregnancy and delivery are natural, joyous, human events. Childbirth is a universally celebrating event and happiest occasion in a women's life. Pregnant women commonly worry about the pain they will experience during Labour and childbirth. Labour pain is one of the severest pain. Controlling labour pain is a major concern of maternity care. Nowadays, interest in non-pharmacological methods may be helpful for their Labour experience and also no side effects. Lamaze breathing exercise is one of breathing exercise it helps to manage the pain during Labour and delivery.

Aim: The aim of the present study was to evaluate the effectiveness of lamaze breathing exercise on labour pain among primi gravid women in labour ward at MGMC & RI, Puducherry.

Material and Methods: The research design adopted for the study was experimental design (Times Series& Reinstituted Design). The study was conducted at labour ward, Mahatma Gandhi Medical college and hospital, Puducherry. Simple random sampling technique (Lottery method) was used to select the samples. Sixty samples were selected for the study (30 samples each in Experimental and Control group). After obtaining the signature in the consent form, data were collected to assess the demographic variables and a Pre-test was carried out to assess the level of pain during labour using Visual Analogue Scale in both the groups. In Experimental group Lamaze breathing exercise was administered and Control group there was no intervention. As the primi gravid women progress with labour the lamaze breathing exercise reinstituted with Pre-test and Post-test.

Result: The study result shows that in experimental group Pre-test 1 mean value 4.67 , Post-test 1 mean value 4.07 and control group Pre-test 1 mean value 5.10, Post-test 1 mean value 7.23.In comparing Pre-test 2 and post-test 2 in both groups. In Pre-test2 mean value 5.90, Post-test2 mean value 4.47 and Control group Pre-test 2 mean value 8.87 and post-test 2 mean value 9.33. In experimental group at 'P' value 0.9341 and control group at 'P' value 0.0000. Comparison between Pre-test2 and Post-test 2 of both groups. In experimental group at 'P' value 0.0000 and control group at 'P' value 0.0015 .This study reveals that there was a significant reduction in level of pain during labour by using lamaze breathing exercise at p value <0.001

Conclusion: This study reveals that post-test level of pain score was lower than the pre-test score after administration of lamaze breathing exercise. Thus this study proves that lamaze breathing exercise was highly statistically significant in reduction of pain during labour among primi gravid women.

INTRODUCTION

Reproduction is a basic function of human beings. Pregnancy and delivery are natural, joyous, human events. Childbirth is a universally celebrating event and happiest occasion in a women's life. Every women should have a pleasant experienced moment (AnnammaJacob, 2005). Globally, more than 500,000 women die each year because of complications related to pregnancy and childbirth (UNICEF, 2007).Every day, 1,000 women die in pregnancy or childbirth.Seventy-five percent of maternal deaths occur during childbirth and the postpartum period, and the vast majority of maternal deaths and injuries are avoidable when women have access to health care before, during and after childbirth (www.mothersDayEveryDay.Org). Labour is the process of delivering a baby and the placenta, membranes and umbilical cord from the uterus to the vagina to the outside world (http:/www.liverstrong.com/article/22568-Lamaze-breathing-technique-to use-during labour). Pregnant women commonly worry about the pain they will experience during Labour and childbirth. Labour pain is a nearly universal experience.

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Controlling labour pain is a major concern of maternity care. Nowadays, interest in non-pharmacological methods may be helpful for their Labour experience and also no side effects. Non pharmacological treatment provide effective natural pain relief for the mothers during Labour and childbirth (Ajner, 2011). Lamaze breathing exercise is a prepared childbirth technique popularized in the year 1940s by French obstetrician Dr. Fernand Lamaze. It is one of breathing exercise helps to manage the pain during Labour and delivery. This patterned breaths help to force oxygen into the blood. The rhythmic breathing develops body awareness and improves oxygenation aspects of the breathing techniques reduce pain perception (www.babycentre co.uk/pregnancy/labour and birth/breathing technique).This exercise is used to help the mother to relax during labour. It is a coping mechanism that allows decreasing the perception of pain associated with giving birth by keeping focus on breathing, not on pain experienced during childbirth. It also designed to help to conserve energy while giving birth and this further helps to reduce the level of exhaustion following birth (www.babycentreco.uk/pregnancy/ labourandbirth/breathing technique).

Statement of the Problem

A Study To Assess The Effectiveness Of Lamaze Breathing Exercise On Labour Pain Among Primi Gravid Women Admitted In Labour Ward At MGMC & RI, Puducherry.

Aims and Objective

- To assess the level of Labour pain among Primi gravid women in experimental and control group during pre-test.
- To evaluate the effectiveness of Lamaze breathing exercise on Labour pain among the Primi gravid women.
- To find out the association betweenthe level of Labour pain of primi gravid women and their selected demographic variables.

Hypotheses

H1: Level of labour pain of primi gravid women differs before and after Lamaze breathing exercise.
H2: There is a significant association betweenthe level of labour pain of primi gravid women and their selected demographic variables.

MATERIALS AND METHODS

Quantitative research approach and Experimental research Design (Time series & Instituted Design) was used for the study. The study was conducted in Labour ward at MGMC&RI, Puducherry. Simple random sampling technique was used to collect the samples through the lottery method. 60 primi gravid women with true labour pain and 4cm cervical dilatation were selected for the study.30 samples each in experimental and control group. The independent variable is Lamaze breathing exercise and the dependent variable of the study was labour pain of primi gravid women. The data collection was done for a period of one month after ethical committee clearance. Data were collected from the primi gravid women who fulfilled the inclusion criteria, were selected using simple random sampling technique – lottery method. Two to four primi gravid women selected per day. The primi gravid women were given opportunity to clarify their doubts regarding the intervention. After obtaining the signature in the consent form, data was collected based on demographic variables and a pre-test was carried out to assess the level of pain during labour using visual analogue scale in both the groups., For experimental group Lamaze breathing exercise was administered and control group there was no intervention. The demographic variables were analysed by descriptive statistics (frequency and percentage).The effectiveness of Lamaze breathing exercise on the level of Labour pain was done by using Mean, standard deviation ,'t' test . The association between the Pre-test 1levelof labourpain with selected demographic variables using inferential statistics was obtained by Chi square test.

RESULTS

The study findings showed that highest percentage of the primi gravid women were in the age group of 21-25 years34 (56.6%), Regarding the religion 49(81.7%) of primi gravid women were Hindus, Regarding educational qualification 38(63,3%) belongs to collegiate education, Considering occupation 52(86.7%) primi gravid women were house wives, Regarding monthly family income 28(46.7%) were belongs to Rs.5001-Rs.10, 000, 36(60%) of them were from joint family, Regarding dietary pattern 57(95.0%) were Non vegetarian. 35(58.3%) were belongs to rural area. Considering the sources of information 27(45.0%) women got information from media.

Table 1. Frequency and Percentage distribution of level of pain among primi gravid women in pre-test 1 and pre-test 2 of the Experimental group and Control groups

Level of pain	Pre-test 1				Pre-test 2			
	Experimental (30)		Control (30)		Experimental (30)		Control (30)	
	N	(%)	N	(%)	N	(%)	N	(%)
No pain	0	0	0	0	0	0	0	0
Mild	8	26.66	6	20	0	0	0	0
Moderate	22	73.33	24	80	23	76.66	0	0
Severe	0	0	0	0	7	23.33	25	83.33
Unbearable	0	0	0	0	0	0	5	16.66

Table 1represents the Frequency and Percentage distribution oflevel of pain among primi gravid women in Pre-test 1 and Pre-test 2 of the both groups. In Pre-test 1, experimental group 8(26.66%) had mild pain,22(73.33%) had moderate pain and none of them had severe and unbearable pain.In control group 6 (20%)had mild pain, 24(80%) had moderate pain and none of them had severe and unbearable pain.In Pre-test 2, experimental group, 23(76.66%) had moderate pain,7(23.33%)of them had severe pain, none of them had mild and unbearable pain.In control group,25(83.33%) had severe pain and 5(16.66%) had unbearable pain and none of them had mild and moderate pain.

Table 2. Frequency and Percentage distribution of level of pain among primi gravid women in post-test 1 and post- test 2 of the both groups

Level of pain	Post-test 1				Post-test 2			
	Experimental(30)		Control(30)		Experimental(30)		Control(30)	
	N	(%)	N	(%)	N	(%)	N	(%)
No pain	0	0	0	0	0	0	0	0
Mild	12	40	0	0	5	16.66	0	0
Moderate	18	60	13	43.33	24	80	0	0
Severe	0	0	17	56.66	1	3.33	17	56.66
Unbearable	0	0	0	0	0	0	0	43.33

Table 2 denotes the frequency and percentage distribution of level of pain among primi gravid women in post-test 1 and post- test 2 of the both groups. In Post-test 1 experimental group, 12(40%) had mild pain, 18(60%) had moderate pain and none of them had severe and unbearable pain .In control group none of them had mild and unbearable pain and 13(43.33%) of them had moderate pain and 17(56.66%) of them had severe pain.In Post-test 2, experimental group 5(16.66%) of them had mild pain,24(80%) of them had moderate pain,1(3.33%) of them had severe pain and none of them had unbearable pain. In control group none of them had mild pain and moderate pain and 17(56.66%) had severe pain and 13(43.33%) of them had unbearable pain.

Table 3. Comparison between Experimental and Control Groups during Pre-test 1 and Post-test 1

Level of test	Experimental		Control		't'- value	'P' value
	Mean	Standard Deviation (SD)	Mean	Standard Deviation (SD)		
Pretest1	4.67	1.24	5.10	1.16	-1.3999	0.1669
Posttest1	4.70	1.44	7.23	1.65	-6.3227	0.0000
't' – test	-0.0834		-6.5794			
'P' value	0.9341		0.0000			

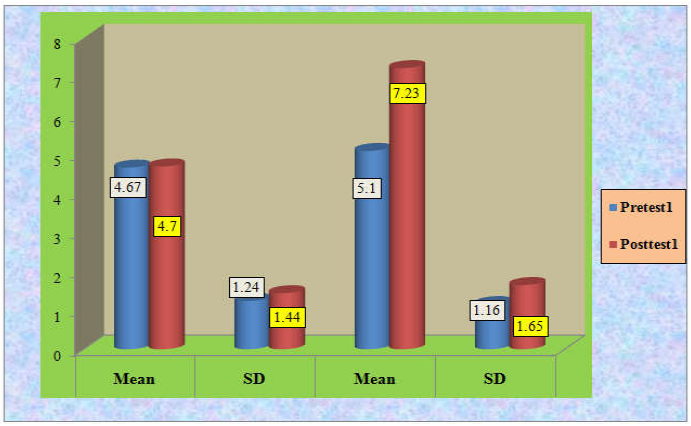

Figure 1. Comparison between Experimental and Control Groups during Pre-test 1 and Post-test1. In Pre-test1, mean and SD value of experimental and Control group was 4.67, 1.24 and 5.1,1.16 respectively .In Post-test1 mean and SD value experimental and Control group was 4.7 , 1.44 and 7.23, 1.65 respectively. The obtained 't' test value for experimental group -0.0834 .'P' value 0.934 was significant at P< 0.01. The obtained 't' test value for control group -6.5794 and 'P' value 0.0000 was significant at P< 0.01.while comparing Experimental and control group during Pre-test1 and Post-test 1. In Pre-test 1 obtained 't' test value -1.3999 and P value 0.1669 and post –test 1 't' test value -6.3227 and P value 0.0000

It was inferred that Lamaze breathing exercise was highly effective in reducing the level of pain during labour and which can be effectively utilized as a Non pharmacological management for reduction of pain during labour.

Table 4. Comparison Between Experimental and control group during Pre-test 2 and Post-test 2

Level of test	Experimental		Control		't' test value	P - value
	Mean	Standard deviation(SD)	Mean	Standard Deviation(SD)		
pretest2	5.90	1.09	8.87	0.68	-12.6083	0.0000
posttest2	4.47	1.01	9.33	0.71	21.6077	0.0000
t-test	7.3190		-3.5000			
p-value	0.0000		0.0015			

*** Highly significant at P <0.0000 level

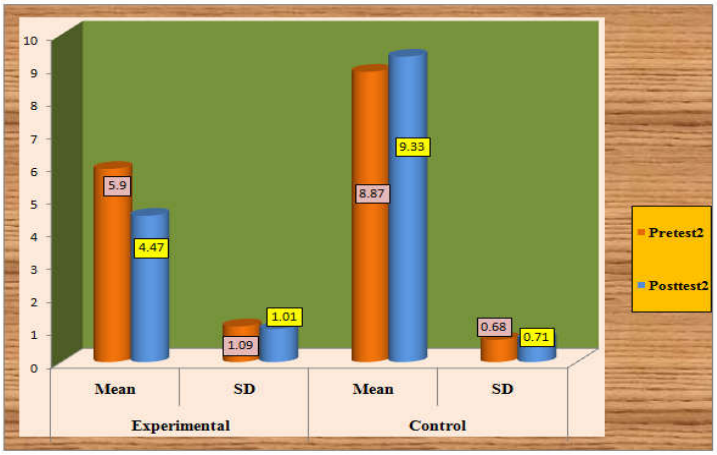

Figure 2. Comparison between Experimental and Control Groups during Pre-test 2 and Post-test 2 by using of mean value and Standard Deviation. In pre-test 2, mean and SD value of experimental and Control group was 5.9, 1.09 and 8.87, 0.68 respectively. In Post-test 2 mean and SD value of experimental and Control group was 4.47, 1.01 and 9.33, 0.71 respectively.while comparing Pre-test 2 and Post-test 2 in experimental group t-test value was 7.319 and 'P' value was 0.0000.In control group Pre-test 1 and Post-test 1 't'-test value was -3.5 and 'P' value was 0.0015. while comparing Experimental and control group during Pre-test 2 and Post-test 2. In Pre-test 2 obtained 't' test value -12.6083 and 'P value 0.0000 was significant at P< 0.01 and post –test 2 't' test value -21.6077 and P value 0.0000 was significant at P< 0.01

It was inferred that lamaze breathing exercise was highly effective in reducing the level of pain during labour as the obtained 't' value 7.3190 was both pre-test2 (SD=1.09) and post-test2(SD=1.01) significant at p <0.0000 level. Hence Lamaze breathing exercise can be utilized as an alternative measure for relieving the level of pain during labour. There is no significant association between pain during labour and selected demographic variables of primi gravid women.

Table 5. Association between level of pain and selected demographic variables

Variables	Pretest1-level		Total	Chi square	P value
	Mild pain	Moderate Pain			
1.AGE					
A.< 20 years	0	1	1		9.21
B.21- 25 years	8	26	34	0.311	Ns
C.26-30 years	6	19	25		
2.RELIGION					
A. Hindu	11	38	49		9.21
B. Christian	3	5	8	1.84	Ns
C. Muslim	0	3	3		
3.EDUCATIONAL STATUS					
A. Illiterate	0	1	1		11.34
B. High school	2	3	5	1.219	Ns
C. Higher secondary	4	12	16		
D. Collegiate	8	30	38		
4.OCCUPATION					11.34
A. Private employee	0	1	1	2.78	Ns
B. Government employee	0	1	1		
C. House wife	14	38	52		
D. Coolie	0	6	6		
5.MONTHLY INCOME					
A. Below Rs.2000	0	1	1		11.34
B.Rs.2001-Rs.5000	4	20	24	1.4	Ns
C.Rs.5001-Rs.10,000	8	20	28		
D. More than Rs.10000	2	5	7		
6.TYPE OF FAMILY				0.992	6.64
A. Nuclear family	4	20	24		Ns
B. Joint family	10	26	36		
7.DIETARY PATTERN					6.64
A. Vegetarian	1	2	3	0.175	Ns
B. Non Vegetarian	13	44	57		
8.RESIDENTIAL AREA				1.26	6.64
A. Urban	4	21	25		Ns
B. Rural	10	25	35		
9.SOURCE OF INFORMATION					
A. Books and Magazines	1	6	7		
B. Neighbourhood	2	9	11	2.37	13.28
C. Media	9	18	27		
D. Health personnel	0	5	5		Ns
E. Not received any information	2	8	10		

There is no significant association between pain during labour and selected demographic variables of primi gravid women.

DISCUSSION

The first objective was to assess the level of Labour pain among Primi gravid women in experimental and control group during pre-test: The present study findings revealed that the level of pain among primi gravid women in Pre-test 1 and Pre-test 2 of the both groups. In Pre-test 1, experimental group 8(26.66%) had mild pain,22(73.33%) had moderate pain and none of them had severe and unbearable pain .In control group 6 (20%)had mild pain, 24(80%) had moderate pain and none of them had severe and unbearable pain. In Pre-test 2, experimental group, 23(76.66%) had moderate pain,7(23.33%)of them had severe pain, none of them had mild and unbearable pain .In control group,25(83.33%) had severe pain and 5(16.66%) had unbearable pain and none of them had mild and moderate pain (Table 1).

The second objective was to evaluate the effectiveness of Lamaze breathing exercise on Labour pain among the Primi gravid women: The present study revealed that the level of pain among primi gravid women in post-test 1 and post- test 2 of the both groups. In Post-test 1 experimental group, 12(40%) had mild pain, 18(60%) had moderate pain and none of them had severe and unbearable pain .In control group none of them had mild and unbearable pain and 13(43.33%) of them had moderate pain and 17(56.66%) of them had severe pain. In Post-test 2, experimental group 5(16.66%) of them had mild pain,24(80%) of them had moderate pain,1(3.33%) of them had severe pain and none of them had unbearable pain. In control group none of them had mild pain and moderate pain and 17(56.66%) had severe pain and 13(43.33%) of them had unbearable pain (Table 2).It reveals that Lamaze breathing exercise was effective on reduction of level of pain during labour among primi gravid women. Hence the stated ResearchHypothesis (H1)was accepted (There is a significant difference in the level of pain during labour before and after Lamaze breathing exercise among primi gravid women)

The third objective was to find out the association between the level of Labour pain of primi gravid womenandtheirselected demographic variables: The present study findings revealed that there was no association in the level of pain during labour with the selected demographic variables such as age, religion, education, occupation, monthly income, type of family,dietary pattern, residential area, source of information etc of primi gravid women (P-value is >0.05). Hence the Research Hypothesis (H_2) was rejected. (There is a significant association between the level of pain among primi gravid women and the selected demographic variables).

Conclusion

The interventional study was done to assess the effectiveness of Lamaze breathing exercise on labour pain among primi gravid women admitted in labour ward at MGMC & RI, Puducherry analysis shows that among 60 primi gravid women Post-test level of pain was lower than the Pre-test after administration of Lamaze breathing exercise. Thus this study proves that Lamaze breathing exercise was highly effective in reduction of pain during labour among primi gravid women. 'P' value of post-test was <0.0000. It shows Lamaze breathing exercise was highly effective intervention to reduce the level of pain during labour.

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