"Effectiveness of Lamaze Breathing on Labour pain among Primi Gravida Mothers at Selected Maternity Hospital, Hyderabad, Telangana."

[1]Mrs. Jatothu Manjula, ,[2] Dr. A. Jabila Gnana Thiah, [3] Mrs. Harika Priyanka, [4]Mrs. Leena Kola[4].

[1]Staff Nurse, TTWREI, Jangaon, Telangana, India [2] Professor-HOD, Obstetrics & Gynecological Nursing, Apollo College of Nursing, Hyderabad, Telangana, India [4]FON Dept, Associate Professor, Apollo College of Nursing, Hyderabad, India.

Abstract –

An experimental study was conducted on "Effectiveness of Lamaze Breathing on Labour pain among primi gravida mothers at Maternity Hospital, Hyderabad, Telangana. The objective of the study is to evaluate the effectiveness of Lamaze breathing on labour pain among primi gravida mothers in Interventional & Control group. A quantitative approach with quasi-experimental with post- test only control group research design was used to study the effectiveness of labour support measures on pain perception of mothers in labour. Sixty mothers in labour were selected by using simple random sampling technique and randomly assigned into two groups, i.e., Interventional group (n = 30) and control group (n = 30). A structured interview questionnaire, Visual analogue pains scale (VAPS) and verbal response questionnaire were administered to assess the effectiveness of Lamaze breathing. Intervention was given to the experimental group, i.e., Lamaze breathing was provided during the first stage of labour after 3cm of cervical dilatation. Post interventional pain perception was assessed by using Visual Analogue pain scale after that researcher administered Lamaze breathing technique to the mothers during labour. 2 hours after the delivery the mother of the experimental group was assessed for Labour pain. There was a significant difference in experimental and the control groups.

The findings of the study revealed that the mean score of labour pain in the experimental group was 2.87 ± 0.571, whereas in the control group the mean score was 4.07 ± 0.691. The obtained t value of 7.327 was greater than the table value of 2.019 at df = 58, which was statistically significant at p = 0.000 level. This clearly indicates that Lamaze breathing was effective in reducing labour pain among primigravida mothers in the Interventional group when compared to the control group.

The study concluded that Lamaze breathing is an effective technique in reducing labour pain among primigravida mothers.

Key Terms: Lamaze Breathing, Labour Pain, Primigravida Mother, Latent Phase

Introduction:

Motherhood is a significant milestone, representing both responsibility and fulfillment in a woman's life. Pregnancy and childbirth, however, are often associated with physical pain, emotional anxiety, and uncertainty. Labour is a physiological process divided into stages, with the first stage—cervical dilatation—being particularly painful and stressful for primigravida mothers.

Effective pain management during labour is critical to promote maternal well-being and favorable birth outcomes. While pharmacological methods are widely available, they may not be suitable for all mothers. Non-pharmacological interventions, such as the Lamaze breathing technique, have gained global recognition. Lamaze emphasizes that childbirth is a normal, natural process and encourages women to approach labour with confidence. Focused breathing exercises promote relaxation, reduce anxiety, and make uterine contractions more manageable without the use of drugs.

It also intended to contribute to the process of labour without the use of any drug. Breathing exercises during labour helps to focus on breathing and reduce the pain during delivery. It makes contraction more manageable, so breathing exercise cannot be underestimated, since it is proved through experiments and experience of many mothers.

Need for the Study

Labour pain is among the most intense forms of pain experienced by women, with primigravida mothers often reporting greater discomfort compared to multiparous women. Prolonged and poorly managed pain may increase maternal stress, anxiety, and the likelihood of interventions such as caesarean sections.

The first stage of labour typically lasts 13–14 hours in primigravida mothers and is characterized by progressive cervical dilatation with increasingly painful contractions. Studies suggest that psychological support and relaxation techniques during this period reduce maternal distress and improve vaginal delivery rates. Lamaze breathing, being simple, cost-effective, and nurse-led, can serve as an effective non-pharmacological strategy. Therefore, the researcher was interested to conduct the study to evaluate the effectiveness of Lamaze breathing on labour pain among primigravida mothers.

Statement of the problem

"Effectiveness of Lamaze Breathing on Labour pain among primigravida mothers at Selected Maternity Hospital, Hyderabad, Telangana."

Objectives

1. To assess the level of labour pain among primigravida mothers in experimental and control group.
2. To evaluate the effectiveness of Lamaze breathing on labour pain among primigravida mothers in experimental group & Control group.

Assumptions

❖ Primigravida mothers may have higher pain perception during labour.

❖ Lamaze breathing may reduce labour pain.

❖ Pain perception varies among individuals.

❖ Mothers prefer safe pain-relieving measures during labour.

❖ Breathing exercises are effective in relieving labour pain.

Delimitations

The study is delimited to:
➢ Primi gravida mother
➢ Primi gravida Mothers who are undergoing normal vaginal birthing & who are in first stage of labour with 3cm of cervical dilatation.

Hypothesis

H_1 - There is a significant difference between the level of labour pain in Interventional and Control group.

Research Methodology: The research approach for this study is a Quantitative research approach which aims effectiveness of Lamaze breathing on Labour pain among primigravida mothers. The research design adopted for the study is Quasi experimental research design with post-test control group research design. 60 samples were selected by using simple random sampling method, allotment of the groups was done by random assignment. The present study was conducted at Maternity Hospital, Hyderabad. The population in this study was all primigravida mothers. The target population is primigravida mothers who are admitted for safe confinement with 3cms of Cervical dilatation at selected Maternity hospitals, Hyderabad.

Criteria of Sample selection

Inclusion criteria: Primi gravida mothers aged 18–30 years, with 37–40 weeks of gestation, singleton pregnancy, cephalic presentation, and 3 cm cervical dilatation.

Exclusion criteria: High-risk pregnancies, Multiple gestations, Malpresentation, associated medical/surgical history, or bad obstetric history**.**

Variables of the study

Independent variable: Lamaze breathing

Dependent variable: Level of labour pain among primigravid mothers

Description of Tool

A Structured Interview Questionnaire on Labour pain to assess the level of labour pain among primigravida mothers in Interventional and conventional group. The tool consisted of two sections:

Part A: Demographic data

A semi-structured interview questionnaire used to collect socio-demographic data which includes like, age, religion, and educational qualification, type of family, family income, occupation, and Mode of delivery.

Part B: WHO Partograph

A Pantograph is used to record the observations made when the woman is in labour. Before or after administration of intervention in experimental and control group. The progress of labour is monitored by cervical dilatation and uterine contractions.

Part C: Visual Analogue Pain scale (VAPS)

VAPS consists of a straight line of 10 cm length, representing a continuum of intensity and has verbal description at each end, i.e., "No pain" and "worst pain" possible, allowing the client total freedom in identifying the severity of pain by notifying any point on the continuum. In this study the investigator measures the pain of primigravida mothers in the first stage of labour using the standardized visual analogue scale.

Data Collection

A formal permission to conduct the study was obtained from the administrator of Maternity Hospital, Hyderabad. The main study data collection was done from 4th July to 16th July 2023. The investigator explained the purpose of the study to the primigravida mother. Confidentiality was assured to all the subjects and obtained informed consent. Samples were selected as per the sampling criteria and divided into Group I and Group II by simple random sampling method. samples in Group I- Interventional group received Lamaze breathing exercise for 10minutes for every half an hour, those who are having cervical dilatation from 3-8 cms, while Group II- Conventional group did not receive any breathing exercise. Pain level of primi gravida mothers were assessed by using Visual Analogue Pain scale in Group I & Group II at 8cm of cervical dilatation. The investigator assessed the levels of pain by Visual Analogue pain Scale, followed by plotting the partograph and the Data collection was terminated after thanking each of the subjects.

Ethical Consideration

The Ethical clearance was obtained through Institutional Ethical Committee Clinical Studies (IEC- CS) by the Apollo Institute of Medical Sciences and Research. An informed consent was obtained from the samples who was involved in the study before collecting the data.

Data Analysis

The analysis and interpretation were done based on objectives of the study by using descriptive and inferential statistics. The following plan was made for data analysis: Comparison of pain score of the primi gravida mothers in Group I and Group II will be analysed by unpaired 't' test. Association of pain score with selected demographic variables analyzed using Chi-square test

Presentation of data

The data was analyzed and presented under the following sections.

Section I: Frequency and percentage distribution of demographical variables.

Section II: Evaluate the effectiveness of Lamaze breathing on Labour pain among primigravida mothers.

PART A: Post assess the level of Labour pain in experimental and control group.

PART B: Test of significance showing the deference between the Mean, Standard Deviation (SD) of Experimental and Control Group

SECTION I: FREQUENCY AND PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES.

Table 4.1: Frequency and percentage distribution of Demographic variables

$n1+n2=-30+30$

Majority of

Sl. NO	Demographic Variables	Experimental group		Control group	
		f	%	f	%
1.AGE IN YEARS					
1.1	18-21years	7	23.3%	10	33.3%
1.2	22-25 years	19	63.3%	18	60.0%
1.3	26-29 years	4	13.4%	2	6.7%
1.4	≥30 years	0	0.0%	0	0.0%
2.RELIGION					
2.1	Hindu	10	33.3%	16	53.3%
2.2	Muslim	18	60.0%	12	40.0%
2.3	Christian	2	6.7%	2	6.7%
2.4	Others	0	0.0%	0	0.0%
3.EDUCATIONAL QUALIFICATION					
3.1	Up to Primary school	10	33.4%	7	23.3%
3.2	Secondary High School	10	33.3%	16	53.4%
3.3	Intermediate	0	0.0%	0	0.0%
3.4	Graduate & above	10	33.3%	7	23.3%
4.OCCUPATION					
4.1	Private employee	7	23.4%	5	16.7%
4.2	Government employee	0	0.0%	5	16.7%
4.3	Self employed	9	30.0%	10	33.3%
4.4	Daily Wager	14	46.6%	10	33.4%
5. MONTHLY FAMILY INCOME IN (RUPEES)					
5.1	Below 10,000rs	9	30.0%	10	33.3%
5.2	11,000-20,000	19	63.3%	16	53.3%
5.3	21,000-30,000	2	6.7%	4	13.4%
5.4	Above 30,000	0	0.0%	0	0.0%
6.MODE OF DELIVERY					
6.1	Normal delivery	27	90.0%	26	86.7%
6.2	Instrumental delivery	3	10.0%	4	13.3%

participants were aged 22–25 years (63.3% experimental; 60% control) Most belonged to Hindu and Muslim religions. Around one-third of participants in each group were daily wage workers. Majority (63.3% experimental; 53.3% control) had a monthly family income of ₹11,000–20,000. Normal vaginal delivery was most common (90% experimental; 86.7% con

Section II: Evaluate the effectiveness of Lamaze breathing on Labour pain among primigravida mothers.

PART A: Post assess the level of Labour pain in Experimental and Control group.

Frequency and Percentage distribution level of labour pain among primigravida mothers in Experimental and Control group.

$n_1+n_2=-30+30$

Level of labour pain	Interventional group		Control group	
	Frequency	Percentage	Frequency	Percentage
No pain (0)	0	0%	0	0%
Mild pain (1-3)	27	90.0%	6	20.0%
Moderate pain (4-6)	3	10.0%	24	80.0%
Sever pain (7-8)	0	%	0	0%
Worst pain (9-10)	0	%	0	0%

The above table shows that Experimental group majority 27 (90.0%) had Mild pain and least 3(10%) had Moderate pain and none of them were having no pain and severe pain and worst pain.

Control group Majority of the samples 24(80.0%) of them were reported with moderate pain, 6(20.0%) had mild pain and none of them were having no pain and severe pain and worst pain.

PART B: Test of significance showing the deference between the Mean, SD of Experimental group, and Control group.

$n_1+n_2=-30+30$

Group	Mean	SD	Obtained "t" Value	df	Table value	P value
Experimental Group (30)	2.87	0.571	7.327	58	2.019	0.000
Control group (30)	4.07	0.691				

The above table denotes the Mean scores was in Experimental group 2.87 SD 0.571, in Control group Mean scores was 4.07 SD 0.691 the Obtained "t" value is 7.327 greater than the table value 2.019 at df 58 was significant at P = 0.000 level of Significance it indicates that Lamaze breathing is effective on Labour pain among Primigravida mothers. **Hence H₁ is accepted** that there is a significant difference between the experimental and control group after the administration of Lamaze breathing in experimental group, which is highly significant at p=0.000 level of significance.

Recommendations

1. Incorporate Lamaze breathing in prenatal classes.
2. Maintain adequate nurse-client ratio in labour rooms to support non-pharmacological pain relief.
3. Conduct larger studies across multiple hospitals to validate findings.

Conclusion

The study concluded that Lamaze breathing is an effective technique in reducing labour pain among primigravida mothers. The results demonstrated a significant difference in the mean pain scores between the experimental group (Lamaze breathing) and the control group. The findings of this study suggest that Lamaze breathing can be a useful adjunct to other pain management strategies during labour. Therefore, nurses and healthcare providers can consider incorporating Lamaze breathing into their care protocols to provide more effective pain management for primigravida mothers

References

1. Paripex – Indian Journal of Research. A study to assess the effectiveness of Lamaze breathing exercise on labour pain and anxiety among primiparous mothers in Government Headquarters Hospital, Tiruvallur. Available from https://www.worldwidejournals.com/paripex/

2. Qumer, S. (2021). A study to evaluate the effectiveness of patterned breathing technique on pain during first stage of labour among primigravida mothers. International Journal of Trend in Scientific Research and Development, 5(4). Acailable from https://www.ijtsrd.com/papers/ijtsrd43786.pdf

3. Shi, S. (2006). Literature Review: An Overview. Retrieved from https://web.cortland.edu/shis/651/LitRevOverview.pdf

4. Priya, M. (2019). A study to evaluate the effectiveness of Lamaze method in terms of pain perception, anxiety, fatigue and labour outcome among primigravida mothers.
   Available from http://repository-tnmgrmu.ac.in/12938/