A Study to evaluate the effect of paced breathing on labor pain perception among primi gravidae in labor at Narayana Medical College and Hospital at Nellore

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Abstract: Paced breathing has been used to reduce the pain perception during labor. It also reduces the negative feelings, such as fear and anxiety; it is a nonpharmacological method with favorable effects in reducing the pain perception during the labor. **Objectives:** 1. To assess the level of pain perception after paced breathing among primi gravidae during labor in the experimental group. 2. To assess the level of pain perception among primi gravidae during labor in the control group. 3. To find the difference between experimental and control groups in terms of reduction of pain perception. 4. To associate the level of pain perception among Primi gravidae with theirs selected demographic variables. **Maetrials and Methods -** An quasiexperimental research approach with post test control group design was used in this study. 60 primi gravidae in the age group of 20-35 years who fulfill the inclusion criteria were selected by non probability convenient sampling technique. Visual Analog pain perception scale was used to collect data. The data were analyzed in terms of objectives of the study using descriptive and inferential statistics. **Results:** majority (93.33%) of women had moderate level of pain perception in experimental group and all the (100 %) women in control group had no change in pain perception and continued with severe pain. **Key words –Effect, Paced breathing, Primi gravidae in labour.**

Introduction: Pain in labor is, nearly a universal experience. During the first stage of labor uterine contractions cause cervical dilatation, effacement and uterine ischemia (decreased blood flow and therefore the local oxygen deficit) resulting from contraction of the arteries to the myometrium. The discomfort from cervical changes and uterine ischemia is visceral pain. Pain thresholds cause the amount of pain experienced to be unique to each individual. Anxiety and fear are commonly associated with increased pain during labor. A wide variety of child birth preparation methods can provide a way to help the women cope with the discomfort of labor .Breathing technique and relaxation techniques are being followed to reduce the labor pain. Breathing technique such as relaxed breathing through the nose and out through the mouth at the beginning and the end of each uterine contraction.

Paced breathing has been used to reduce pain perception during labor. It also reduces the negative feelings, such as fear and anxiety; it is a non-pharmacological method with favorable effects in reducing the pain perception during the labor (Rose, 1988).

Need for the Study: Child birth is a natural biological process and therefore the pain associated with it is also perceived as normal and natural. The nature of the pain experienced during labor depends on the physical and emotional status of the women. The primi gravid women experience more intense pain during labor compared to multi gravida (Mclazack, Taenzer and Kinch, 1981). The primi gravide do not know which is the intense level of pain and how to manage with that because they do not have any past experience.

Statement of the Problem: A study to evaluate the effect of paced breathing on labor pain perception among primi gravidae in labor at IOG & Govt hospital for women and children, Egmore, Chennai.

Objectives:

1. To assess the level of pain perception after paced breathing among primi gravidae in labor for the experimental group.

2. To assess the level of pain perception among primi gravidae in labor for the control group.

3. To find the difference between experimental and control group in terms of reduction of pain perception.

4. To associate the level of pain perception among primi gravidae with their selected demographic variables.

Hypotheses:

➢ There will be a significant effect of paced breathing on labour pain perception.

➢ There will be a significant association between the effect of paced breathing on labour pain among primi gravidae with their selected socio demographic variables.

Operational Definitions:

Effect: Refers to a result or action in terms of significant reduction in the level of pain perception of women during labor as measured by the visual analog pain perception scale.

Paced Breathing: It is an act of inhaling and exhaling air refers to a slow, rhythmic, repetitive breathing pattern used to reduce the level of labor pain perception of women.

Primi gravidae in Labor: Refers to the mother with full term first pregnancy {who completed 37 weeks} during labor, who is admitted in the labor room in active phase of labor.

Assumptions:

1. The perception of labor pain differs from woman to woman.

2. Relaxation is a form of learned skill of deep breathing.

3. Paced breathing has no adverse effect on labor pain.

LIMITATIONS

1. The study is limited to primi gravid women above 37 weeks of gestation.

2. Assessment of the level of pain perception is limited to first stage of labor (3 cms to7 cms of cervical dilation) after monitoring their breathing exercise.

Research Approach: Experimental approach was used to evaluate the effect of paced breathing on labor pain perception.

Research Design: A quasi-experimental with post test control group design was used in this study.

Setting of the Study: Narayana Medical College and Hospital, Nellore was chosen considering the availability of samples, acquaintance of the investigator with the area and cooperation from the institution.

Study Population: All primi gravidae

Accessible Population: All primi gravidae, completed

37 weeks of gestation and who were admitted in labor room with labor pain.

Sample size: The sample consists of 60 primigravidae, completed 37 weeks of gestation and who were admitted in labor room with labor pain.

Sampling technique: Non-probability convenient sampling technique.

Variables

Independent Variable: Paced breathing exercises

Dependent variable: Labour pain perception

Criteria for sample selection

Inclusion Criteria:

➢ Primi gravidae in labor who completed 37 weeks of gestation with labor pain.

➢ Who were in the active phase of first stage of labor (3 to 7cm of cervical dilatation).

➢ Who were in the age group of 20-35 years.

➢ Who were willing to participate in the study.

➢ Who can understand and speak Tamil.

Exclusion Criteria:

➢ Primigravidae who were not present at the time of study.

➢ High risk pregnant women eg. PIH, GDM.

Description of the instrument

Section-I : Demographic Data

Section-II : Visual Analog pain perception scale

Section-III : Observation check list on paced breathing procedure.

Section – I: Demographic Data: It includes 2 parts

Part-A: Age, religion, education, occupation, income, Residence and family type.

Part-B: Which includes Clinical Variables : usual pain tolerance level, regularity of antenatal check up, Gestational age in weeks, last menstrual period, time of true labor pain started cervical dilation, nature of uterine contraction, administration of labor enhancing procedure / drug.

Section – II: Visual analog pain perception scale it is a standard method which consist of ten points. It is used to assess the pain perception of term mother in labor.

Mothers who are in true labor were asked to choose the appropriate pain perception level in the ten points. Visual analog scale is performing PV and find out from 5-7 cm (2hrs) during this period the data collected from the scale after each uterine contraction. The scale was categorized as follows:

'0'   Denotes   -   No pain

'1'   Denotes   -   Slight pain

'2-6'   Denotes   -   Moderate pain

'7-9'   Denotes   -   Extreme pain

'10'   Denotes   -   Excruciating pain

Section- III: Observation checklist on paced breathing procedure

It was used to assess the skill of primi gravidae while doing re-demonstration. The checklist included two requisites and steps of paced breathing exercise. If the woman performs the steps accurately a ("") mark was placed in column carries score '1'not performed marked (X) in the column of '0' score. Based on the woman's performance re-teaching was given (when she doesn't perform even a single step).

Development of Structural Teaching Programme on Paced Breathing

Investigator developed STP on paced breathing, based on review literature and the expert's opinion. The STP of 15 minutes (teaching 10 minutes and redemonstration 5 minutes) comprised of the general information on teaching, general and behavioral objectives, content, teacher-learner

activities and evaluation. The content area of the STP included an introduction, definition of breathing exercise and paced breathing, benefits of paced breathing preliminaries and procedure of paced breathing. The method of teaching adopted was Lecture-cum-demonstration. The visual aids used were charts. The content of STP was submitted to experts for establishing content validity. The experts included were Obstetrician, Pulmonologist, physiotherapist nursing faculties specialized in maternity nursing and senior midwives. According to the opinions and suggestions of the experts modifications were made in the content. The teaching material was translated into Tamil and retranslated into English by the language expert to check the validity of the translated content.

Data collection: Pilot study was conducted with 6 Primigravidae to check the fesibility of the study with the result, the main study was conducted. The data collection was done for two weeks at IOG & Govt hospital for women and children, Egmore, Chennai. In Every day on an average of 5-10 participants were selected by non probability convenient sampling for both experimental and control group. The teaching on Paced breathing was conducted for the experimental group after admitting her in labor room (PV 3 cm dilatation) during early labor. Teaching and demonstration was given for 15 minutes. After two hours re-assessed and if she was 5 cms dilatated, under supervision, she was instructed to do the breathing exercise during every contraction. Participants were observed as per the check list prepared. Re-teaching was given when she was unable to perform even a single step. Post assessment of pain perception was done for 1 hour.

Data analysis: The data collected were analyzed adapting descriptive and inferential statistics.

Results and Discussion: Demographic data revealed that 70% of participant belong to the age group of 15 to 25 years, 50% had secondary level education. 50%were not working; and 86.67% of women attended regular antenatal check up.

Table No-1: Distribution of data on the Level of Pain Perception   (N= 60)

Characteristics	Mild		Moderate		Severe	
	F	%	F	%	F	%
Experimental	0	0	28	93	2	7
Control	0	0	0	0	30	100

Table-1: Depicts that majority (93.33%) of participants perceived moderate level pain in experimental group and all the (100 %) participants in the control group had no change in pain perception. None of the women in both the group had change in mild level of pain perception.
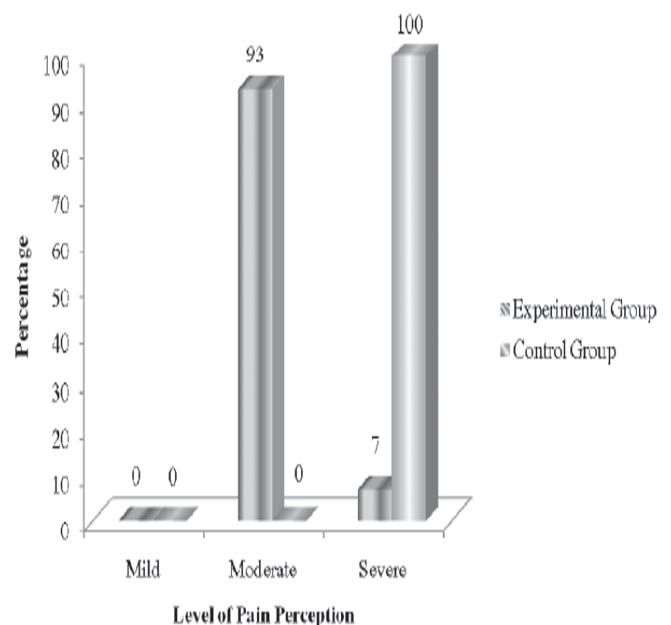

Figure-1: Bar Diagram Showing the Level of Pain Perception of Experimental Group and Control Group.

Table-2.Mean, Mean Difference, Standard Deviation and t value of Post Test on Labor Pain Perception Score of Women in Experimental and Control Group (N = 60)

Group	M	MD	SD	t vaue
Experimental	5.85	1.29	0.489	*16.12
Control	7.14		0.435	

*Significant at 0.5 level

  The data presented in Table 2 show that the mean difference of labor pain perception scores (1.29) between the mean post – test scores of control group and experimental group, was significant at .05 level as the value t = 16.12 at df = 58, p >05. This indicates that the difference of the mean observed was not by chance but the difference of the mean observed was a true difference. The above findings imply that the paced breathing had a significant effect in reducing the level of labor pain perception of women in labor.

  There was also a significant association between the level of labor pain perception and occupation and no significant association between labor pain perception with other selected demographic variables such as age, education and family type, and income.

Conclusion: The study findings present that Paced breathing is effective in reducing the perception of pain during labor. There was also a significant association between the level of labor pain perception and occupation and no other significant association between labor pain perception among other demographic variables such as age, education and family type and income.

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