

RESEARCH ARTICLE

EFFECT OF BREATHING TECHNIQUES ON PAIN PERCEPTION AMONG PRIMIPARTURIENTS

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ABSTRACT

Child birth is the one of the marvellous and memorable segments in women's lives.⁵ It is a revolutionary act, an evolutionary happening, in the manner of the silk worm getting transferred in to some winged angel. A quasi experimental study was conducted to Evaluate the effect of breathing techniques on pain perception among primiparturients admitted in labour room of E K Nayanar Memorial Woman and Children Hospital Mangatuparamba in 2017. A total number of 60 samples were selected by using purposive sampling method. The data was collected by using interview schedule, Numerical Pain Rating Scale, Behavior Observational Pain Rating Scale and modified W H O Partograph. The findings revealed that there is significant difference in mean pre test and post test pain score among primiparturients in experimental group before and after intervention ($p=0.000$) and mean pre test and post test pain score among primiparturients in experimental and control group ($p=0.000$). There is significant association between pain score among primiparturients with education and income ($p<0.05$).

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Introduction

Motherhood is a great responsibility and it is women's highest crown of honour. It is the highest holiest service assumed by mankind. Labour pain is the result of a complex and subjective interaction of multiple physiologic and psychological factors on a woman's individual interpretation of labour stimuli. The non-pharmacologic approach to pain management includes a wide variety of techniques, Breathing technique have been shown to reduce stress, chance of acquiring an assisted birth as well as ensuring that the baby has enough oxygen during labour to stay healthy and to conserve energy.

Statement of the problem

Evaluate the effect of breathing techniques on pain perception among primiparturients admitted in labour room of E K Nayanar Memorial Woman and Children Hospital Mangatuparamba.

Objectives of the study

- Evaluate the effect of breathing techniques on pain perception among
- Assess the pain perception among primiparturients during first stage of labour
- Find out the association between pain perception among primiparturients and Primiparturients socio personal variables.

Hypothesis

Following hypotheses will be tested at 0.05 level of significance

H₁- There is significant difference between the mean pain perception score among primiparturients in experimental group before and after breathing techniques as measured by Numerical Pain Rating Scale and Behavior Observational pain Rating Scale.

H₂- There is significant difference between the mean pain perception score among primiparturients in experimental and control group as measured by Numerical Pain Rating Scale and Behavior Observational pain Rating Scale.

H₃- There is significant association between mean pain perception score among primiparturients and socio personal variables.

Methods and material

Research approach

The experimental approach was considered appropriate for the present study as the objective of the study is to evaluate the effect of breathing techniques on pain perception among primiparturients.

Research design

The non equivalent control group pre test post test design involves two groups of participants, from whom outcome data are collected before and after implementing an intervention.

Variables

Independent variable - Breathing techniques imparted to primiparturients during active and transitional phase of first stage of labour

Dependent variable - Pain perception of primiparturients in active and transitional phase of the first stage of labour.

Setting of the study

The study was conducted at Govt. E K Nayanar Memorial women and Children Hospital Mangattuparamba.

Sample and sampling technique Sample

The sample consisted of 60 primiparturients admitted in the labour room of E K Nayanar Memorial Women and Children hospital, Mangattuparamba, Kannur, who fulfilled the criteria of sample selection, 30 in experimental and 30 in control group.

Inclusion criteria

Primiparturients who

- had normal course of pregnancy
- are between 37-40 weeks of gestation
- are in first stage of labour
- are willing to participate in the study
- are able to comprehend and follow instructions

Exclusion criteria

Primiparturients

- with pre existing and existing respiratory disorders
- with cardiac disease
- who have received pain medication during the last 6 hrs
- who are differently abled

Sampling technique

Non probability Purposive sampling technique was used for the sample selection in this study.

Description of the tool

Tool I: Interview schedule to assess the socio personal variables and the obstetric variables.

Tool I consist of two sections:

Section A- Socio personal variables Socio personal variables consist of 10 items: age, religion, education, occupation, monthly income, type of family, marital status, residential area, exposure to source of information regarding complementary therapies, and sources of information.

Section B- Obstetric variables It deals with the obstetric assessment of the patient at the time of admission to the labour room and during labour. It consisted of 11 items: LMP, EDD, gestational age, antenatal check up, medications, mode of pregnancy, duration between marriage and conception, labour assessment, medication, duration of labour and mode of delivery.

Tool II: Numerical Pain Rating Scale and Behavior Observational Pain Rating Scale to assess the pain perception among the primiparturients in first stage of labour.

Tool II consists of two sections:

Section A- Numerical Pain rating Scale (NPRS) Pain perception of primiparturients during first stage of labour was assessed using Numerical Pain rating Scale (NPRS). It is one of the standardized tools for quantifying pain perception which consist of a scale with values ranging from zero to ten. The pain was assessed by four observations that are during active phase (O1, O2), transitional phase (O3) and within one hour after delivery (golden hour-O4).

Section B- Behavior Observational pain Rating Scale (BORS) It is used to assess the pain perception during first stage of labour by observing the behavior response of the primiparturients towards pain. It consist of five items of behavior response to pain which include Facial expression, Position, Cry, Consolability, and Verbal response with the score ranges from zero to two for each item and total score is 10. (The pain perception is the sum total of Numerical Pain Rating Scale Score and Behavior Observational Pain Rating Scale Score.) **Tool III:** Modified WHO Partograph.

Experimental group received two sets of intervention (breathing techniques -cleansing breathing technique and Indian breathing technique) in four observations during each contraction in active and transitional phase of labour along with routine intra partum care where as control group received only intrapartum care.

Result

Table 1: Significance of difference between mean pain perception score among primiparturients in experimental group before and after breathing technique.

n=30

Pain assessment	Mean	SD	't' value	p value
Set I				
O ₁ -O ₂	2.500	0.572	23.924	0.000***
Set II				
O ₃ -O ₄	3.800	0.714	29.135	0.000***

Table value t₂₉ =1.7

*** Highly Significant at p=0.000

From the table 1, it is evident that the calculated t value in two set of observation O₁-O₂ and O₃-O₄ ('t'=23.924, 't'=29.135) are larger than critical value (tabled value t₂₉=1.7) at p<0.05 level of significance. Hence the test is found to be statistically significant at p<0.05 level of significance. Therefore the null hypothesis is rejected and the research hypothesis is accepted. It is evident that there is significant difference in mean pain perception score among primiparturients in experimental group before and after breathing technique and hence it is interpreted that breathing techniques is effective in reducing pain perception in first stage of labour among primiparturients.

Table 2: Significance of difference between mean pain perception score among primiparturients in experimental and control group.

n=60

Pain perception	Group	Mean	95% CL	SD	't' Value	p value
Set I Intervention						
O ₁ -O ₂	Experimental (n=30)	2.500	LL:2.286 UL:2.714	0.572		
C ₁ -C ₂	Control (n=30)	1.600	LL:1.888 UL:1.312	0.770	24.17	0.000**
Set II Intervention						
O ₃ -O ₄	Experimental (n=30)	3.800	LL:3.533 UL:29.13	0.714		
C ₃ -C ₄	Control (n=30)	1.933	LL:2.151 UL:1.716	0.583	35.17	0.000**

Table value t₅₉=1.67

*** Highly significant at P=0.000; CL: Confidence Int.

UL: Upper Limit; LL: Lower Limit

From the table 2, it is evident that the calculated t value in two set of observation O₁-O₂, C₁-C₂ and O₃-O₄, C₃-C₄ (t=24.17, t=35.17) are larger than critical value (tabled value t₅₉=1.67) at p<0.05 level of significance. Hence the test is found to be statistically significant at p<0.05 level and 95% confidence interval. Therefore the null hypothesis is rejected and the research hypothesis is accepted. It is inferred that there is significant difference between mean pain perception score among primiparturients in experimental and control group.

Table 3: Significance of association between pain perception score among primiparturients and socio personal variables.

S I N o .	Socio personal variables	Calculated value χ ₂	Df	p value	Inference
1	Age	0.8251	1	3.84	p>0.05 NS
2	Religion	1.337	1	0.287	p>0.05 NS
3	Education	4.949	1	0.026	P<0.05 *S
4	Monthly Income	4.207	1	0.040	P<0.05 *S
5	Type of family	0.361	1	0.554	p>0.05 NS
6	Occupation	0.341	1	0.559	p>0.05 NS
7	Residential area	0.006	1	0.939	p>0.05 NS
8	Exposure to source of information on complementary therapies	0.00	1	3.84	p>0.05 NS

Note: Table value χ² 0.05(1) = 3.84; NS: not significant at p>0.05 level; * S: significant at p<0.05 level

There is significant association between mean pain perception score among primiparturients with education and monthly income (p<0.05). There is no significant association between mean pain perception score among primiparturients with age, religion, type of family, occupation, residential area and exposure to source of information on complementary therapy (p>0.05).

Breathing technique in labour has beneficial effect in reducing pain perception in first stage of labour among primiparturients. Parturients reported satisfying and memorable birth experience with breathing exercise.

Discussion

This study was a quasi-experimental research designed to determine the effect of breathing on pain perception among primiparturients. In this section the major finding of the present study has been discussed with reference to the results obtained by others investigators. The study done by various investigators suggested that breathing techniques can be incorporated as a safe and effective pain reducing in labour which gives comfort to the mother and can positively influence the quality of woman's birth experience.

In the present study there is no change in duration of labour with breathing technique. This finding is incongruent with a study in which there was significant reduction in duration of first stage of labour with breathing technique among experimental group. The study also in harmony with the study conducted by Thomas E, Dhiwar S on effectiveness of patterned breathing technique in reduction of pain during first stage of labour among 60 primigravida which revealed that there was significant reduction in pain level among primigravida women in experimental group after practicing selected Patterned breathing technique during first stage of labour as compared to the pain level among women in control group without practicing Patterned breathing technique ($p=0.000$) which indicate that patterned breathing was effective in reducing pain perception during labour.

Practicing the breathing techniques becomes an automatic response to pain. A mother more relaxed will respond in a positive manner to pain. Breathing techniques determine the wellbeing status and become a measure of control. The present study included breathing exercises as a complementary pain relief therapy in labour. Breathing exercises secure more oxygen in order to have strength and energy for mother and child and brings a purpose for each contraction, making them more productive.

The present study hence concluded that the use of breathing exercise during labour was effective during childbirth to reduce pain perception and duration of labour. It is recommended that the obstetric nursing personnel should focus on teaching breathing exercises as complementary therapy during labour and to practice them to make childbirth a less painful and stressful experience.

Conclusion

Implementation of breathing techniques in labour can have positive influence in the development of confidence and feeling of empowerment in the expectant mother. Effective use of these techniques can contribute to better outcomes, higher patient satisfaction during birth experience, which is one of the life's most memorable and challenging experience.

Nursing implications of the study

The study findings will help to think and implement several possible strategies in the field of nursing practice, nursing education, nursing research and nursing administration.

Limitations

- Study was done in a single setting.
- The investigator could not control the extraneous factors like physical and psychological factors and presence of investigator which may influence pain perception of primiparturients in labour.

Recommendations

- A similar study can be replicated on a larger sample for better generalization,
- A comparative study can be conducted to evaluate the effect of breathing techniques on labour pain perception among primi and multi mothers
- A descriptive study can be conducted to assess the knowledge and attitude of nurse midwives on complementary and alternative therapies for labour pain management
- A study can be conducted to assess the effect of three types of breathing techniques (slow paced breathing, deep cleansing breathing, pantic breathing) on pain perception among primiparturients.
- A comparative study can be done to evaluate the effect of breathing technique and massage on pain perception among primiparturients.
- A similar study can be conducted to assess pain perception among primiparturients in Government and private setting.

Reference

- Bhore N R. A study to assess the effectiveness of selected aspects of lamaze method on pain among primigravida mothers during first stage of labour in selected hospitals of Sangli. [Internet]. 2016 March [cited 2017 February]; 7(10): 13547-13550. Available from: www.ijsr.org
- Kaur K, Rana A K, Gainer S. Effect of video on Breathing Exercises during labour on Pain Perception and Duration of Labour Among Primigravida Mothers. [Internet]. 2013 January [cited on 2017 January]; 9 (1) Available from: www.ncbi.in
- Breathing techniques during labour. Available from www.momjunction.com