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Research Article

EFFECTIVENESS OF ACUPRESSURE AND BREATHING EXERCISE ON LEVEL OF PAIN DURING ACTIVE PHASE OF LABOUR AMONG PRIMIGRAVIDA PARTURIENT WOMEN

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ABSTRACT

The pain that women experience during labour is affected by multiple physiological and psychosocial factors and its intensity can vary greatly. Most women in labour require pain relief. Pain management strategies include non-pharmacological interventions (that aim to help women cope with pain in labour) and pharmacological interventions (that aim to relieve the pain of labour). A Comparative Study was conducted to evaluate the Effectiveness of Acupressure and Breathing Exercise on Level of Pain During Active Phase of Labour Among Primigravida Parturient Women at Selected Hospital, U.P. A quasi experimental- nonequivalent pretest posttest design was used for the study. Purposive sampling technique was used for selecting the samples for study. Tools developed and used for data collection were: structured interview schedule and modified McGill pain scale. Results shows that there was significant difference between mean post test scores of primigravida parturient women in acupressure group (14.5) and breathing exercise group (18.15) for pain score as obtained 't' value (2.567) was higher than the tabulated value (1.645) for df (38) at 0.05 level of significance. So it can be inferred that acupressure was more effective than the breathing exercise for reducing the pain during active phase of labour.

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INTRODUCTION

The "greatest pleasure brings greatest pain" it holds perfectly true for labour pains. The pain of labour has been with us since the Garden of Eden. Labour pain is due to contractions, distention of the lower uterine segment, pulling on pelvic ligaments, dilatation of cervix, stretching of vagina and pelvic floor. Pain is an unpleasant sensory and emotional experience. Pain can affect the physiological, emotional, effective and psychological dimension of an individual. Hence it is termed as a complex, multi-dimensional experience. Pain is personal, subjective in expression with no objective measurements. Pain is frequently the result of nociception.

Throughout history pain has challenged many practitioners, scientists and nurses in all disciplines. Meeting this challenge is a human goal when one considers the incidence of the problem. Pain prompts people to seek health care more often than any other problem. Relief from pain and suffering is a major clinical challenge facing the nursing practice.

Labour pain is the result of many complex interactions, physiological and psychological, excitatory as well as

inhibitory. Women experience a wide range of pain in labour and exhibit an equally wide range of responses to it. The pain of childbirth results from hypoxia of uterine muscle, dilation and stretching of the cervix, pressure and pulling on adjacent organs and pressure from the presenting part on the vagina and perineum during birth. The fetal size and position influence length of labour as well as pain.

Childbirth is a unique and special experience for every woman. It is exciting as well as strenuous with pain, fatigue and fear both physically and psychologically. Pain in labour is nearly a universal experience for childbearing women and pain relief process a major role.

The excruciating pain that a woman feels during labour is caused by contraction of the muscles of the uterus and the pressure created on the cervix. The pain is felt as strong cramping and aching in the abdomen, back, groin as well as sides of the thighs. The pressure created by the baby's head on the bladder and bowels and the stretching of the vagina and the birth canal also causes pain.

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Different women have different experience of labour pain and although labour is considered one of the most painful human experiences, it varies from woman to woman and pregnancy to pregnancy. While some say that it resembles menstrual cramps, others describe it as severe pressure and yet others compare it to strong waves of diarrheal cramps. In most cases, it is not the actual pain of contraction that women suffer from, but the frequency of the contractions that increases as the labour progress and gives very less time to relax.

Pain can be managed both pharmacologically and non-pharmacologically. Adequate pain management increases mother's participation in baby care and early recovery. Inadequate pain management may contribute to delay in healing, longer stay in hospitals, tachycardia, muscle tension and anxiety.

There are many non- pharmacological measures for pain management. Activities such as breathing exercise, acupressure, reflexology, acupuncture, cutaneous stimulation, guided imagery, music therapy, hot/cold therapy, aromatherapy, have been used clinically with positive results. These therapies are thought to cause physiologic changes and decreases pain perception and promote healthy living.

Acupressure is one of the best home remedies to induce labour because it concentrates both on the physical and emotional wellbeing of the women before and during labour. Acupressure means applying pressure on specific parts of the body with our fingertips and thumbs to help induce labour. These specific points can be found on shoulders, hands, lower legs and ankles. The pressure may applied as a rotating movement, static movement or in a press-release manner.

During labour, breathing exercise is the most important natural pain control mechanism. Slow paced breathing helps to release the endorphins into the body which are extremely useful in relieving overall physical pain and aches. Slow paced breathing is performed at approximately one half of the women's normal breathing rate. It aids in relaxation and provides optional oxygenation. In the first stage of labour, such breathing techniques can promote relaxation of the abdominal muscles and thereby increases the size of the abdominal cavity. This approach lessens discomfort generated by friction between the uterus and abdominal wall during contractions.

Among all the non pharmacological methods for labour pain acupressure and breathing exercise are the best methods because both interventions are safe, free from side effects, giving lasting cure, economical, and it is compatible with other forms of treatment.

It has been proven by several independent studies that acupressure and breathing exercise are effective in reducing the level of labour pain and brings on labor naturally

Need For the Study

Child birth is one of the most marvelous and memorable segment in women's life. It does not really matter if the child is the first, second or the third.⁶ Labour is a natural process by which a viable fetus, at the end of 28 weeks or more is expelled from the uterus. The fear and anxiety about child birth often prevents most women from enjoying this experience. Labor pain ranges widely from woman to woman and even from pregnancy. Studies have shown that around 70% of women

experience awful labor and around 10% of them experience an almost painless.

Labour pain is the most severe pain a women experience in her life and the severity and duration of labor pain is more in primi mothers. To ease the pain and to improve the behavioural response of the mother's pharmacological and non-pharmacological management are important. Pharmacological approaches are directed at eliminating the physical sensation of labour pain, whereas non pharmacological approaches such as relaxation, breathing techniques, positioning, massage, acupressure, hydrotherapy, hot and cold therapy, music guided imagery and aroma therapy are simple and safe which enhance the comfort of women and help them to achieve an effective coping level for their labour experience without any maternal and foetal complications.

Acupressure and Breathing exercise are one of the best non pharmacological methods for relieving the pain during pregnancy and labour, both can help to handle contractions. Research has shown that acupressure and breathing exercises can help to reduce labour pain and anxiety. Both the treatments are safe, free from side effects, giving lasting cure, economical and it is compatible with other forms of treatment.

The control of labor pain and prevention of suffering are major concerns of clinicians and their clients. Non pharmacologic approaches toward these goals are consistent with midwifery management and the choices of many women. A literature search of scientific articles cataloged in CINAHL, PUBMED, the Cochrane Library, and AMED databases relating to the effectiveness of 13 non-pharmacologic methods used to relieve pain and reduce suffering in labour. Results shows that adequate evidence of benefit in reducing pain exists for continuous labour support, baths, intradermal water blocks, and maternal movement and positioning. The effectiveness of childbirth education, relaxation and breathing, heat and cold, acupressure, hypnosis, aromatherapy, music, and audio-analgesia, all the methods studied had evidence of widespread satisfaction among a majority of users.

It was found by the investigator that the primigravida parturient women who are admitted in labour have severe pain and discomfort. This being the major problem among every mother, hence forth the investigator personally felt that there is a need to compare the effectiveness of acupressure and breathing exercise on level of pain during first stage of labour among primigravida parturient mothers. This study would help the midwives to assess the nature of labour pain and manage it appropriately.

MATERIALS AND METHODS

The research design used for this study was Quasiexperimental: Non Equivalent Group Pre test Post test research design.

Variables under study

Independent Variables: Acupressure and Breathing Exercise

Dependent Variables: Pain during active phase of labour among primigravida parturient women.

Research Setting: The research was conducted in Yashoda Multispecialty Hospital, Ghaziabad, U.P.

Population: Primigravida parturient women who are in active phase of labour admitted in labour room at Yashoda Multispecialty Hospital, Ghaziabad, U.P.

Sample Size

Sample size in the present study consists of 40 primigravida parturient women in active phase of labour admitted in labour room.

Samples were divided in to two groups:

Experimental Acupressure Group: 20 primigravida parturient women, group receiving acupressure.

Experimental Breathing Exercise Group: 20 primigravida parturient women, group receiving breathing exercise.

Sampling Technique: The study sample was selected using Non Probability Purposive sampling technique.

Inclusion Criteria

Primigravida parturient women, who were:

1. admitted in labour room.
2. willing to participate in study.
3. having pain during first stage of labour.
4. not on pain analgesia during first stage of labour.
5. undergoing normal vaginal delivery.
6. in 37 weeks of gestation.

Exclusion Criteria

Parturient women, who are:

1. Multigravida
2. At high risk (hypertension, diabetes mellitus, anemia, oligohydramnios etc.).
3. Posted for L.S.C.S.

Description of the Tool

In order to determine and compare the effectiveness of acupressure and breathing exercise in terms of reducing the level of pain among primigravida parturient women during active phase of labour using Modified McGill pain scale. The tool is divided into two categories which are as follows:

Tool I- Demographic data

It consists of 8 items such as- Age, Education, Occupation, Religion, Type of family, Period of gestation, Mode of labour, practicing any of relaxation therapy.

Tool II- Modified McGill Pain Scale

The McGill Pain Scale, also known as McGill pain index, is a scale of rating Pain. It is a self-report questionnaire that allows individuals to give a good description of the quality and intensity of pain that they are experiencing.

The Modified McGill Pain scale Questionnaire consists of 2 major classes of word descriptors-sensory and affective that are to specify subjective pain experience. It also contains an intensity scale and other items to determine the properties of pain experience. There are 3 interpretation, i.e, Mild, Moderate & Severe. The patient was required to select the most appropriate response & the interview marked a tick (√) against it.

A score of 0-41 is assigned to mild, moderate, severe categories respectively.

Scoring

The maximum score = 41

The minimum score = 0

Levels Scores

Mild : 0-13

Moderate : 14-27

Severe : 28-41

Data Collection Procedure

Formal administrative permission was obtained from Yashoda Multispecialty Hospital, Ghaziabad (U.P.) and data was collected.

Data was collected in the following steps:

- Self-introduction was given.
- Introduction to the nature of study was given to obtain free and frank response.
- Non Probability Purposive sampling technique was used to select 40 primigravida parturient women during active phase of labour admitted in labour room.
- Confidentiality of their responses was assured and written consent was taken.
- Pre-test was done by assessing level of pain during active phase of labour by using modified McGill Pain scale.
- After pre-test, Acupressure and breathing exercise in two different groups of primigravida parturient women was administered during active phase of labour and post test was conducted soon after the interventions.

Statistical Analysis

Analysis of data was done in accordance with the objectives.

- **Section I:** Findings related to frequency and percentage distribution of primigravida parturient women to describe demographic data.
- **Section II:** Findings related to mean, median, standard deviation of pre-test and post-test of pain scores in experimental acupressure group. Paired 't' test to find out the significance of difference between the pre-test and post-test scores of experimental acupressure group.
- **Section III:** Findings related to mean, median, standard deviation of pre-test and post-test of pain scores in experimental breathing exercise group. Paired 't' test to find the significance of difference between the pre-test and post-test scores of experimental breathing exercise group.
- **Section IV:** Findings related to comparison of mean, mean difference, standard deviation of post test scores of the experimental acupressure group and experimental breathing exercise group. Unpaired 't' test to find the significance of difference between the post test scores of the experimental acupressure group and experimental breathing exercise group.

Hypothesis of the study

H₁: There is significant difference in level of pain score between pre and post application of acupressure among primigravida parturient women during active phase of labour as evidenced by Modified McGill pain scale at 0.05 level of significance.

H₂: There is significant difference in level of pain score between pre and post application of breathing exercise among primigravida parturient women during active phase of labour as evidenced by Modified McGill pain scale at 0.05 level of significance.

H₃: There is significant difference in the post interventional level of pain score of primigravida parturient women receiving acupressure and breathing exercise as evidenced by Modified McGill pain scale at 0.05 level of significance.

Section-I

Table 1 Frequency and percentage distribution of primigravida parturient women in acupressure group and breathing exercise group by demographic characteristics.

N = 40

S No	Demographic Characteristics	Acupressure Group (N=20)		Breathing Exercise Group (N=20)	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1. Age (in years):					
a.	18-23	12	60	11	55
b.	24-29	8	40	9	45
c.	≥30	0	0	0	0
2. Education:					
a.	No formal education	0	0	0	0
b.	Matric	0	0	0	0
c.	10+2	0	0	0	0
d.	Graduate	2	10	3	15
e.	Post graduate	13	65	14	70
		5	25	3	15
3. Occupation:					
a.	Housewife	11	55	12	60
b.	Self employed	0	0	3	15
c.	Private job	7	35	5	25
d.	Government job	2	10	0	0
4. Religion:					
a.	Hindu	12	60	14	70
b.	Muslim	3	15	4	20
c.	Christian	5	25	2	10
d.	Others	0	0	0	0
5. Type of family:					
a.	Nuclear	14	70	13	65
b.	Joint	6	30	7	35
6. Period of gestation (weeks):					
a.	37-38	7	35	8	40
b.	39-40	13	65	12	60
c.	>40	0	0	0	0
7. Mode of labor:					
a.	Spontaneous labour	6	30	10	50
b.	Induction with Pitocin	14	70	10	50
8. Are you practicing any of relaxation therapy:					
a.	Yes	2	10	2	10
b.	No	18	90	18	90
If yes, then specify....					
	1.Yoga	2	100	1	50
	2.Exercise	0	0	1	50

The data depicted in Table 1 shows that:

- In the acupressure group, the majority of the subjects 60% (12) were in the age group of 18-23years, 40% (8) were in the age group of 24-29years. In the breathing exercise group majority of the subjects 55% (11) were in the age group of 18-23years and 45% (9) were in the age group of 24-29 years.
- In the acupressure group, the majority of the subjects 65% (13) were graduate, 25% (5) were post graduate and 10% (2) had education up to 10+2. In the breathing exercise group the majority of the subjects 70% (14) were graduate, 15% (3) were post graduate and 15% (3) had education up to 10+2.
- In the acupressure group, the majority of the subjects 55% (11) were housewives, 35% (7) were in private job and 10% (2) were in government job. In the breathing exercise group the majority of the subjects 60% (12) were housewives, 15% (3) were self employed and 25% (5) were in private job.
- In the acupressure group, the majority of the subjects 60% (12) were Hindu, 25% (5) were Christian and 15% (3) were Muslim. In the breathing exercise group the majority of the subjects 70% (14) were Hindu, 20% (4) were Muslim and 10% (2) were Christian.
- In the acupressure group, the majority of the subjects 70% (14) were living in nuclear family and 30% (6) were living in joint family. In the breathing exercise group the majority of the subjects 65% (13) were living in nuclear family and 35% (7) were living in joint family.
- In the acupressure group, the majority of the subjects 65% (13) were in 39-40weeks period of gestation and 35% (7) were in 37-38weeks period of gestation. In the breathing exercise group the majority of the subjects 60% (12) were in 39-40 weeks of gestation and 40% (8) were in 37-38 weeks of gestation.
- In the acupressure group, the majority of the subjects 70% (14) were induced with Pitocin and 30% (6) were having spontaneous labour pains. In the breathing exercise group 50% (10) subjects were having spontaneous labour pains and 50% (10) were induced with Pitocin.
- In the acupressure group, the majority of the subjects 90% (18) were not practicing any of relaxation therapy and 10% (2) were practicing relaxation therapy. In the breathing exercise group the majority of the subjects 90% (18) were not practicing any of relaxation therapy and 10% (2) were practicing relaxation therapy.

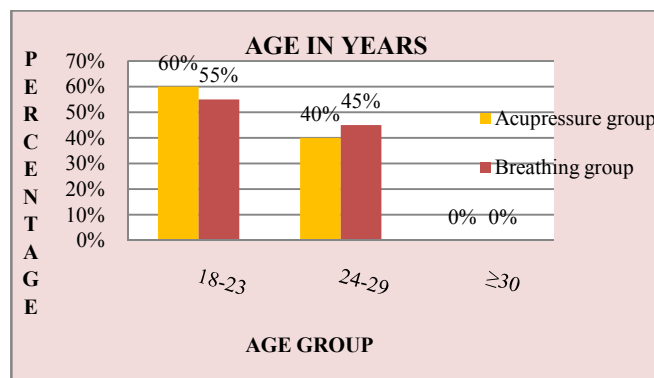


Figure 1 Column graph showing percentage distribution of primigravida parturient women in their age group

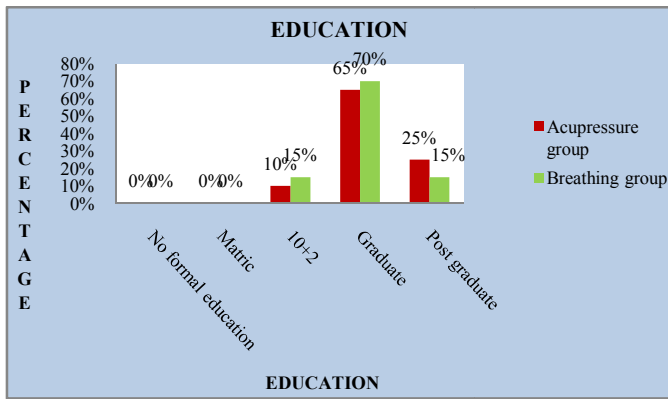


Figure 2 Column graph showing percentage distribution of primigravida parturient women according to the education

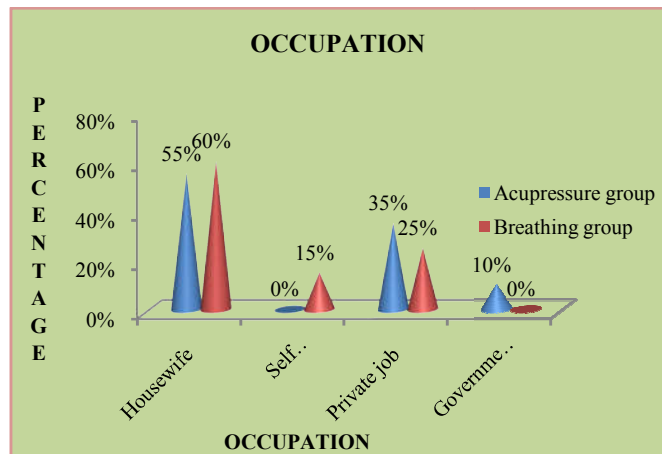


Figure 3 Cone graph showing percentage distribution of primigravida parturient women according to the occupation

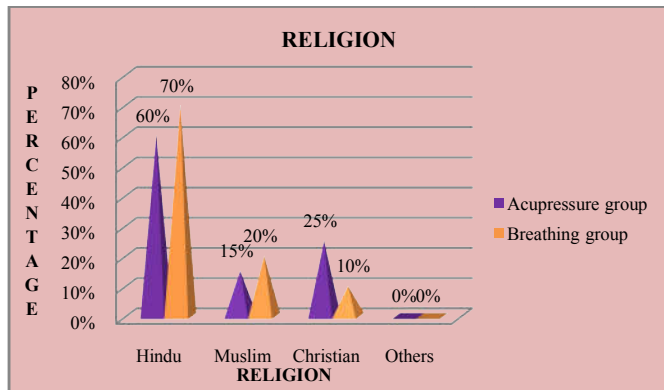


Figure 4 Pyramid graph showing percentage distribution of primigravida parturient women according to the religion

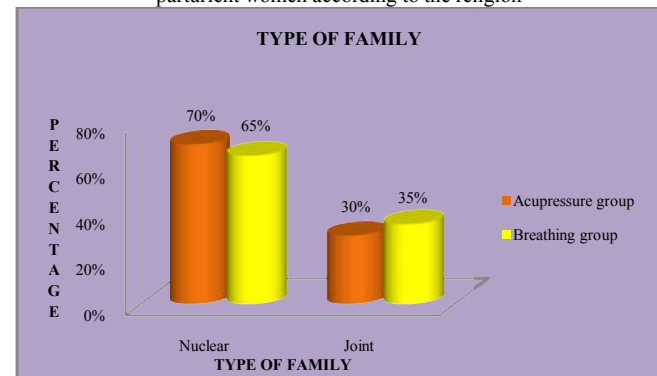


Figure 5 Cylindrical graph showing percentage distribution of primigravida parturient women according to family type

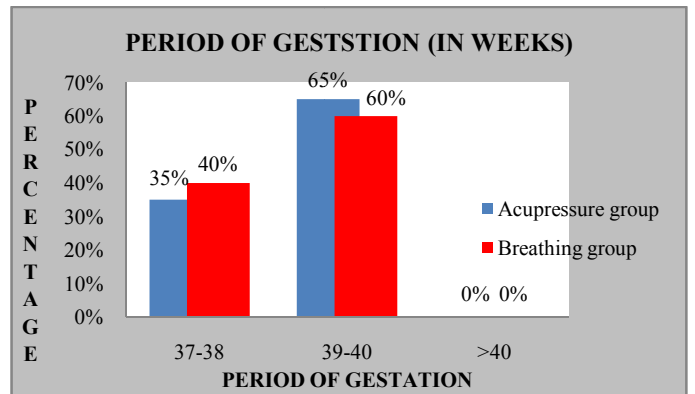


Figure 6 Column graph showing percentage distribution of primigravida parturient women according to the period of gestation

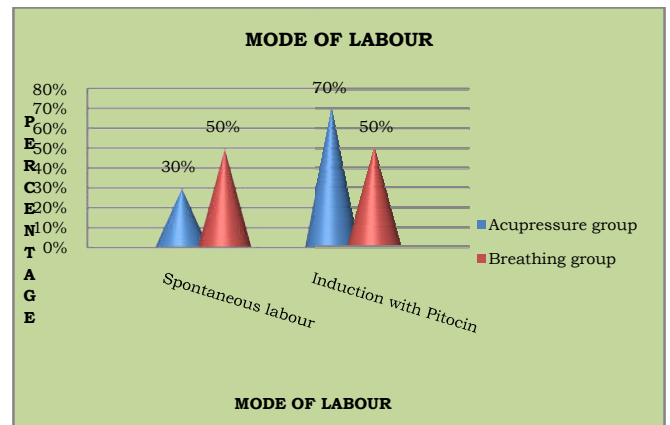


Figure 7 Cone graph showing percentage distribution of primigravida parturient women according to the mode of labour

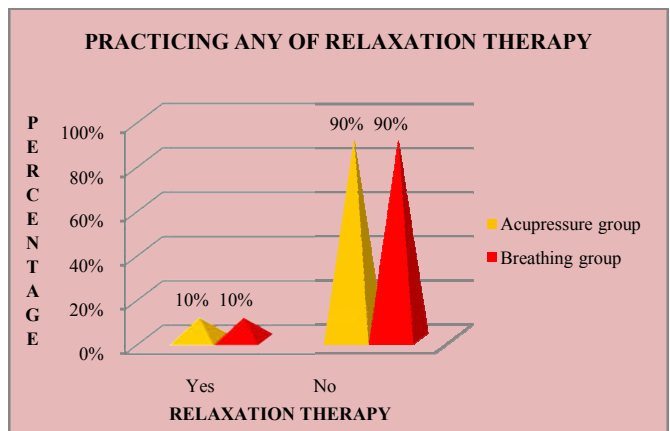


Figure 8 Pyramid graph showing percentage distribution of primigravida parturient women practicing of relaxation therapy

Section-II

Table 2 Distribution of overall pain score of primigravida parturient women in acupressure group

N = 20

Level of Pain	Pre Test Score		Post Test Score	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Mild (0-13)	0	0	9	45
Moderate (14-27)	6	30	11	55
Severe (28-41)	14	70	0	0

Data presented in Table 2 shows that in pre test, majority of the subjects 70% (14) were having severe pain and 30% (6) were

having moderate pain and none of them had mild pain whereas in post test majority of the subjects 55% (11) were having moderate pain and 45% (9) were having mild pain.

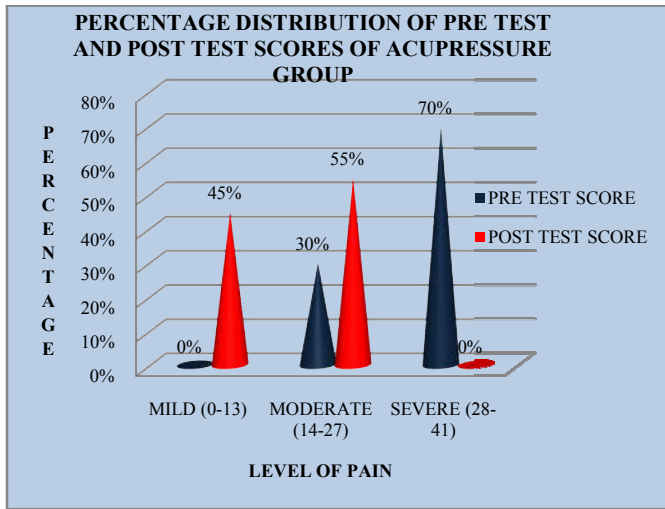


Figure 9 Cone graph showing percentage distribution of pre-test and post-test score of acupressure group

Data presented in Figure 9 shows that in pre test, majority of the subjects 70% (14) were having severe pain and 30% (6) were having moderate pain and none of them had mild pain whereas in post test majority of the subjects 55% (11) were having moderate pain and 45% (9) were having mild pain.

H_{01} : There is no significant difference in pain intensity score between pre and post acupressure among primigravida parturient women during active phase of labour as evidenced by modified McGill pain scale at 0.05 level of significance.

Table 3 Paired ‘t’ test for pain scores of primigravida parturient women in acupressure group

N = 20

Acupressure Group	Mean	Median	Mean Difference	S.D	"t" Value
Pre Test	27.3	28		1.873	
Post Test	14.5	14.5	12.8	2.559	23.726*

*df(19)=1.729 at 0.05 level of significance.

The data presented in Table 3 shows that the mean post test score (14.5) of primigravida parturient women in acupressure group is lower than the mean pre test score (27.3), with the mean difference of 12.8. The obtained mean difference was found to be statistically significant as evident from the ‘t’ value of (23.726) for df (19) at 0.05 level of significance which is greater than the table value (1.729).

This shows that the obtained mean difference of acupressure group was a true difference and not by chance. Hence, null hypothesis (H_{01}) was rejected and research hypothesis (H_1) was accepted. It can be inferred that acupressure was effective method for reducing pain during active phase of labour in primigravida parturient women.

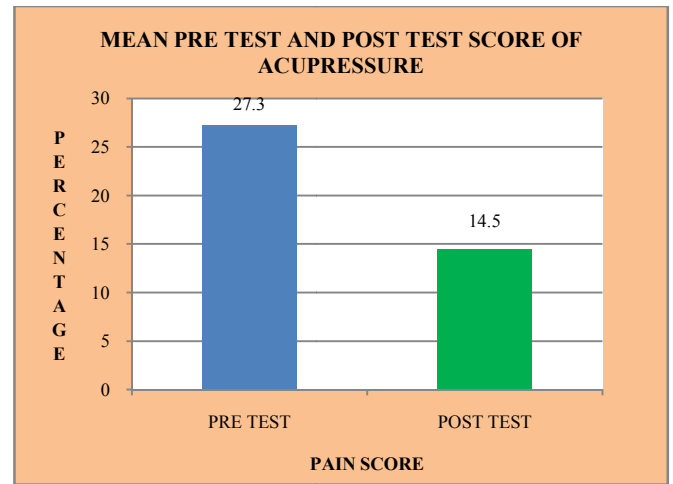


Figure 10 Column graph showing the mean pretest and post-test score of pain score in acupressure

Section III

Table 4 Distribution of overall pain score of primigravida parturient women in breathing exercise group

N = 20

Level Of Pain	Pre Test Score		Post Test Score	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Mild (0-13)	0	0	1	5
Moderate (14-27)	7	35	18	90
Severe (28-41)	13	65	1	5

Data presented in Table 4 shows that in pre test, majority of the subjects 65% (13) were having severe pain and 35% (7) were having moderate pain and none of them had mild pain whereas in post test majority of the subjects 90% (18) were having moderate pain, 5% (1) were having mild pain and 5% (1) were having severe pain.

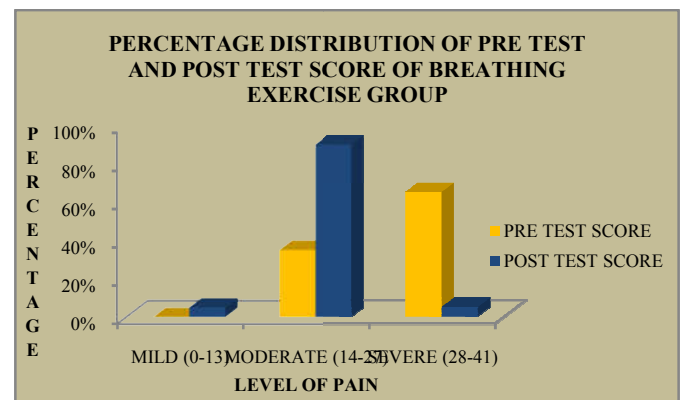


Figure 11 Column graph showing percentage distribution of pre-test and post-test score of breathing exercise group

Data presented in Figure 11 shows that in pre test, majority of the subjects 65% (13) were having severe pain and 35% (7) were having moderate pain and none of them had mild pain whereas in post test majority of the subjects 90% (18) were having moderate pain, 5% (1) were having mild pain and 5% (1) were having severe pain.

H_{02} : There is no significant difference in pain intensity score between pre and post breathing exercise among primigravida

parturient women during active phase of labour as evidenced by modified McGill pain scale at 0.05 level of significance.

Table 5 Paired ‘t’ test for pain scores of primigravida parturient women in breathing exercise group

N = 20

Breathing Group	Mean	Median	Mean Difference	S.D	"t" Value
Pre Test	28.15	28		2.438	
Post Test	18.15	18	10	1.411	23.522*

*df(19)= 1.729 at 0.05 level of significance.

The data presented in Table 5 shows that the mean post test score (18.15) of primigravida parturient women in breathing exercise group is lower than the mean pre test score (28.15), with the mean difference of 10. The obtained mean difference was found to be statistically significant as evident from the ‘t’ value of (23.522) for df (19) at 0.05 level of significance which is greater than the table value (1.729).

This shows that the obtained mean difference of breathing exercise group was a true difference and not by chance .Hence, null hypothesis (H₀₂) was rejected and research hypothesis (H₂) was accepted. It can be inferred that breathing exercise was effective method for reducing pain during active phase of labour in primigravida parturient women.

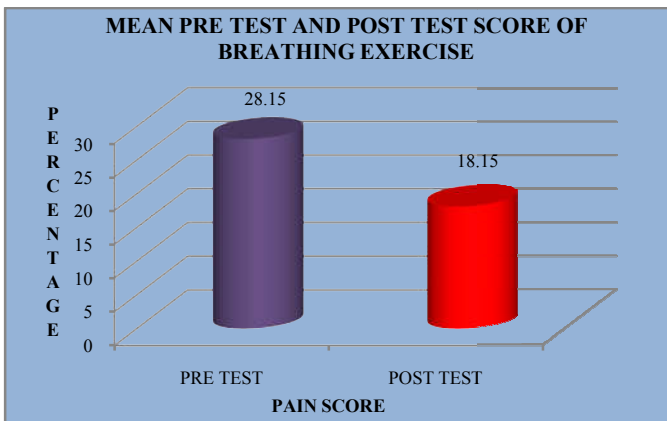


Figure 12 Cylindrical graph showing percentage distribution of pre-test and post-test score of breathing exercise

Section-IV

Table 6 Comparison of pain scores of primigravida parturient women during active phase of labour among the acupressure group and breathing exercise group

N = 40

Interventions	Mean	Mean Difference	SD	‘t’ Value
Acupressure Group (N=20)	14.5		2.559	
Breathing Group (N=20)	18.15	3.65	1.411	2.567*

*df (38) = 1.645 at 0.05 level of significance.

The data represented in Table-6 represents that there is significant difference between the post interventional level of pain score of primigravida parturient women receiving acupressure and breathing exercise for pain score as ‘t’ value obtained (2.567) is higher than the tabulated value (1.645) for df (38) at 0.05 level of significance.

Hence it can be inferred that obtained mean difference of 3.65 is not by chance but it is a true difference thus null hypothesis

(H₀₃) is rejected and research hypothesis (H₃) is accepted. So it can be inferred that acupressure is more effective than the breathing exercise for pain during active phase of labour.

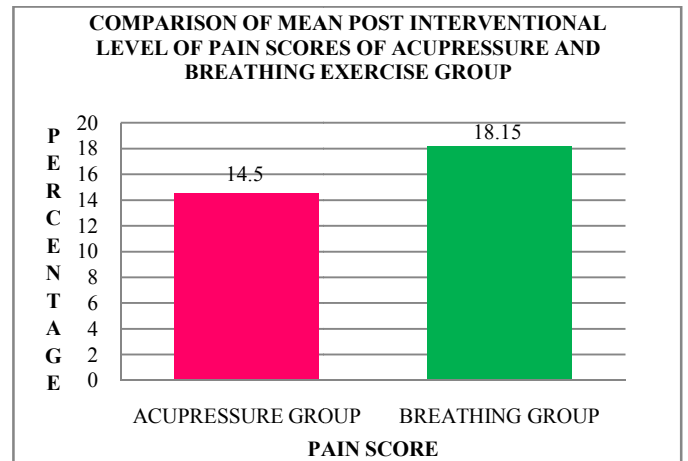


Figure 13 Column Graph showing the comparison of mean post interventional level of pain scores of primigravida parturient women during active phase of labour among the acupressure group and breathing exercise group.

DISCUSSION

Pain in labour is nearly universal experience for the child bearing women .A women’s experience of labour pain is influenced by many factors including her past experiences of pain, her coping abilities, the birth environment and psychological factors. Getting pain relief is one issue that every expectant mother is interested in. There are numerous pain relief techniques that can be used either with or without pain medications such as firm massage, acupressure, labouring in tub, breathing exercise, etc.

The present study findings revealed that acupressure was found to be more effective than breathing exercise for reducing the level of pain during active phase of labour among primigravida parturient women thus acupressure proved to be more effective in reduction of level of pain than breathing exercise.

Nursing Implications

The present study has several implications in Nursing practice, Nursing research, Nursing administration and Nursing education.

Nursing Practice

The findings of the present study will help the midwives to enlighten their knowledge and practice regarding acupressure and breathing exercise in terms of reducing the labour pain. Midwives should be encouraged to use acupressure and breathing exercise in the labour pain management as these are safe, economic, and not having any side effects. Acupressure and breathing exercise can be made to practice as a routine nursing care to reduce the labour pain. Acupressure and breathing exercise may be used instead of pain relief medications.

Nursing Research

There is a need for extensive and intensive research in non-pharmacological methods so that strategies for educating nurse regarding acupressure can be implemented. This study can be used as an access for further studies.

Nursing Administration

The nursing administration should organize educational programme for the nursing students and nursing staff to update the knowledge related to advanced information regarding acupressure and breathing exercise for reducing pain during labour. Reading materials, reference books and nursing manuals must be made available for the staff regarding pain interventions during labour for administering evidenced based practices. The administrator must see that every nurse have adequate knowledge and skills in giving acupressure and breathing exercise to the primigravida parturient women.

Nursing Education

Specialized courses like acupressure and breathing exercise can also be introduced to train nurse specialists in the area of obstetrics and gynecological nursing. Nursing curriculum should include these topics to sensitize the student nurse to give acupressure as an effective pain management during labour to a parturient woman. Findings of the study will help the nursing students to understand the importance of acupressure and breathing exercise to reduce the labour pain.

Limitations

1. The study was limited to primigravida parturient women who are in active phase of labour.
2. The study was limited to use only two interventions in order to reduce pain.
3. The study was limited to give acupressure and breathing exercise only for single time in whole active phase of labour.
4. The study was limited only in U.P. state.

Recommendations

On the basis of findings of the study, following recommendations are made:

1. A similar study can be conducted with larger sample for better generalization.
2. Various other benefits of acupressure such as controlling nausea and vomiting in pregnancy, induction of labour and reducing the duration of labour can be tried out.
3. A study can be done by using SP6 acupressure point in reducing the after birth pain.
4. A study can be conducted for one intervention by using control group.

References

1. Kumar Neeraj. Delivery without pain. *Journal of obstetrics and gynecology*. 2008; 5(1):45-49.
2. S Jenny. Reflexology, a complimentary therapy in pain management. *Nightingale nursing times*. 2014 April; 10(1):15-7
3. Bhoire Nilima 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. *International journal of recent scientific research*. 2016 Oct;7(10):20-3.
4. Lowdermilk, Perrycashion. *Maternity Nursing*. 8th ed. California: Elsevier publishers; 2010. p. 288-91.
5. Kuti,O, Faponle. A. Physiology of pain in labour. *Journal of Obstetrics and Gynecology* 2006 Jun 26; 55(5):332-334.
6. Labour introduction mediindia. [online]. [cited 2013 Jun 13]; [1 screen]. Available from: URL:<http://www.mediindia.net/patient info/labour.html>
7. Davim RM. Effectiveness of non-pharmacological strategies on pain relief during labor. *Journal of clinical gynecology* 2006 Apr; 6(2):43-8.
8. Smitha.J.S, Bindu.C.G. Effect of foot reflexology on pain among parturient mother during first stage of labor. *Global journal for research analysis* 2015 Dec;4(12):16-7.
9. Rana Deepak, Kaur Avinash, Chopra Seema. Effect of acupressure on intensity of labor pains and duration of first stage of labor among primigravida mothers. *Nursing and midwifery journal* 2013 Oct;9(4):12-3.
10. Dingsangluri, Jyoti A Salunkhe. Effect of breathing exercise in reduction of pain during during first stage of labor among primigravidas. *International journal of health sciences and research*. 2015;5(6): 390-8.
11. Joanne E Lally, Richard G Thomson,Sheila MacPhail and Catherine Exley. A qualitative study to determine how to support women to make decisions about pain relief in labour. *BMC pregnancy and childbirth*. [serial online]. [cited 2014 Jan 8]; 14(6):[1screen]. Available from: URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3893516/>
12. Nastaran Mohammad Ali Beigi, Khadijeh Broumandfar, Parvin Bahadoran, Heidar Ali Abedi. Women's experience of pain during childbirth. *Iran journal of nurse and midwifery research* [serial online] 2010 15(2): [77-82]. Available from: URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3093177/>
13. Leap N, Sandall J, Buckland S, Huber U. Journey to confidence: women's experience of pain in labour and relational continuity of care. *Journal of midwifery and women's health*. [serial online] [cited 2010 Jun]; 55(3):[234-42]. Available from: URL: <https://www.ncbi.nlm.nih.gov/pubmed/20434083>
14. NC Beck, LJ Siegel. Psychosomatic Medicine. *Journal of biobehavioral medicine* [online] [cited 2008]; 42(2): [429-47]. Available from: URL: <http://www.psychosomaticmedicine.org/content/42/4/429.short>
15. Issac Shyla, Magarani, Shalini W.Deepa. Effectiveness of reflexology on pain during first stage of labour among primi gravida mothers. *International journal of medicine and health profession research* 2016; 3(1): 37-40.
16. Elakkiya C. An experimental study to assess the effectiveness of acupressure on dysmenorrhea among adolescent girls in Hilton matriculation higher secondary school at Chrompet, Chennai. *International innovative research and development* [online] [cited 2015 Jan]; 4(1): [1 screen]. Available from: URL:<http://www.ijird.com/index.php/ijird/article/viewFile/57122/44588>
17. Mollart LJ, Adam J, Foureur M. A study on impact of acupressure on onset of labour and labour duration: a systematic review [online]. 2015 Apr 21 [cited 2015

- Sep]; [1 screen]. Available from: URL: <https://www.ncbi.nlm.nih.gov/pubmed/25911499>
18. Dabiri F, Shahi A. Effect of LI4 acupressure on labor pain and duration during the first stage of labor. *Oman medical journal* [serial online] [cited 2014 Nov]; 29(6):[425-9]. Available from: URL: <https://www.ncbi.nlm.nih.gov/pubmed/25584160>
19. Ghonge Deepti M. Effect of foot reflexology on the performance of deep breathing and coughing exercises. *Nightingale nursing times* 2013 Feb;8(11):39-41.
20. Fahimeh Sehhatie-Shafaie, Rafat kazemzadeh, Firouz Amani and Reza Heshmat. Effect of acupressure on SP 6 and LI 4 points on labor pain in nulliparous women. *Journal of Caring Science* [serial online] [cited 2013 Jun]; 2(2): [123-129]. Available from: URL:<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4161094/>
21. SL Soja, Baby Nayak, Josephine Lobo Daisy, A study to evaluate the effectiveness of acupressure on menstrual discomforts among adolescent girls. *International journal of nursing education* 2011;3(2):16-8.
22. Mi Kyeong Lee, Soon Bok Chang, Duck-Hee Kang. To evaluate the effects of SP6 acupressure on labor pain and delivery time in women in labor in delivery room in a university hospital, Korea. *The journal of alternative and complementary medicine* [serial online] [cited 2004]; 10:[959-965]. Available from: URL:<http://webcache.googleusercontent.com/>
23. Mahboubeh Valiani, Elaheh Shiran, Maryam Kianpour And Marziyeh Hasanpour. A quasi experimental study to review the effect of foot reflexology on the pain and certain features and outcomes of the labor on the primiparous women. *Iran Journal of Nurse and Midwifery Researh* [serial online] [cited 2010 Dec]; 15(1): [302-310]. Available from: URL:<https://www.ncbi.nlm.nih.gov/pmc/>
24. Hjelmstedt A *et.al.* Effect of acupressure administered during the active phase of labor on nulliparous women's ratings of labor pain [online]. 2010[cited 2010 Nov]; Available from: URL:<https://www.ncbi.nlm.nih.gov/pubmed/20822474>
25. Dolatian M, Hasanpour A, Montazeri Sh, Heshmat R, Alavi Majd H. Effect of reflexology on pain intensity and duration of labor on primiparas. *Iran red crescent medical journal* [serial online] [cited 2011 Jul 1]; 13(7):[475-9]. Available from: URL:<https://www.ncbi.nlm.nih.gov/pubmed/22737514>
26. Xavier Regina, Premkumar Beulah. A quasi experimental study to determine the effectiveness of foot reflexology in reducing pain in specific urology conditions of patients admitted in U ward, CMC, Vellore. *Nightingale nursing times* 2008 Nov;4(8): 24-7.
27. Chung UL, Hung LC, Kuo SC, Huang CL. Effects of LI4 and BL 67 acupressure on labor pain and uterine contractions in the first stage of labor. *Journal of nursing research* [serial online] [cited 2003 Dec]; 11(4):[251-60]. Available from: URL:<https://www.ncbi.nlm.nih.gov/pubmed/14685931>
28. Shenbagavalli S., Menaka K. A study to assess the effectiveness of selected nursing intervention on maternal and newborn outcome among primigravida mothers in Government Hospital, Cheyyur. *Asian journal of nursing education* [serial online] [cited 2006]; 6(3):[1 screen]. Available from: URL:<http://ajner.com/HTMLPaper.aspx?Journal>
29. Parameswari P. A study to assess the effectiveness of slow paced breathing on Pain and behavioural responses during active phase of labour among primi mothers in India. *International journal of scientific research* [serial online] [cited 2015 Nov]; 4(11):[1 screen]. Available from: URL:<https://www.worldwidejournals.com/>
30. Kaur Kirandeep, Kaur Avinash Rana, Gainer Shalini. Effect of video on breathing exercises during labour on pain perception and duration of labour among the primigravida mothers admitted in tertiary care hospital, India [online] [cited 2013]; Available from: URL:<http://medind.nic.in/nad/t13/i1/nadt13i1p1.pdf>
31. Jayasudha, Effectiveness of antenatal exercises on outcome of labour and behavioral responses of primigravid women in first stage of labour [online] [cited 2013]; Available from: URL:<http://www.muhs.in/onlinedu/34895.doc.html>.
32. Nair Remya S. Paced breathing for labour pain. *Nightingale nursing times* 2015 Sep;11(1):17-9.
33. Mahin Kamalifard, *et.al.* The efficacy of massage therapy and breathing techniques on pain intensity and physiological responses to labor pain. *Journal of caring sciences*. [serial online] [cited 2012 Jun]; 1(2): [1screen]. Available from: URL:<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4161071/>
34. Thomas Elizabeth, Dhiwar Savita. Effectiveness of Breathing Technique in reduction of Pain during first stage of labour among primigravidas. *Sinhgad e-Journal of Nursing* [serial online] [cited 2011 Dec]; 1(2):[1 screen]. Available from: URL:<http://www.sinhgad.edu/sinhgadnursingcollege-ejournal/pdf>.
35. Kavitha V. Lamaze method on primigravida women during first stage of labour. *Asian journal of nursing education* 2011Mar ;1(1):25-7.
36. Simar.P.Rojen. Pain reducing therapy during labour. *The Nursing Journal of India*, 2010 Jun ;77:679-683.
37. Sylvia T. Brown, Carol Douglas, Lee Ann Plaster Flood. Breathing exercise in labour pain. *Journal of Prenatal Education* [online]. [cited 2001]. Available from: URL:<http://www.breathing/labor/mothers.com.html>
38. Mohanlal, Judie A. Assessment of effectiveness of acupressure on labour outcome among primi parturient mothers. *Nightingale nursing times* 2008 Nov;4(8):18-20.
39. Vijayalakshami S. Non Pharmacological approaches to relieve labour pain and prevent suffering. *Nightingale nursing times* 2008 May;4(2):19.
40. Foot reflexology: step by step guide [online]. [cited 2014 jun 5]; Available from: URL:<http://massage.sportsxfitness.com/foot-reflexology-massage-techniques>
41. Acupressure points [online]. [cited 2013]; Available from: URL:<http://www.acupressure.com/articles/>