



# **To Assess the Effectiveness of Patterned Breathing Technique in Reduction of Pain during First Stage of Labour among Primigravida Mothers**

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## **Authors' contributions**

*This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.*

## **Article Information**

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**Study Protocol**

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## **ABSTRACT**

**Background:** The pain of labour is intense, but his memory decreases over time, despite this. Labour is an emotional phenomenon that encompasses both psychological and physiological processes. The active method of delivering a foetus is labour, which is characterized by frequent, painful uterine contractions that increase in frequency and intensity [5]. There are many ways, both pharmacological and non-pharmacological, to relieve work pain and help to relax. During labour and childbirth, comfort measures that offer natural pain relief can be very effective.

**Methods and Materials:** Quantitative Research Approach and Non-randomized control group design will be used, 56 subjects (28 in experimental group and 28 in control group) will be randomly allotted. The experimental group received breathing exercise during contraction at a rate of 45 mins interval 3 times during the active phase of labour whereas routine care will be provided to the subjects in the control group. Pain level will be assessed after each contraction with Wong weber's facial pain scale.

**Expected Outcome:** This study is planned to assess the effectiveness of patterned breathing

technique during first stage of labour among primigravida mothers to reduce their pain and their pain perception. Hence, it is expected to reduce their pain perception among primigravida mothers and it will make it easy to bear the labour pain.

**Keywords:** Primigravida mothers; labour; breathing exercise; experimental group; control group.

## 1. INTRODUCTION

Every birth comes from the pains of labour. The most difficult challenge is not to be pregnant with visions; it is to have an influence that encourages life [1]. Pregnancy is a beautiful and natural condition. Nine transformative months of suspense, preparing and peering at the amazing life unfolding [2]. Comfort in the sense of the pain of childbirth is a fascinating idea. The sense of comfort is an expression of having fulfilled present or imminent requirements or needs in three areas: body, mind and spirit [3].

In order to improve their satisfaction with the delivery, it is important to inform future mothers about the process of natural delivery and potential pain relief techniques. Most of the parturient hope to receive adequate pain relief during childbirth and the aim of obstetrics practice is to select a procedure that will reduce the pain to a degree in which the parturient can cope with it and at the same time allow the parturient the opportunity to engage in the experience of birth [4].

### 1.1 Background

The pain of labour is intense, but his memory decreases over time, despite this. Labour is an emotional phenomenon that encompasses both psychological and physiological processes. The active method of delivering a foetus is labour, which is characterized by frequent, painful uterine contractions that increase in frequency and intensity [5]. During labour, pain is caused by contractions of the uterine muscles and pressure on the cervix. This discomfort, as well as an achy feeling, can be felt as heavy cramping in the abdomen, groin, and back. Some women often suffer from pain in their sides or thighs [6].

There are many ways, both pharmacological and non-pharmacological, to relieve work pain and help to relax. During labour and childbirth, comfort measures that offer natural pain relief can be very effective. The development of endogenous endorphins that bind to brain receptors for pain relief can be enhanced by birthing techniques such as hydrotherapy,

hypnobirthing, patterned breathing, relaxation and visualization. Other comfort therapy strategies, such as effleurage (light rhythmic stroke of the abdomen), massage, bladder emptying, and hydrotherapy, can provide pain relief and minimize the need for narcotic analgesia or anaesthesia by generating naturally conflicting impulses in the central nervous system that can prevent the intense sensations of labour contractions from reaching the brain. These techniques of breathing offer relief and concentration while improving the progress of labour. Patterned breathing increases the flow of oxygen to your baby and is also essential for the uterus that contracts [7].

### 1.2 Need of the Study

Pain during labour is primarily caused by uterine muscle contractions and somewhat by pressure on the cervix. This pain manifests as cramping in the abdomen, groin, and back, as well as a tired, achy feeling all over the body. Some women often feel discomfort in their thighs or arms. Pressure on the bladder and intestines by the head and extension of the birth canal and vagina are other sources of discomfort during labour [8].

In primitive mothers, pain is still present. It is important to alleviate the pain and enhance the behavioural response of the pharmacological and non-pharmacological treatment of the mother [9]. Pharmacological approaches are aimed at removing the physical sensation of labour pain, while non-pharmacological approaches such as calming, breathing exercises, positioning, massage, hydrotherapy, hot and cold therapy, music-directed visualization, acupuncture, hot and cold therapy [8].

## 2. METHODS AND MATERIALS

The Quantitative Research Design will be adopted to evaluate the effectiveness of the patterned breathing technique among primigravida mothers during the first stage of labour. The population will be primigravida mothers during the first stage of labour; the

subjects will consist of 56 (28 control and 28 experimental group) samples of selected hospital of Wardha. The sampling technique in the study will be Non-Probability Convenient Sampling. The tool is Numeric Pain Intensity Scale specifically Wong Baker's Faces Pain Rating Scale.

## 2.1 Criteria for Selection of Samples

### 2.1.1 Inclusion criteria

- Primigravida mothers who are in active phase of labour (with cervical dilatation of 4 cm)
- Primigravida mothers who can speak in Marathi, Hindi and English.

### 2.1.2 Exclusion criteria

- Primigravida mothers with a high-risk pregnancy.

## 2.2 Intervention

Assess the effectiveness of patterned breathing technique in reduction of pain during first stage of labour among primigravida mothers.

## 2.3 Statistical Analysis

Statistical analysis done by descriptive and inferential statistics with the help of SPSS 17.0 software.

## 2.4 Expected Outcome

This study is planned to assess the effectiveness of patterned breathing technique during first stage of labour among primigravida mothers to reduce their pain and their pain perception. Hence, it is expected to reduce their pain perception among primigravida mothers and it will make it easy to bear the labour pain.

## 3. DISCUSSION

The study findings is supported through the studies conducted worldwide. According to Sruthi L. Effectiveness of breathing exercises on Labour pain among primi mothers At selected hospital In Mangalore. A true experimental research design (pre-test -post-test experimental design) has been adopted. A study of 40 primigravid mothers consisted of 20 in the experimental group and 20 in the control group. The findings show that breathing exercise in

primigravid mothers has been shown to be an important non-pharmacological treatment tool to decrease labour pain [9].

A comparative study on relaxation versus Breathing Techniques on Labour Pain Relief was conducted on 2018 at Jalgaon Kh, India, the study concluded that breathing technique was very effective to reduce labor pain than the relaxation therapy [10].

A study on Effectiveness of breathing exercises on Labour pain among primi mothers was conducted at Vellivilagam, Marthandam by Mrs. Leethial S, Prof. Mrs. Solomon Reeta Jebakumari. The study concluded that paced breathing exercise is an effective non pharmacological intervention for reducing labor pain perception [11].

## 4. CONCLUSION

Conclusion will be drawn from the statistical analysis.

## CONSENT

As per international standard or university standard, respondents' written consent will be collected and preserved by the author(s).

## ETHICAL APPROVAL

Study was approved by the Institutional Ethical Committee and the approval letter number given for this research study is DMIMS(DU)/IEC/Dec-2019/8692 and the study will be conducted in accordance with the ethical guidelines prescribed by Central Ethical Committee on Human Research.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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