

# A Study to Assess the Effectiveness of Circular Hip Massage on First Stage Labour Pain Among Primigravida Mothers at Various Hospitals, Chennai

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**Abstract:** A study, to assess the effectiveness of circular hip massage on first stage labour pain among primigravida mothers at Rathimaternity Hospital, Chennai. The objectives of the study were, to assess the significant difference between the pre and post test mean labour pain score among primigravida mothers in experimental group in relation to circular hip massage, to compare the significant mean difference in labour pain score among primigravida mothers in the experimental and control group. The sampling technique used in this study was purposive sampling technique. To collect the data an interview schedule used, comprised of selected variables and Visual Analogue Pain Scale used to measure the level of labour pain. It was validated by five experts. Inter – rater method was used to find the reliability of the tool. The reliability of the tool in this study was  $r = 0.87$ . The reliability coefficient was found to be high. The purposive sampling was used to select samples. To collect the data an interview schedule and Visual Analogue Pain Scale were used as the tool. The data gathered were analyzed by descriptive and inferential statistics using SPSS version 10. The interpretation was made on the basis of objectives of the study. Findings of the study revealed that there was a significant reduction in the intensity of the labour pain after administering the circular hip massage among the primigravida mothers ( $p < 0.05$ ). The conclusion of the study was that, primigravida mothers had a reduction in the labour pain as evidenced by the results shown in Visual Analogue Pain Scale. Hence circular hip massage was found to be a cost effective procedure in reducing labour pain among primigravida mothers.

**Keywords:** hip massage, labour pain

## 1. Introduction

Pain can vary during different times in the same labour and during different birth by the same woman. In midwifery, pain would be defined as ‘a complex, personal, subjective, multifactorial phenomenon which is influenced by psychological, biological, socio-cultural, and economical factors. A variety of factors affect the intensity and amount of pain experienced by women in labour. These include: perception of pain, tolerance of pain, coping mechanisms, individual meaning of pain, expression of pain, communication

of pain, cultural characteristics and environment of pain. There are many types of non-pharmacological methods of pain control; among those, homeopathy, hydrotherapy, music therapy. Among these methods, massage has the potential benefits such as decreasing the intensity of pain, relieving muscle spasm, increasing physical activity, distracting from pain, promoting general relaxation and decreasing anxiety. Massage is an ancient practice that has been widely employed during labour. It comprises of deep stroking and superficial stroking. It is thought to work either by blocking pain impulses to the brain by increased A  $\beta$  fibre transmission or by stimulating the local release of endorphins due to more relaxation of soft tissue. Comparing to all the non-pharmacological methods of pain relief during labour, circular hip massage has many important benefits such as, it will not give any harmful effects to the mother as well as to the fetus and it can reduce need for pharmacological agents for pain relief.

## 2. Statement of the problem

A study to assess the effectiveness of circular hip massage on first stage labour pain among primigravida mothers at various Hospitals, Chennai.

## 3. Objectives

1. To assess the significant difference between the pre and post test mean labour pain score among primigravida mothers in experimental group in relation to circular hip massage,
2. To compare the significant mean difference in labour pain score among primigravida mothers in the experimental and control group.

## 4. Methodology

### A. Research design

The selection of research approach is a basic procedure for conducting the study. To be precise the research design selected

for the present study is quasi experimental, non-equivalent pre-test, post test control group design. Labour pain was measured before and after the circular hip massage in the experimental group. Control group received the regular intervention and care.

**B. Population**

*Target population:* refers to the population that the researcher wishes to make a generalization. In this research, it was primigravida mothers who are in first stage of labour.

**C. Sample Size**

The sample size was determined based on the type of the study, variables being studied, the statistical significance required, availability of sample and feasibility of conducting the study. The sample size for the study was arbitrarily decided to be 40, 20 in experimental and 20 in control group. Factors like nature of study, availability of sample, time, money and material were considered while deciding the sample size.

**D. Sampling Technique**

In this study purposive sampling technique was used to select subjects according to the sample selection criteria. It entails the use of the most readily available persons or objects based on certain criteria, as subject in the study.

**E. Development of the Tool**

The tool is a written device that a researcher uses to collect the data. After a careful review of literature, the investigator used the visual analogue pain scale to assess pain. However, the demographic variables and health variables are identified by the interview schedule.

**5. Data analysis**

For the present study the researcher collected the data from the primigravida mothers edited and analyzed by using both descriptive and inferential statistical methods.

**6. Result**

Table 1 reveals the frequency and percentage distribution of primigravida mothers in the experimental and control group regarding their background variables and, there was no association with demographic variables.

Table 2 reveals the mean, SD, mean difference and ‘t’ value on mean labour pain score before and after circular hip massage in experimental group.

The mean pre test pain score 4.30 (SD = 0.80) was less than the mean post test pain score 6.55 (SD = 0.76) in experimental group. The obtained ‘t’ value,  $t = -22.650$ , ( $p < 0.001$ ) was significant.

Table 1  
Frequency and percentage distribution of the primigravida mothers in the experimental and control group regarding their background variables

Background variables	Experimental Group (n=20)		Control Group (n=20)		$\chi^2$ Value
	No	%	No	%	
Height					
a) < 145cm	3	15	4	20	$\chi^2 = 0.000$ (p = 1.000) (NS)
b) ≥145cm	17	85	16	80	
Physical strain in the job					
a) Severe	0	0	0	0	$\chi^2 = 0.000$ (p = 1.000) (NS)
b) Moderate	8	40	8	40	
c) Mild	12	60	12	60	
Community					
a) Rural	12	60	8	40	$\chi^2 = .902$ (p = .342) (NS)
b) Urban	8	40	12	60	
Type of family					
a) Joined	16	80	17	85	$\chi^2 = .143$ (p = 0.705) (NS)
b) Nuclear	4	20	3	15	
Support of family member during labour					
a) Mother	20	100	18	90	$\chi^2 = 1.026$ (p = 0.311) (NS)
b) Husband	0	0	0	0	
c) Other	0	0	2	10	
Knowledge regarding labour pain					
a) Yes					$\chi^2 = 1.026$ (p = 0.311) (NS)
b) No	6	30	8	40	
	14	70	12	60	
Previous hospitalization					
a) Yes	4	20	5	25	$\chi^2 = 0.000$ (p = 1.000) (NS)
b) No	16	80	15	75	
Activity during first stage					---
a) Walking	0	0	0	0	
b) Bed rest	20	100	20	100	
c) Any other	0	0	0	0	
Practices during pregnancy					
a) Walking	0	0	0	0	$\chi^2 = .107$ (p = 0.744) (NS)
b) Antenatal exercise	0	0	0	0	
c) Regular occupation	7	35	8	40	
d) Household job	13	65	12	60	
e) None	0	0	0	0	

Table 2  
Mean, SD, mean difference and 't' value on mean labour pain score before and after circular hip massage in experimental group. N=20

Group	Test	Mean	Standard Deviation	Mean Difference	t' value (p)
Experimental	Pre Test	4.30	0.80	-2.25	-22.650 (p<0.001) S
	Post Test	6.55	0.76		

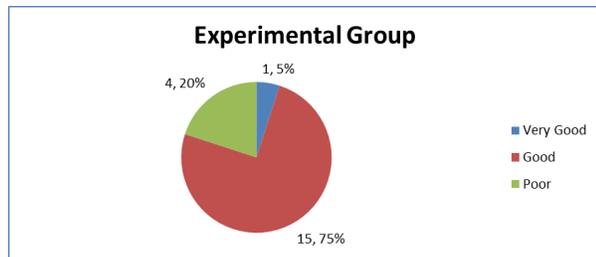


Fig. 1. Frequency and Percentage distribution of primigravida mothers in experimental group regarding pain tolerance

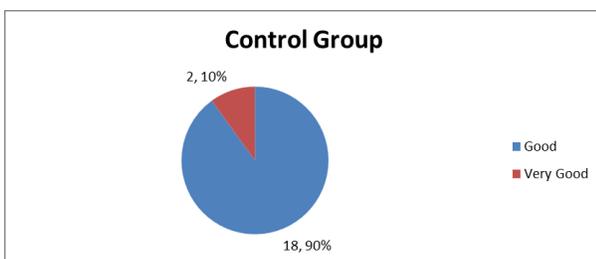


Fig. 2. Frequency and Percentage distribution of primigravida mothers control group regarding pain tolerance

### 7. Discussion

The results of the study were discussed based on the findings of the study.

*Finding 1:* Findings on mean labour pain score among primigravida mothers in experimental group in relation to circular hip massage.

There was a significant difference in the mean labour pain scores of before and after circular hip massage in the experimental group,  $t = -22.650$  ( $p < 0.001$ ) in the experimental group than the control group regarding circular hip massage.

### 8. Implications

The findings of the study have the following implications in nursing.

#### A. Implications for Nursing Practice

1. Circular hip massage is a cost effective measure to block the pain pathway. Midwives should effectively use this measure to reduce the labour pain.
2. Circular hip massage helps in reducing the need and frequency of administration of analgesics.
3. Circular hip massages help to conserve the energy of the mother during the first stage of her labour, which helps to put her own effort during the second stage
4. Midwives can plan the goal of nursing management and enhance the nurse - patient relationship and a sense of well-being to the mother through the development of mutually agreed goals.

5. Circular hip massage therapy should be an integral part of pain relief in the nursing management of labour pain.

#### B. Nursing Services

1. Midwifery department should have a policy decision to use the circular hip massage therapy as an essential nursing activity to reduce the labour pain.
2. Administrators must provide adequate training facilities for effective nursing care to the mothers in labour.

#### C. Nursing research

1. The study will be a valuable reference material for future researcher.
2. The findings of the study would help to expand the scientific body of professional knowledge upon which further researches can be conducted
3. Circular hip massage therapy may be studied more scientifically and used as a specific nursing intervention.

### 9. Conclusion

Primigravida mothers had a reduction in the labour pain as evidenced by the results shown in Visual Analogue Pain Scale. Hence circular hip massage was found to be a cost effective procedure in reducing labour pain among primigravida mothers.

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