

# A Study to assess the Effectiveness of Birthing Ball Exercise on Labour Pain in 1st stage of Labour among Primigravida Mothers at Selected Hospital, Surat

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## Abstract

**The objectives of the study are:** 1. To assess the effectiveness of birthing ball exercise on experimental and control group in labour pain in 1st stage among primigravida mothers. 2. To compare the effectiveness of birthing ball exercise in experimental group and control group in 1st stage of labour pain among primigravida mothers. Quantitative approach was used with quasi experimental research design. The researcher assessed the pain level with pain intensity scale before intervention for both the control and experimental group of primigravida mothers. The study was conducted at love N care hospital Surat. The samples of 60 primigravida mothers were selected through randomized sampling technique. Pain intensity scale was used to assess the level of labour pain during the 1st stage of labour among the primigravida mothers before and after use of birthing ball which was collected by the researcher through interview. Reliability of the tool was ascertained by Karl Pearson's coefficient correlation (r) Method. The mean pain level in the control group was after therapy (M=7.53, SD=0.90) compared to before therapy (M=7.80, SD=0.81) whereas the mean pain level was low (M=6.33, SD=0.92) after therapy in the experimental group when compared with before therapy (M=7.40, SD=0.50). It showed the effectiveness of birthing ball upon labour pain.

**Keywords:** Birthing ball exercise; Labour pain; 1st stage of labour; Primigravida mothers.

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## INTRODUCTION

"Motherhood a safe experience where, Pain and Joy" - Johan Mac

Child birth is an exciting and meaningful experience in Women life from origin of mankind women are made to undergo labour pain which is one of the most painful condition

being pregnant and giving birth is likely crossing a narrow bridge and its special gifts to the world. (Jac Mac)<sup>1</sup>.

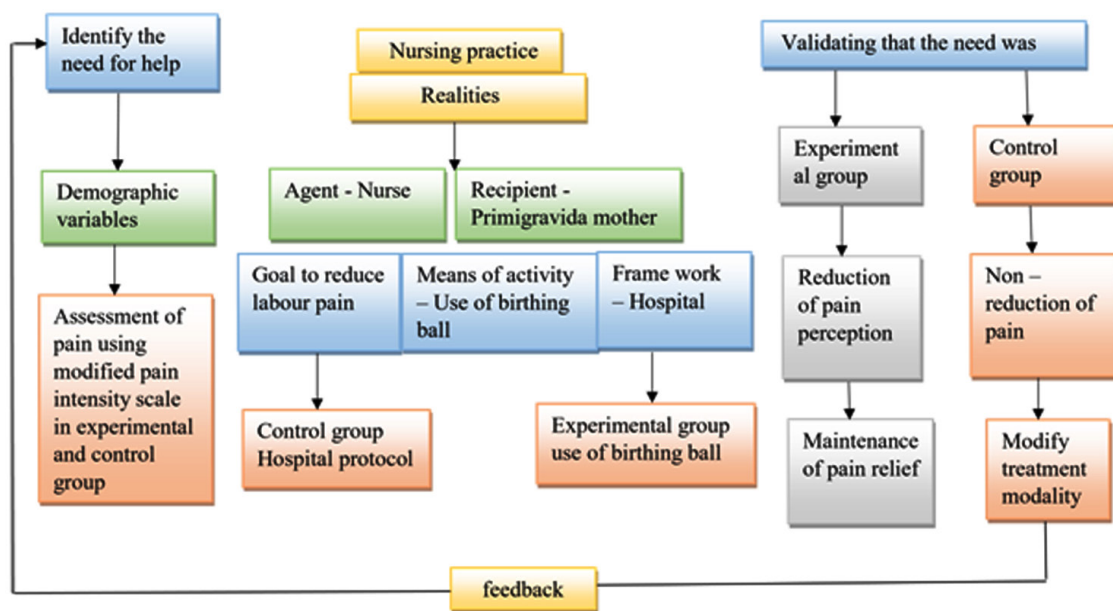
Therefore, there is tendency toward using non pharmacological pain relieving methods for alleviating the pain of delivery. (William CE, Devey...)<sup>1</sup> Birthing ball has been introduced to the obstetric setting to facilitate the mobilization of the labouring women and now a days birth ball has become more popular in many hospitals and birth centers swaying movements increase more benefits to the mothers. The sitting position assumed on the ball, similar to a squat, opens the pelvis, helping to speed up labour and gently moving on the ball greatly reduce the pain of contraction 10 with the ball on the floor or bed.<sup>2</sup>

## OBJECTIVE OF THE STUDY

- To assess the effectiveness of birthing ball exercise on experimental and control group in labour pain in 1st stage among primigravida mothers.
- To compare the effectiveness of birthing ball exercise in experimental group and control group in 1st stage of labour pain among primigravida mothers.

### Hypothesis

**H<sub>1</sub>:** There is a significant difference between experimental and control group after application of birthing ball exercise among primigravida mothers.



## METHODOLOGY

Methodology of research indicates the general pattern of organizing the procedure for the empirical study together with the method of obtaining valid and reliable data for problem under investigation.<sup>5</sup>

Research methodology is way of systemically solving the research problem. It is a science of study

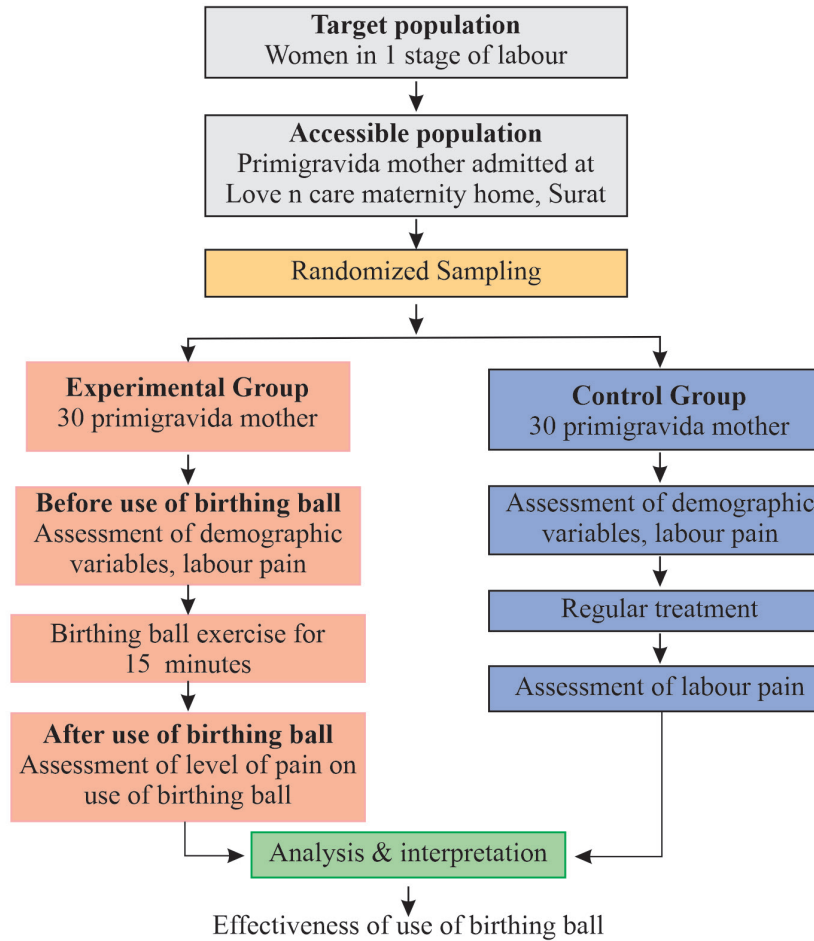
how research is done scientifically.

### Research Approach

Quantitative research approach

### Research Design

Quasi-experimental study



### Independent Variable

The variable that is believed to cause or influence the dependent variable is called independent variable. In this study use of birthing ball is independent variable. Birthing ball is used for 15 minutes of period to assess the change in the pain level.

### Dependent Variable

The variable hypothesized to depend on or be caused by independent variable is the dependent variable. Labour pain is the dependent variable in this study. The level of labour pain is assessed before and after use of birthing ball during the active phase of first stage of labour.

### Demographic Variable

The demographic variable consist age, education, occupation, area of residence, type of family, previous information received about birthing ball exercise.

### RESEARCH SETTING

Setting is the area or the physical location where the researcher conducted the research study. The present study was conducted at Love N Care maternity home, Surat.

### POPULATION

In this study the accessible population was all the primigravida mothers admitte at Love N Care maternity home, Surat.

### SAMPLE SIZE

In this study the sample size is 60 (30 sample in control group and 30 in experimental group).

### SAMPLING CRITERIA

*Inclusion criteria:* The study include primigravida

mothers who were:

1. Mother with 1st stage of labour
2. Mother age between 21 to 35 years
3. Mother available during the time of data collection
4. Mother with in the gestational age 36-40 weeks

### EXCLUSION CRITERIA

#### The study excluded

1. Mother with 2nd and 3rd stage of labour.
2. Mother who are posted for lower segmental caesarean section.
3. Mother with underline disease such as eclampsia, pre-eclampsia, gestational diabetes.

**Pilot Study:** The pilot study was conducted at Mom N Me women’s care hospital, Surat by selecting 6 primigravida mothers with 3 mothers in the experimental group and 3 mothers in the control group using systematic sampling in order to assess the methodology and tool.<sup>5</sup> The level of labour pain were assessed using Modified Pain Intensity Scale for both the control and experimental group before therapy. After the pilot study, it was found to be feasible and effective and study instruments were found to be appropriate.<sup>4</sup>

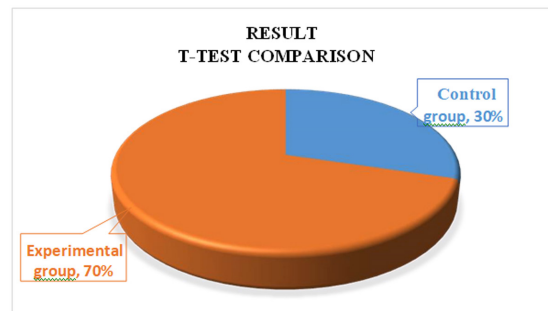
#### Organization of the Study Findings

**Section A:** Analysis and interpretation of the demographic variable of the samples such as Age in year, Education, Occupation, Types of Family, Area of Residence, Previous information regarding birthing ball exercise.

**Section B:** Analysis and interpretation of the data related to level of labour pain before and after use of birthing ball in the experimental and control group of primigravida mothers.

**Table 4.2.7:** Comparison of mean, standard deviation and t test value of level of labour pain before and after use of birthing ball in experimental and control group of primigravida mothers.

Level of labour pain	Before Therapy (n = 30)		After Therapy (n = 30)		‘t’ value
	Mean	SD	Mean	SD	
Experimental group	7.40	0.50	6.33	0.92	5.4072
Control group	7.80	0.81	7.53	0.90	2.2833



#### Major Findings

Demographic variables of primigravida mothers: The most of mothers were home makers (72%, 81%), didn’t received any previous knowledge regarding birthing ball (100%, 100%) and majority of the mothers were homogenously distributed between the age group of 21-25 years (70%, 60%) had completed their secondary education (60%, 70%) and most of mothers living in urban (80%, 60%) in the control and experimental group respectively.<sup>3</sup>

#### Level of Pain in the Primigravida Mothers

Thus the mean and standard deviation of the pain level before and after use of birthing ball were (M=7.40, SD=0.50) and (M=6.33, SD=0.92) in the experimental group of primigravida mothers.

### CONCLUSION

This study shows that use of birthing ball was effective in reducing the labour pain perception. The experimental group of women who received birthing ball had decreased pain perception and was highly satisfied with the therapy. The birthing ball is a non-invasive procedure and has no adverse effects on the mothers and the fetus and hence the midwives could be encouraged to use this as a pain relief method during labour.

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