A STUDY TO ASSESS THE EFFECTIVENESS OF BIRTHING BALL EXERCISE TO REDUCE LABOUR PAIN AMONG PRIMIGRAVIDA MOTHERS IN SELECTED HOSPITAL OF KANPUR, U.P.

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ABSTRACT

A Study to Assess the Effectiveness of Birthing Ball Exercise to Reduce Labour Pain Among Primigravida Mothers in Selected Hospital of Kanpur, U.P. The present study aims to assess the effectiveness of birthing ball exercise in reducing labour pain among primigravida mothers in a selected hospital of Kanpur, Uttar Pradesh. A quasi-experimental research design with a non-randomized control group was used. A total of 60 primigravida mothers in active labour were selected through purposive sampling. Participants were divided into two groups: an experimental group that performed birthing ball exercises and a control group that received standard care. Labour pain was measured using a standardized pain assessment scale before and after the intervention. Data were analyzed using descriptive and inferential statistics. The findings revealed a statistically significant reduction in the level of labour pain in the experimental group compared to the control group ($p < 0.05$). Mothers who engaged in birthing ball exercises reported better pain management and improved comfort during the first stage of labour. The study concluded that birthing ball exercise is an effective non-pharmacological intervention for reducing labour pain among primigravida mothers. It is recommended that healthcare professionals incorporate birthing ball exercises as part of labour management strategies in maternity care settings.

Keywords: Birthing Ball, Labour Pain, Primigravida Mothers, Non-Pharmacological Methods, Labour Management, Kanpur.

INTRODUCTION

"A child's first teacher is its mother"

- Peng Liyuan

Being pregnant is a pleasant time and a nine-month journey during which the body and soul are both stretched. Carrying a tiny soul inside our womb is an amazing experience. As each month begins, our bodies undergo a number of unexpected changes, and a tiny soul is only beginning to blossom inside the womb. Being able to sense the soul's movements in her womb is the greatest feeling a woman can experience. As the months pass and the mother-child link is strengthened by a priceless lifeline known as the "UMBLICAL CORD," it remains the mother's heart and many blessings for our child for the rest of their lives.[1]

For every woman, the start of the pregnancy journey is a lovely time. For the first time, she hears a small heartbeat and a playful kick that lets her know she's not alone. In a world where the baby smiles, yawns, and sleeps throughout the USG, it is wonderful to be able to witness the first color USG, when we are excited to see the baby's face and small limbs. We are getting closer to meeting the love of our lives every day. Even if we may have a rough day, a single little kick can lift our spirits. Women get to comprehend other people's emotions as life develops and stirs.[2]

The amazing adventure of ushering a new life into the world begins with the remarkable experience of childbirth. Because they want the birthing experience to be easy and natural, many pregnant mothers choose for a normal delivery. The steps of a normal delivery are covered in this blog, along with information on important postpartum care for mothers and their precious infants. The most frequent and natural way for a baby to enter the world is through vaginal birth, often known as a normal delivery. It involves a regular progression of labor followed by the delivery of the baby through the birth canal.[3]

NEED FOR THE STUDY

Antenatal care, often known as prenatal care, is the term used to describe medical treatment given from the beginning of pregnancy until the day of delivery. As soon as you learn you are pregnant, you should make an appointment with your obstetrician to confirm the pregnancy and

begin prenatal care programs, which include monitoring baby growth and screening for pregnancy risk factors. Getting guidance from an obstetrician on the best prenatal care practices to guarantee a safe pregnancy, reduce pregnancy risks, and have a high-quality pregnancy is another aspect of prenatal care that involves getting ready for physical and emotional well-being. Until the anticipated date of confinement, when the mother can safely give birth, the fetus is developing regularly and without complications, and the mother is in good physical health.[4]

One of the most important times in life is pregnancy. Birth defects or congenital abnormalities in the fetus, such as Down syndrome, anencephaly, the health concerns that both mother and child confront throughout pregnancy include thalassemia, cleft lip and palate, and high-risk pregnancies, which include low birth weight, infections after delivery, neonatal sepsis, and other issues. Other risks include miscarriage and maternal death.[5]

OBJECTIVES

1. To assess the level of pain among primigravida mothers during first stage of labour.
2. To evaluate the effectiveness of birthing ball exercise on reducing labour pain among primigravida mothers.
3. To find out the association between pretest labour pain score with selected demographic variables.
4. To compare the pain levels between mothers using the birthing ball exercise and those not using it.

NULLHYPOTHESIS-

H01- Neither the experimental group nor the control group of primigravida moms reported significantly different levels of pain before and after using a birthing ball.

H02- Both the experimental and control groups of primigravida mothers' levels of labor pain before and after using a birthing ball do not significantly correlate with the demographic characteristics that were chosen.

POSITIVE HYPOTHESIS-

H1- Both the experimental group and the control group of primigravida moms experienced significantly different levels of pain before and after using a birthing ball.

H2- Both the experimental and control group of primigravida mothers 'level of labour pain before and after using a birthing ball are significantly correlated with the chosen socio demographic factors.

METHODOLOGY

RESEARCH APPROACH

This study employed a quantitative evaluative research methodology.

RESEARCH DESIGN

The research design selected for the present study was quasi experimental one group pre-test and post-test control group design.

RESEARCH SETTING

The present study was conducted in SPM Hospital & Research Trauma Centre, Kanpur Nagar.

VARIABLES

Independent Variables:

The birthing ball exercise is the independent variable in this study.

Dependent Variables:

In the present study, effectiveness of Birthing Ball Exercise among primigravida mothers was the dependent variables.

Demographic Variables:

Include the primigravida moms' age (in years), their educational attainment, family types, The length of marriage, the length of the first stage of labor, the first ANC received (in a month), the antenatal registration status, the gestational age in weeks at the time of admission, the number of

ANC completed, the maternal vitals during the first stage of labor, and obstetric complications are all factors that affect the family's monthly income.

POPULATION

In the present study, the population encompasses all primigravida mothers in antenatal ward in selected hospital of Kanpur U.P.

Target population:

In the present study, the target population was primigravida mothers admitted in antenatal ward in selected hospital of Kanpur Nagar, U.P.

Accessible population:

Primigravida moms in the prenatal ward at a certain SPM Hospital & Research Trauma Centre in Kanpur Nagar were the study's accessible population.

SAMPLE:

In the present study, the sample consists of primigravida mothers in antenatal ward who were meeting all the inclusion criteria in selected SPM Hospital & Research Trauma Centre, Kanpur Nagar.

Sample size:

The formula used for sample size calculation was Krejcie & Morgan formula.

The sample size of the study was 60 primigravida mothers.

Sampling technique:

The study used the non-probability purposive sampling method as its sampling technique.

CRITERIA FOR THE SELECTION OF THE SAMPLE

Inclusion criteria:

The study includes those who are:

- Between the age of 18-35 years.
- Primigravida mothers in SPM Hospital & Research Trauma Centre, Kanpur Nagar.
- Primigravida mothers who are open to taking part in the data collection process.

Exclusion criteria :

The study excludes the mother who are:

- Unreachable during time of data collection.
- High-risk primigravida mothers.
- **THE COLLECTED DATA IS ORGANIZED AND PRESENTED UNDER THE FOLLOWING HEADINGS :**
- **Section A:** Frequency and percentage wise distribution of demographic variables & obstetrics variables of the primigravida mothers.
- **Section B :** Frequency and percentage wise distribution of labour pain of mothers in experimental and control group.
- **Section C:** Assessment of effectiveness of Birthing ball exercise to reduce level of labour pain among primigravida mothers in experimental and control group.
- **Section D:** Association of level of pain among the primigravida mothers with their selected demographic variables in experimental and control group.

SECTION – A

FREQUENCY AND PERCENTAGE WISE DISTRIBUTION OF DEMOGRAPHIC VARIABLES OF PRIMIGRAVIDA MOTHERS IN EXPERIMENTAL AND CONTROL GROUP

Table 4 : Frequency and percentage wise distribution of primigravida mothers according to their age. **(n=60)**

Age in years	Experimental Group		Control Group	
	Frequency	Percentage	Frequency	Percentage
18-20 years	2	6.67%	1	3.33%
21-25 years	18	60%	15	50%
26-30 years	4	13.33%	8	26.67%
31 or above	6	20%	6	20%
TOTAL	**30**	**100%**	**30**	**100%**

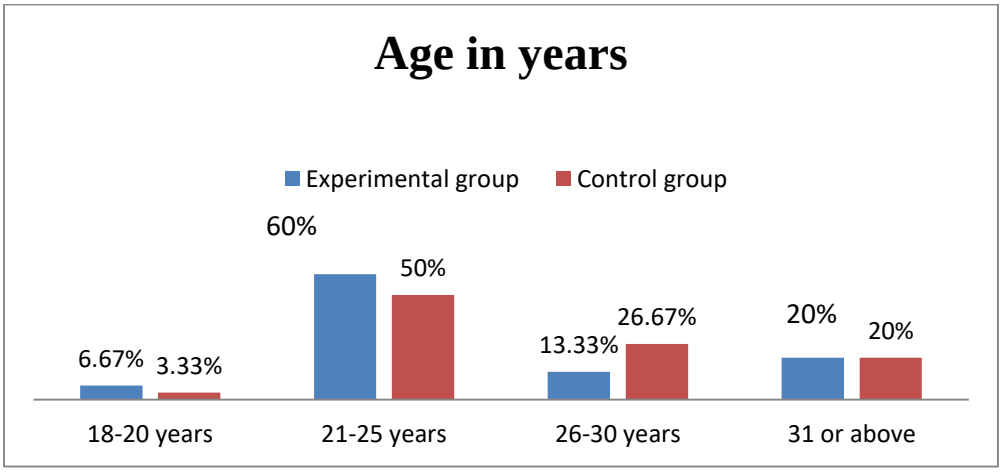

Figure No. 3. Percentage wise distribution of primigravida mothers in antenatal wards according to age group.

(Above Table no. 1 Fig. no. 3) Column chart shows frequency and percentage wise distribution of primigravida mothers according to their age. The data represents that in experimental group the majority 18(60%) were in between 21-25 yrs of age and other 6(23.34%) were in between 31 or above, 4(13.33%) were in age group of 26-30 yrs and least 2(6.67%) were in age group of 18-20 yrs. In control group, the majority 15(50%) were in age group of 21-25 yrs and other 8(26.67%) in age group of 26-30 yrs and above, 6(20%) in between 31 or above and least 1(3.33%) were in between 18-20 yrs of age.

SECTION-B

1. FREQUENCY AND PERCENTAGE WISE DISTRIBUTION OF PATIENTS IN EXPERIMENTAL AND CONTROL GROUP ACCORDING TO THEIR LEVEL OF PAIN BEFORE INTERVENTION.

Table no. 15 : Table showing the description of patients in experimental and control group according to their level of pain in pre-test.

Level of pain	Experimental Group				Control Group			
	Frequency	Percentage	Mean	SD	Frequency	Percentage	Mean	SD
No pain	0	0%	4.80	1.54	2	6.70%	5.38	1.88
Mild	5	16.70%			2	6.70%		
Moderate	20	66.70%			23	76.60%		
Severe	5	16.70%			2	6.67%		
Unbreakable	0	0%			1	3.33%		
TOTAL	30	100%			30	100%		

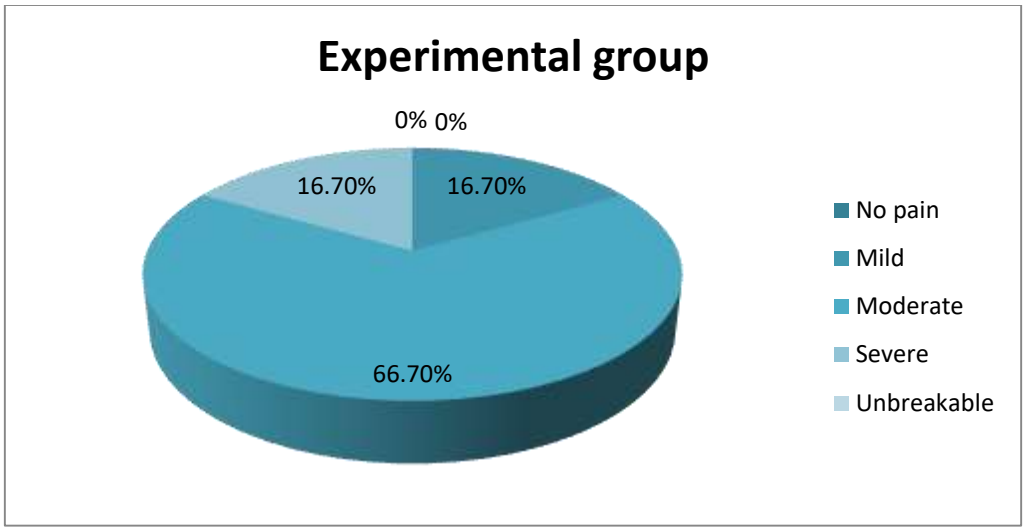

Figure no.14 Frequency and percentage wise distribution of primigravida mothers under experimental and control group according to their level of pain in pre-test.

- (Above Table no. 13 and fig.14 shows the frequency and percentage wise distribution of primigravida mothers according to their level of pain in pre test. In experimental group, the majority 20(66.70%) had moderate pain level and others 5(16.70%) had mild pain level, other 5(16.70%) had severe pain level and 0(0%) had unbreakable pain level. In control group, the majority 23(76.60%) had moderate pain level and others 2(6.70%) had no pain level, others 2(6.70%) had mild pain level, other 2(6.70%) had severe pain level, and least 1(3.33%) had unbreakable pain level.

2. FREQUENCY AND PERCENTAGE WISE DISTRIBUTION OF PATIENTS IN EXPERIMENTAL AND CONTROL GROUPACCORDING TO THEIR LEVEL OF PAIN AFTER INTERVENTION.

Table no. 16. Table showing the description of patients in experimental and control group according to their level of pain in post test.

Level of Pain	Experimental Group				Control Group			
	Frequency	Percentage	Mean	SD	Frequency	Percentage	Mean	SD
No pain	0	0	2.88	1.55	2	6.67	5.3	1.88
Mild	22	73.33			14	46.66		
Moderate	5	16.67			4	13.33		

Severe	3	10	5	16.67
Unbreakable	0	0	5	16.67
TOTAL	30	100	30	100

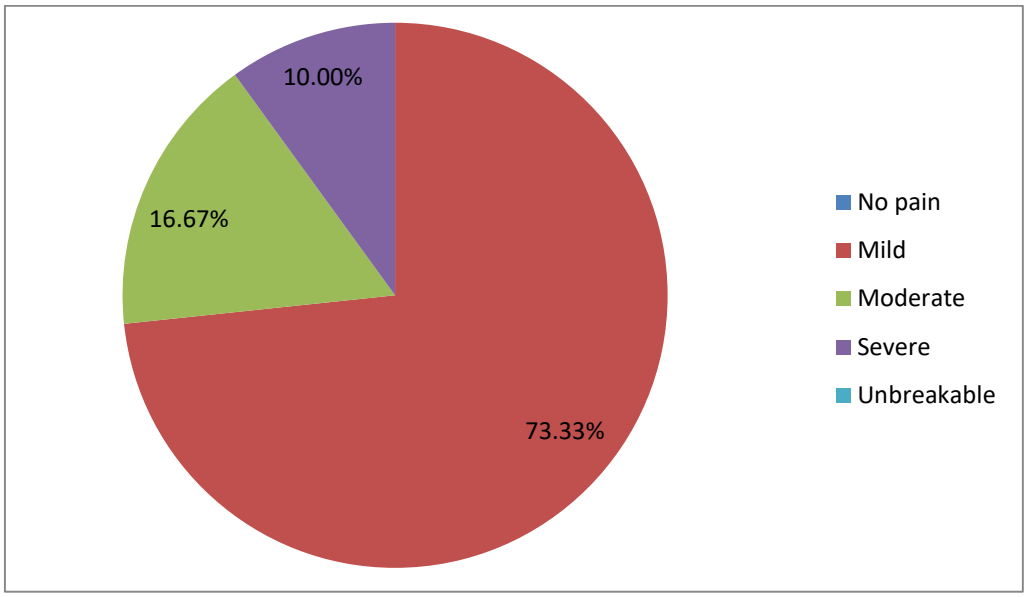

Figure no.15 Frequency and percentage wise distribution of primigravida mothers under experimental and control group according to their level of pain in post-test.

Table no.14 and fig.15 shows the frequency and percentage wise distribution of primigravida mothers according to their level of pain in post test. In experimental group, the majority 22(73.33%) had mild pain level, others 5(16.67%) had moderate pain level, others 3(10%) had severe pain, and others 0(0%) had unbreakable pain level, and least 0(0%) had no pain. In control group, the majority 14(46.66%) had mild pain level, others 4(13.33%) had moderate pain level, others 5(16.67%) had severe pain level and others 5(16.67%) had unbreakable pain level, and least 2(6.67%).

CONCLUSION

The results showed that all of the demographic factors they had chosen, including age, education, occupation, and family type, as well as obstetric factors including length of marriage, gestational age in weeks, and number of ANC visits, significantly correlated with the degree of discomfort.

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