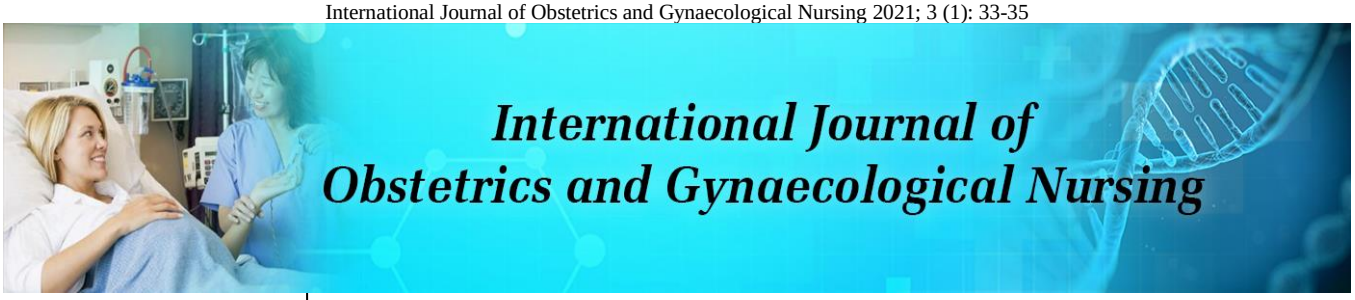

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A randomised controlled trail to evaluate the effect of birthing ball exercises on the maternal outcome during first stage of labour among primi gravida mothers admitted in labour of selected C.H.C. Katgoraha, Korba (C.G.)

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Abstract
Background of study: Birthing ball is originally developed in and it is used as a physical therapy for the neurodevelopment treatment. It was introduced as a childbirth tool in 1980 by Perez and Simkin, Perez in 2001 stated that the birthing ball was physically beneficial use during pregnancy and labor by producing optimal positioning and pain reduction during contraction while eliciting non habitual movement.
Objective:- To assess the maternal outcome of the first stage of labor among primigravida mothers after birthing ball exercise experimental group, To assess the maternal outcome of the first stage of labor among primigravida mothers of control group ,To find out the effectiveness of birthing ball exercise on maternal out come among in experimental group ,To compare the maternal outcome of the first stage of labor between experimental and control group, To find out the association between experimental group of the primigravida mothers with their selected demographic variables.
Result: Birth ball exercise was found to be effective in reducing labour pain and improving vaginal births among women in labour, so this new practice was chosen as the topic of this dissertation. In this paper, an EBP clinical guideline of birth ball exercise program was developed according to critical appraisal of seven selected studies. The transferability, feasibility and cost-benefit ratio of the programme was fully examined to be worth while and practical to set up in target labour room. In addition, communication plans among different stakeholders, pilot testing of the guideline and evaluation plan of the program were outlined in details to facilitate clinical implementation in the target setting.
Conclusion: In summary. It is proposed that this translational research can provide recommendations for midwives to enhance women in using the birth ball for labour pain management effectively and safely.

Keywords: Birthing ball, Primigravida, Maternal outcome, Exercis

Introduction
Birthing ball is a large air filled rubber ball which is strong enough to support the weight of the mother. It helps in widen and flex the pelvic bone and joints and helps the baby to descent into birth canal more easily and also helps in the strengthening the muscles of the pelvic floor, which is responsible for the pushing stage of childbirth. The birthing ball can facilitates positional changes and used as a comfort tool for women in labor.

- 1963 Birthing ball is originally developed in and it is used as a physical therapy for the neurodevelopment treatment. It was introduced as a childbirth tool in 1980 by Perez and Simkin, Perez in 2001 stated that the birthing ball was physically beneficial use during pregnancy and labor by producing optimal positioning and pain reduction during contraction while eliciting non habitual movement.
- Effects on mothers and babies wellbeing. Research evidences have shown that ambulation and birthing ball tend to reduce the duration of first stage of labour. Thus the investigator felt the need to utilize this finding in her setting so as to reduce discomfort and duration during the first stage of labour.

Need for the study

According to the survey conducted in 2012 in India shows than more than half (57%) of the mother who gave birth vaginally reported that they lay on their backs while they push their baby out and giving birth. slightly more than one-third (35%) indicated they give birth in propped up (semi-sitting) position, while the reminder gave birth either side (4%), upright position (squatting or sitting) (3%) or in a hand- knee position (1%). study reports shows that the women's in Karnataka experience vaginal birth through the supine lithotomy positions. Which makes discomfort and risk for the abnormal progress of the labour. The studies shows that the 50% of all the cesarean performed in the primigravida mother is due to the abnormal progress of labour while thinking out a solution for this, investigator heard about birthing ball which can produce added effect in the progress of the labor. The birthing ball is a wonderful comfort tool for the pregnancy and labor which is using in many birthing centers in foreign country. The active birthing ball is a large air filled ball that is easily inflated in minutes. It is made up of extra tough non–slip rubber that can easily wipe and clean, the ball is very strong and can up to 300lbs in weight, which is 2-3 times of the normal pregnant mother, the researchers have proven that the birthing ball has many advantages. So I want to know the effectiveness of birthing ball exercise in C.G also so I select this exercise for progress of labour.

Objectives

- To assess the maternal outcome of the first stage of labor among primigravida mothers after birthing ball exercise experimental group.
- To assess the maternal outcome of the first stage of labor among primigravida mothers of control group.
- To find out the effectiveness of birthing ball exercise on maternal out come among in experimental group.
- To compare the maternal outcome of the first stage of labor between experimental and control group.
- To find out the association between experimental group of the primigravida mothers with their selected demographic variables.

Hypothesis

- H1: There will be a significant difference in the post interventional maternal outcome of the first stage of the labour among primigravida mothers between experimental and control group.
- H2: There will be a significant association in the post interventional maternal outcome of the first stage of labour among primi gravida mothers with their selected demographic variables.

Review of Literature

Rania E. Farrag, Ayat M. Omar September (2018). Using of Birthing Ball during the first Stage of Labor: Its Effect on the Progress of Labor and Outcome among Nulliparous Women Epi-Info 6.04 computer software package was used for data entry while Statistical Packages for Social Science (SPSS) version 18.0.was utilized for the statistical analysis. Coding and data entry were fully controlled to guarantee quality. Qualitative variables frequencies and percentages were utilized to represent descriptive statistics. On the other hand, quantitative variables were accounted for using means and standard deviation. Both chi-square and t-tests were used for comparing data quantitatively and qualitatively. Statistical significance was considered at p-value < 0.0l.

Yasmin Mansoori Effectiveness of birthing ball exercise on labour pain intensity and cervical dilation during 1st stage of labour among primi gravida mothers. A total of 60 parturients having cervical dilatation between 4cm- 10cm were selected by using simple random technique. Birthing Ball Exercise was done when the mother sit on the ball and do pelvic movement for 30 minutes, which included side wise rocking movement & front followed with back movement. Tool used was structured observational schedule, numerical Pain scale, Modified Fordyce pain behavior scale & Partograph. The mean and SD of Pain Score in numerical scale were 0.48+ 0.15, 't' value was 17.47. The mean and SD of Pain Score in modified Fordyce pain behavior scale were 2.10+ 1.06, 't' value was 10.75. This indicated that there was significant reduction in labor pain intensity after Birthing Ball Exercise among experimental group. The mean and SD of cervical dilatation was 2.28+ 0.79, 't' value was 2.94. This indicated that there was no significant change in cervical dilatation after Birthing Ball Exercise among experimental group.

Methodology

Research design

Experimental research design (randomized control trail)

Target population

All primi mother admitted in labour

Accessible population

Primi mothers admitted in labour room of CHC katghora, korba (C.G)

Setting of the study

Labour room of of CHC katghora, korba (C.G)

Sampling method

Randomization (Table method)

Sample size

60 pregnant mother

Criteria for selection of sample

Inclusion criteria:

- Who are admitted in labour room
- Who are willing to participate
- Normal pregnancy.
- Full-term (38 to 42 weeks of gestation).
- Single viable foetus in cephalic presentation

Exclusion criteria:

- Mothers with pathological and systemic disease (cardiac disease, sickle cell disease, eclampsia, tuberculosis, APH).
- Mothers with preterm labour.
- Mother who refuse to part of the study.

Findings

- Experimental group, majority of subject i.e. 24(80%) were under the age group of 18-23yrs and Control group, majority of them 18 (60%) were under age group of 18-23yrs, Experimental group, majority of subject 13 (43.3%) were high school qualified and control group 11(36.6%) were high school qualified, Experimental

group, majority of subjects 28(93.3%) were house wife, and control group, majority of subjects 24(80%) were housewife, Experimental group, majority of subject 17(56.6%) and control group, majority 16(53.3%) were from rural area, Experimental group, majority of subject. 21(70%) were belongs to joint family and control group, majority of subject 20(66.6%) were belongs to joint family. Experimental group, 14(46.6%) were having income Rs 10,001-Rs 15,000 and control group, 13(43.3%) were earning Rs. 10,001-15,000, Experimental group, 20(66.6%) were delivered at 38.1-40 weeks of gestation and control group 16(53.3%) were delivered at 38.1-40 weeks of gestation.

- VAS pain scale in experimental group, majority of subject 21(70%) had uncomfortable, and control group majority 20 (66.67%) had horrible pain score. Modified behavioral intensity of pain in experimental group, majority of subject i.e. 19(63.33%) had mild, and 11(36.6%) had moderate, and control group majority i.e. 20 (66.67%) had Severe behavior score, experimental group, majority of subject 17(56.67%) had Moderate cervical status, and control group majority 21(70%) had poor cervical status.
- The VAS pain scale mean score and SD of Experimental group i 4.23 and 7.43 respectively. Where as in the mean score and SD of control group is 1.04 and 0.94 respectively. The calculated t-value is 12.50which is significant. .i.e. greater than the table value (3.46) at P< 0.001 level of significance at df=58. This data signifies that use of birthing ball exercise is more effective as compared to routine care. The modified behavioural intensity of pain mean score and SD of Experimental group is.3.47 and 15.5respectively. Where as in the mean score and SD of control group is 1.04 and 8.88respectively. The calculated t-value is 7.43which is significant. .i.e. greater than the table value (3.46) at P< 0.001 level of significance at df=58. The cervical status mean score and SD of Experimental group is. 6.43 and 5.73 respectively. Where as in the mean score and SD of experimental group is 1. 48and 1.20respectively. The calculated t-value is 2.012which is significant. .i.e. greater than the table value (2) at P= 0.048 level of significance at df=58. This data signifies that use of birthing ball exercise as compared to routine care.
- Illustrate that there is no statistically significant association between VAS pain scale and selected socio demographic variable in relation to age (2.96p>0.05), education (3.36p>0.05), occupation (4p>0.05), residence (0.47p>0.05), type of family (5.99 p>0.05), family income (4.97p>0.05) week of gestation (2.87p>0.05) pain score with as the calculated chi-square respectively at the df – 4,6,2,2,2,6,4. Illustrate that there is no statistically significant association between modified pain behavioural scale for measuring pain intensity with selected socio demographic variable in relation age (1.2p>0.05), education (4.43p>0.05), occupation (0p>0.05), residence (1.67p>0.05), type of family (1.2 p>0.05), family income (3.14p>0.05) week of gestation (1.125p>0.05) pain score with as the calculated chi-square respectively at the df – 2,2,1,1,1,3,2. Illustrate that there is no statistically significant association between progress of labour with selected socio demographic variable in relation, education (1.95p>0.05), occupation (3.21p>0.05), residence (0.41p>0.05), type of family (2.85 p>0.05), family income (7.47p>0.05) progress of labour score with as the calculated chi-square respectively at the df – 2,2,1,1,1,3,2 There is significant association between age and weeks of gestation in experimental group at the level of p<0.05.

Conclusion

In summary, birth ball exercise was found to be effective in reducing labour pain and improving vaginal births among women in labour, so this new practice was chosen as the topic of this dissertation. In this paper, an EBP clinical guideline of birth ball exercise program was developed according to critical appraisal of seven selected studies. The transferability, feasibility and cost-benefit ratio of the programme was fully examined to be worth while and practical to set up in target labour room. In addition, communication plans among different stakeholders, pilot testing of the guideline and evaluation plan of the program were outlined in details to facilitate clinical implementation in the target setting. It is proposed that this translational research can provide recommendations for midwives to enhance women in using the birth ball for labour pain management effectively and safely.

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