

Original Research Article

A Quasi- Experimental Study to Assess the Effectiveness of Early Ambulation on Involution of Uterus among Postnatal Mothers Admitted At SGRD Hospital, Vallah, Sri Amritsar, Punjab

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ABSTRACT

Introduction: Motherhood is the most sacred and greatest boon that god has bestowed upon a woman. During this time, mothers experience numerous physiological and psychological changes. Main changes that occur during postnatal period is involution of the uterus and descent of the fundus. Early ambulation in post partum period is the key to get rapid and maximum muscle function and restoration of mother's health. Aim of study is to find out the effectiveness of early ambulation on involution of uterus among postnatal mothers.

Methods: A quasi- experimental study was conducted at SGRD Hospital, Vallah, Sri Amritsar. 60 postnatal mothers were selected by using convenient sampling technique. (30 postnatal mothers were in control group and 30 postnatal mothers are in experimental group) by using involution measuring scale (S. Dyana Sathya).

Results: Present study revealed that majority of postnatal mothers had moderate involution of uterus in experimental group (53.3%) where as in control group majority of mothers had mild involution of uterus (56.7%). The comparison between pre interventional involution of uterus in experimental and control group among postnatal mothers had non significant difference with the 't' value (1.57) whereas the comparison between post-interventional involution of uterus in experimental and control group among postnatal mothers had significant difference with 't' value (6.06) at p<0.05 level. The study conclude that early ambulation facilitate involution of uterus.

Keywords: Early Ambulation, Involution of uterus

INTRODUCTION

Motherhood is the most sacred and greatest boon that god has bestowed upon a woman. A woman becomes a complete woman when she becomes a mother. Being a mother involves some great sacrifices on the part of a woman. To give birth in itself is a painful process and rearing a child involves no less trouble. In order to achieve it, every woman should receive the required health care and attention. A woman during her life cycle has to pass through different phase like childhood, puberty, women hood, motherhood & old age. The birth of baby is

delightful experience for mother and whole family. ^(1,2)

The first 6 weeks after the birth of the baby is known as postpartum period or puerperium. During this time, mothers experience numerous physiological and psychological changes. Main changes occur for uterus is involution of the uterus and descent of the fundus. Involution begins immediately after the delivery of the placenta. The term involution refers to retrogressive changes taking place in all organs and structure of the reproductive tract. Likewise involution of uterus is the

process where uterus returns to non pregnant state after the birth of baby. It begins immediately after the delivery of the placenta. During involution uterine muscles contracts firmly around the maternal blood vessels at the area where the placenta is attached. (3,4)

The process of involution of uterus starts immediately after delivery when the uterus is firm and located the midline halfway between the umbilicus and symphysis pubis. One hour after delivery, the uterus contract firmly, with the fundus midline at the level of umbilicus. The day after the fundus is found 1cm below the umbilicus. The normal process of involution thereafter is for the uterus to descend approximately 1 finger breadth per day until it has descended below the level of the pubic bone and no longer palpated. This occurs by the 10th postpartum day. (3,5)

Protecting a women's health as these changes occur is important for preserving her future childbearing function and for ensuring that she is physically fit to incorporate her new child into her family. Early ambulation in postpartum period is the key to get rapid and maximum muscle function and restoration of mothers health. Early ambulation does not mean return to normal activities, she should avoid strenuous work like lifting, staining and pushing heavy things and this should be restricted for atleast 6 weeks. The mother is encouraged to be out of bed as soon as possible following delivery unless there are contraindications. (6-8)

OBJECTIVES

- To assess the involution of uterus in both experimental group and control group among postnatal mothers.
- To develop and operationalize the intervention for involution of uterus.
- To evaluate the effectiveness of intervention in experimental group on involution of uterus after early ambulation.
- To compare the pre & post intervention score on both experimental and control group among postnatal mothers.

- To find out the association of post intervention score with selected socio demographic variables.

HYPOTHESIS

- Ho- There is no significant differences of early ambulation on involution of uterus among postnatal mother in experimental and control group.
- H₁- There is significant difference of early ambulation on involution of uterus among postnatal mothers in experimental and control group.

METHODOLOGY

Research methodology is a way of systematically solving the research problems. It deals with defining the problem, formulation of hypothesis, methods adopted for data collection and statistical techniques used for analyzing the data with logical reason behind it. The present study was conducted at Sri Guru Ram Das Hospital, Amritsar Vallah. Quantitative research approach was considered for the present study. Research design selected for the present study was Quasi-Experimental design. The population of the study was 60 postnatal mothers with normal vaginal delivery admitted in postnatal ward at SGRD hospital, Vallah Amritsar who had fulfilled the inclusion and exclusion criteria. Sample size of the study comprised of 60 postnatal mothers. Convenience sampling technique was followed to select the samples. Ethical clearance was taken from the research and ethical committee of the SGRDIMSR, Vallah, Amritsar. A written permission was taken from the head of OBG Department from SGRD HOSPITAL, Vallah Amritsar for data collection. The tool consists of following section

- Section A:- Socio-demographic variables.
- Section B:- J. Dyana Sathya Involution of uterus measuring scale.

| CRITERIA MEASURE FOR INVOLUTION OF UTERUS | | |
|-------------------------------------------|-------|---------|
| LEVEL OF UTERUS | SCORE | GRADING |
| MILD | 0-3 | 0 |
| MODERATE | 4-6 | 1 |
| GOOD | 7-9 | 2 |

Prior information and informed consent was obtained from each study sample. Anonymity and confidentiality of sample

was maintained. The data was analyzed using the descriptive and inferential statistics.

RESULTS

Table 1: Frequency and percentage distribution of demographic variable

| Socio-demographic variables | frequency and % age | | | | Chi-square Value df p-value |
|-----------------------------------------|----------------------|-------|---------------------------|-------|-----------------------------|
| | Control Group (n=30) | | Experimental Group (n=30) | | |
| | f | % age | F | % age | |
| Age (in years) | | | | | |
| 18-21 | 5 | 16.7 | 6 | 20.0 | 2.32 |
| 22-25 | 11 | 36.7 | 13 | 43.3 | df 3 |
| 26-29 | 10 | 33.3 | 5 | 16.7 | 0.508 |
| ≥ 30 | 4 | 13.3 | 6 | 20.0 | |
| Educational status of mother | | | | | |
| Illiterate | 2 | 6.7 | 1 | 3.3 | 11.84 |
| Primary | 9 | 30.0 | 6 | 20.0 | df 4 |
| Matriculation | 10 | 33.3 | 4 | 13.3 | 0.019 |
| Plus 2 | 8 | 26.7 | 8 | 26.7 | |
| Graduate or above | 1 | 3.3 | 11 | 36.7 | |
| Occupation of mother | | | | | |
| Housewife | 28 | 93.3 | 25 | 83.3 | 1.46 |
| Working | 2 | 6.7 | 5 | 16.7 | df 1 |
| | | | | | 0.228 |
| Monthly Family Income (in Rs.) | | | | | |
| ≤5000 | 3 | 10.0 | 5 | 16.7 | 3.24 |
| 5001 – 10000 | 10 | 33.3 | 11 | 36.7 | df 3 |
| 10001 – 15000 | 12 | 40.0 | 6 | 20.0 | 0.356 |
| ≥ 15000. | 5 | 16.7 | 8 | 26.7 | |
| Habitat | | | | | |
| Urban | 11 | 36.7 | 12 | 40.0 | 0.07 |
| Rural | 19 | 63.3 | 18 | 60.0 | df 1 |
| | | | | | 0.791 |
| Gravida | | | | | |
| Primigravida | 17 | 56.7 | 19 | 63.3 | 0.28 |
| Multigravida | 13 | 43.3 | 11 | 36.7 | df 1 |
| | | | | | 0.598 |
| Duration of labour(In hours) | | | | | |
| 6-9 hours. | 16 | 53.3 | 17 | 56.7 | 1.10 |
| 9-12 hours | 7 | 23.3 | 9 | 30.0 | df 2 |
| More than 12 hours | 7 | 23.3 | 4 | 13.3 | 0.577 |
| Estimated blood loss | | | | | |
| Average | 30 | 100.0 | 30 | 100.0 | |
| More | 0 | 0.0 | 0 | 0.0 | |
| Minimal | 0 | 0.0 | 0 | 0.0 | |
| Status of baby | | | | | |
| Alive | 29 | 96.7 | 30 | 100.0 | 1.02 |
| Dead | 1 | 3.3 | 0 | 0.0 | df 1 |
| | | | | | 0.313 |
| Any instrument used for delivery | | | | | |
| None | 30 | 100.0 | 30 | 100.0 | |
| Forceps | 0 | 0.0 | 0 | 0.0 | |
| Ventouse | 0 | 0.0 | 0 | 0.0 | |

Table 1 reveals the frequency and percentage distribution of demographic variables of Postnatal mothers. It shows that majority of the postnatal mothers 11(36.7%) were in the age group of 22-25 years in control group and 13(43.3%) were in the age group 22-25 years in experimental group. In educational status shows that majority of postnatal mothers had matriculation education 10 (33.3%) in

control group and 11(36.7%) had graduate education in experimental group. Occupational status of postnatal mothers reveals majority were housewife 28(93.3%) in control group and 25(83.3%) in experimental group. According to the monthly income of their family reveals that highest percentage belonged in the income group of 10,001-15000 in control group 12(40%) and in experimental group

11(36.7%). Majority of postnatal mothers belonged to rural area 19(63.3%) in control group and 18(60%) in experimental group. Majority of postnatal mothers were primigravida 17 (56.7%) in control group and 19(63.3%) in experimental group. Majority of mothers were in 6-9 hours 16 (53.3%) duration of labor in control group and 17(56.7%) in experimental group. Table also shows that majority of postnatal mothers were average blood loss in both control 30(100%) and experimental 30(100%) group. According to the status of baby majority of baby were alive in both control 29(96.7%) and experimental 30 (100%). Table also shows that all postnatal mothers were not used any instrument both control 30(100%) and experimental 30(100%) group. Table also shows that the group was found homogenous.

Table2: Frequency and % age of level of involution of uterus in both experimental group and control group among postnatal mothers

| Level of involution | Control group | | | | Experiment group | | | |
|---------------------|---------------|-----|-----------|------|------------------|-----|-----------|------|
| | Pre test | | Post test | | Pre test | | Post test | |
| | F | % | F | % | F | % | F | % |
| Mild | 30 | 100 | 17 | 56.7 | 30 | 100 | 2 | 6.7 |
| Moderate | - | - | 11 | 36.7 | - | - | 16 | 53.3 |
| Good | - | - | 2 | 6.7 | - | - | 12 | 40.0 |

Table 2 show that all (100%) of postnatal mothers in experimental and control group had mild involution of uterus in pre interventional whereas in post interventional involution of uterus, majority of mothers (56.7%) had mild involution of uterus and (36.7%) had moderate involution of uterus and (6.7%) had good involution of

TABLE 4:-Comparison the Pre and Post intervention score on both experimental and control group among postnatal mothers.

| GROUP | PRE TEST | | POST TEST | | 't' test | p-value |
|--------------------|---------------------|----------------|-----------|----------------|----------|---------|
| | Mean | Std. deviation | Mean | Std. deviation | | |
| Control group | 0.13 | 0.35 | 3.60 | 1.57 | 12.64 | 0.001* |
| Experimental group | 0.30 | 0.47 | 5.93 | 1.41 | 20.94 | 0.000** |
| Independent t test | 1.57 | | 6.06 | | | |
| p-value | 0.121 ^{ns} | | 0.000** | | | |

TABLE 4 reveals that comparison between the pre interventional involution of uterus in experimental and control group among postnatal mothers had non significant difference with the 't' value (1.57) where as

uterus in control group and in experimental group majority of postnatal mothers (53.3%) had moderate involution of uterus, (40%) had good involution and (6.7%) had mild involution of uterus.

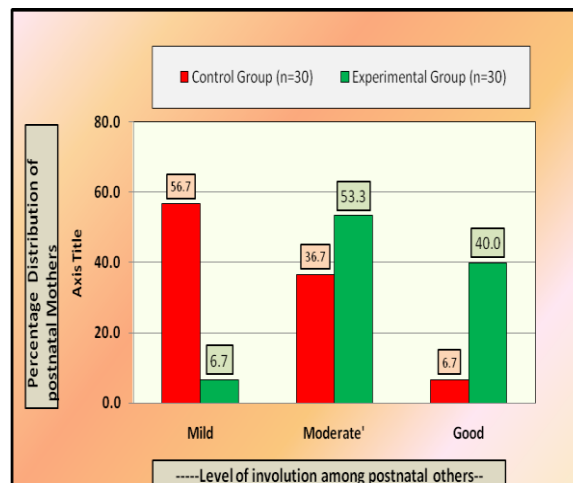


Table 3: Effectiveness of early ambulation on involution of uterus among postnatal mothers in experimental group. (N=30)

| EXPERIMENTAL GROUP | | |
|--------------------|----------|-----------|
| | PRE TEST | POST TEST |
| MEAN | 0.30 | 5.93 |
| Std. DEVIATION | 0.47 | 1.41 |
| 't' test | 20.94 | |
| p-value | 0.000** | |

Table 3 reveals that during the pre test, mean \pm SD was 0.30 \pm 5.93 and in post test mean \pm SD was 0.47 \pm 1.41. So, statistically proved that there was significant difference in the effectiveness of intervention in experimental group on involution of uterus after early ambulation (t=20.94, p=0.000).

the comparison between post interventional involution of uterus in experimental group and control group had significant differences with 't' value (6.06) at p<0.05 level of significance.

Table 5: Association of Post Intervention Score with Selected Socio Demographic Variables
5(a) Association of post intervention score with selected socio demographic variables.

| Association of post intervention score with selected socio demographic variables for control group (N=30) | | | | | | |
|-----------------------------------------------------------------------------------------------------------|----|------|----------------|-------|----|-------|
| Socio-demographic variables | n | Mean | Std. Deviation | ANOVA | | |
| | | | | F | df | Sig. |
| Age (in years) | | | | | | |
| 18-21 | 5 | 4.60 | 3.05 | 1.45 | 3 | 0.252 |
| 22-25 | 11 | 3.09 | 0.83 | | | |
| 26-29 | 10 | 3.90 | 1.20 | | | |
| ≥ 30 | 4 | 3.00 | 1.15 | | | |
| Educational status of mother | | | | | | |
| Illiterate | 2 | 5.00 | 4.24 | 0.87 | 4 | 0.498 |
| Primary | 9 | 3.22 | 0.67 | | | |
| Matriculation | 10 | 3.30 | 1.49 | | | |
| Plus 2 | 8 | 4.13 | 1.73 | | | |
| Graduate or above | 1 | 3.00 | | | | |
| Occupation of mother | | | | | | |
| Housewife | 28 | 3.61 | 1.62 | 0.01 | 1 | 0.928 |
| Working | 2 | 3.50 | 0.71 | | | |
| Monthly Family Income (in Rs.) | | | | | | |
| ≤5000 | 3 | 2.67 | 1.15 | 0.38 | 3 | 0.770 |
| 5001 – 10000 | 10 | 3.70 | 2.26 | | | |
| 10001 – 15000 | 12 | 3.67 | 1.07 | | | |
| ≥ 15000. | 5 | 3.80 | 1.30 | | | |
| Habitat | | | | | | |
| Urban | 11 | 4.00 | 2.05 | 1.14 | 1 | 0.295 |
| Rural | 19 | 3.37 | 1.21 | | | |
| Gravida | | | | | | |
| Primigravida | 17 | 3.53 | 1.37 | | | |
| Multigravida | 13 | 3.69 | 1.84 | 0.08 | 1 | 0.783 |
| Duration of labour(In hours) | | | | | | |
| 6-9 hours. | 16 | 3.31 | 1.35 | 1.86 | 2 | 0.175 |
| 9-12 hours | 7 | 3.29 | 1.25 | | | |
| More than 12 hours | 7 | 4.57 | 2.07 | | | |
| Estimated blood loss | | | | | | |
| Average | 30 | 3.60 | 1.57 | | | |
| More | 0 | | | | | |
| Minimal | 0 | | | | | |
| Status of baby | | | | | | |
| Alive | 29 | 3.66 | 1.56 | 1.08 | 1 | 0.307 |
| Dead | 1 | 2.00 | | | | |
| Any instrument used for delivery | | | | | | |
| None | 30 | 3.60 | 1.57 | | | |
| Forceps | 0 | | | | | |
| Ventouse | 0 | | | | | |

Table 5(a) reveals that there was no significant association of post intervention score with selected demographic variables in control group

5(B) Association of Post Intervention score with selected Socio Demographic variables of experimental group

| Association of post intervention score with selected socio demographic variables of experimental group (N=30) | | | | | | |
|---------------------------------------------------------------------------------------------------------------|----|------|----------------|-------|----|-------|
| Socio-demographic variables | n | Mean | Std. Deviation | ANOVA | | |
| | | | | F | Df | Sig. |
| Age (in years) | | | | | | |
| 18-21 | 6 | 5.17 | 1.94 | 1.80 | 3 | 0.171 |
| 22-25 | 13 | 6.31 | 1.18 | | | |
| 26-29 | 5 | 5.20 | 0.84 | | | |
| ≥ 30 | 6 | 6.50 | 1.38 | | | |
| Educational status of mother | | | | | | |
| Illiterate | 1 | 7.00 | - | 0.50 | 4 | 0.734 |
| Primary | 6 | 6.50 | 1.38 | | | |
| Matriculation | 4 | 5.50 | 1.91 | | | |
| Plus 2 | 8 | 5.88 | 1.13 | | | |
| Graduate or above | 11 | 5.73 | 1.56 | | | |
| Occupation of mother | | | | | | |
| Housewife | 25 | 5.96 | 1.37 | 0.05 | 1 | 0.822 |
| Working | 5 | 5.80 | 1.79 | | | |
| Monthly Family Income (in Rs.) | | | | | | |
| ≤5000 | 5 | 6.00 | 1.00 | 0.95 | 3 | 0.450 |
| 5001 – 10000 | 11 | 5.82 | 1.72 | | | |
| 10001 – 15000 | 6 | 6.50 | 0.55 | | | |
| ≥ 15000. | 8 | 5.63 | 1.69 | | | |

| Habitat | | | | | | |
|-----------------------------------------|----|------|------|------|---|--------|
| Urban | 12 | 5.83 | 1.40 | 0.10 | 1 | 0.758 |
| Rural | 18 | 6.00 | 1.46 | | | |
| Gravida | | | | | | |
| Primigravida | 19 | 5.79 | 1.51 | 0.53 | 1 | 0.473 |
| Multigravida | 11 | 6.18 | 1.25 | | | |
| Duration of labour(In hours) | | | | | | |
| 6-9 hours. | 17 | 6.18 | 1.01 | 3.95 | 2 | 0.031* |
| 9-12 hours | 9 | 6.22 | 1.48 | | | |
| More than 12 hours | 4 | 4.25 | 1.89 | | | |
| Estimated blood loss | | | | | | |
| Average | 30 | 5.93 | 1.41 | | | |
| More | 0 | | | | | |
| Minimal | 0 | | | | | |
| Status of baby | | | | | | |
| Alive | 30 | 5.93 | 1.41 | | | |
| Dead | 0 | | | | | |
| Any instrument used for delivery | | | | | | |
| None | 30 | 5.93 | 1.41 | | | |
| Forceps | 0 | | | | | |
| Ventouse | 0 | | | | | |

* p<0.05 significant difference

Table 5(b) reveals that there was significantly associated with duration of labor in experimental group.

DISCUSSION

The current study revealed that there was a significant differences between the pre-interventional and post-interventional scores of involution of uterus in experimental and control group among postnatal mothers with the 't' value of 6.06 which was statistically significant at p<0.05 level. Hence the null hypothesis was rejected and research hypothesis was accepted. To support my objectives a similar study on the effectiveness of early ambulation on involution of uterus among postnatal mothers by Leli Khairani et al (2013) revealed that there was significance difference between pre-interventional and post-interventional involution of uterus among experiment group and control group with the 't' value of 2.876 which was statistically significant at p<0.05 level. The study concludes that early ambulation facilities involution of uterus. ⁽⁹⁾

RECOMMENDATION

- A similar study can be undertaken with a large sample for better generalizations of findings.
- A similar study may be conducted within different settings.

- The study can be done to assess the knowledge, practice and attitude of women with Normal vaginal delivery towards early ambulation.
- A comparative study can be conducted to assess the impact of early and late ambulation on maternal outcome after NVD.
- A comparative study can be conducted to assess the effect of early ambulation and postnatal exercise on involution of uterus after NVD.

IMPLICATION

The findings of the study have several implications which were discussed under the following areas:

✓ NURSING EDUCATION:

Nursing education plays an important role in preparing the nurses for the wellbeing of the people in various areas. Postnatal mothers need to be aware about importance of early ambulation in the postnatal period. The concept of early ambulation and its benefits should be incorporated into nursing education so that we can educate the nurses to provide holistic care to their clients. Continuing education and in-service education programme are the key component to update and improve the knowledge of the individual. The study indicates that the early ambulation reduces postpartum complication and enhances involution of uterus in postnatal mothers. Nurse educators play a major role in motivating staff nurses for practicing the early ambulation after normal

vaginal delivery so that postpartum complication like subinvolution, urinary incontinence, DVT and bowel problems can be prevented in postpartum period.

✓ **NURSING PRACTICE**

The obligation of the nursing profession is the provision of care and service to the human beings. Several implications may be drawn from the present study for nursing practice. Health professionals, especially staff nurses should be motivated to give health teaching to the antenatal mothers before delivery and to postnatal mothers after delivery regarding benefits of early ambulation. They should regularly conduct health assessment in order to appraise the health status of each postnatal mother. The study reveals that the early ambulation is effective in enhancing involution of uterus. Therefore the early ambulation after delivery should be established as a norm in the postnatal ward

✓ **NURSING ADMINISTRATION**

Nursing administration is very important in the supervision and management of the nursing profession. The nurse administrators need to organize continuing nursing programmes for nursing personnel and motivates them to practice early ambulation after delivery. The knowledge about early ambulation will help the nurses to provide effective care to the postnatal mothers during puerperium. Also, the provision should be made for money in the budget for various activities like in-service education, advance training and conducting research in this field.

✓ **NURSING RESEARCH**

Nursing practice needs to be based on scientific knowledge. Research should be focused on health promotion programmes using various methods and techniques in evaluating their effectiveness. Subinvolution of uterus, Postpartum hemorrhage (PPH) and Deep vein thrombosis (DVT) can extend the stay of patients in hospital after delivery. Therefore, there is great need for adopting early ambulation for the prevention of postpartum complications.

Nurses can contribute to the profession to accumulate new practices by conducting research studies regarding different aspects of early ambulation and can educate and motivate the postnatal mothers towards health promoting activities.

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