

A Study to Assess the Effectiveness of Selected Nursing Interventions on Reduction of After Birth Pain among Postnatal Mothers in a Selected Hospital, Guwahati, Assam

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Abstract: After birth pains are the contractions of the uterus occurring in the days following childbirth. A quantitative research approach with quasi-experimental non randomized control group design was used. 50 postnatal mothers were selected using convenience sampling technique. Data was collected using demographic proforma, Numeric Pain Rating Scale for pain assessment, followed by selected nursing interventions such as fundal massage and alternative leg lifting exercise. Data was analyzed using descriptive and inferential statistics. Mean post-test level of afterbirth pain was 1.44 (SD=0.917) in experimental group and mean post-test level of afterbirth pain was 6.34 (SD=0.935) in control group with mean difference of 4.90. Mean post-test score in experimental and control groups were tested using unpaired 't' test with calculated value ($t=17.57$, $df=48$, $p=0.001$) indicates statistically highly significant. From the study result, it was concluded that rendering nursing interventions to postnatal mothers were effective in reducing the level of afterbirth pain. These interventions are simple, nonpharmacological and cost effective without any adverse effect.

Keywords: Effectiveness, Nursing interventions, Afterbirth pain, Postnatal mothers

1. Introduction

Birth is a beautiful experience of parents to welcome a baby into the world. Most women experience some degree of pain after childbirth. Pain can interfere with a woman's ability to care herself and her infant. Untreated pain is associated with a risk of greater opioid use, postpartum depression and development of persistent pain. Nonpharmacologic and pharmacologic therapies are important component of postpartum pain management.¹

Postpartum, or puerperium, represents a time period of restoration and recovery after the birth, family attachment, and parental role development. The mother's restoration and recovery follow a typical pattern of involution. Despite expected normalcy during this time frame, complications can occur and recovery can become complex. Postpartum period is time of restoration and return to the non-pregnant state. This 6-8 weeks duration is generally defined as postpartum period from the delivery of the placenta to the involution and return of the reproductive organs to their non-pregnant state. The postpartum period is characterized by significant anatomic, physiologic and endocrinology changes related to the involution and lactation process.²

2. Literature Review

Afterbirth pain is a common phenomenon after vaginal delivery. Any factor that causes a delay in the process of uterus sub involution and consequently returning its size to pre-pregnancy status could affect the severity of afterbirth pains.³

CB, Liv MF, Eveline LA (2016) conducted a retrospective study on persistent pain after childbirth in the Netherland.

The aim of the study was to examine the prevalence of persistent postpartum pain in a Dutch cohort and to evaluate a possible casual role for specific risk factors on the development of chronic pain after child birth. Total sample was 960 postpartum women and data was collected by questionnaire. Tested risk factors included mode of labour analgesia, history of negative effect, history of chronic pain, delivery route, parity and ethnicity. At a mean time of 2.3 postpartum years, 7.3% women reported any pain and 6.1% reported significant pain related to the delivery. Compare to spontaneous delivery, caesarean delivery provided protection against persistent pain (odds ratio, 0.12; 95% CI, 0.01-0.63, $P<0.05$). None of the other risk factors, including remifentanyl use of labor pain, were of influence on the prevalence of persistent pain. Women with persistent postpartum pain experience greater negative effects and had lower QoL Score compared to women without pain. In this cohort of Dutch patients, persistent postpartum pain is a serious problem with a greater impact on the physical and mental health of women.⁴

Namboothiri SP, Viswanath L (2016) conducted a study on nature and characteristics of after pain among postnatal mothers admitted in a tertiary care hospital in South India. A prospective survey design survey design was used for the study. Quota sampling was used to select 100 postnatal mothers, 50 mothers who had caesarean section and 50 mothers who had vaginal delivery. The mothers were enrolled for the study consecutively in 12-24 hours postpartum till till the required sample size was obtained in both the groups. A demographic proforma was designed to collect the background information. The characteristics of after pain were assessed using numerical pain rating scale every 24 hours in the first 3 postpartum days. The mean score of pain on the first 3 postpartum days among mothers after vaginal delivery were 2.84, 2.1 and .84 respectively

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and for mothers after caesarean section were 1.6, 1.66 and 0.74 respectively. The scores were greater on the first postoperative day. No association was found between after pain and variables like mode of delivery and age of the mother. It was found that after pain had an association with parity on the first and third postpartum days.⁵

Vimala A, Jayalakhmi B (2019) conducted a quasi-experimental study to assess the effectiveness of prone position on reduction of after pain among postnatal mother who had normal vaginal delivery at Government Hospital Triruvallur. 30 postnatal mother in experimental group and 30 in control group were selected by purposive sampling technique who were in the second day of delivery to third day of delivery and out of the effect of pillow were included for the study. The postnatal mothers were explained about the procedure and the assessment tool. The postnatal mothers were encouraged to empty their bladder, to assess the pre-test level of after pains numerical pain scale was used, followed by nursing interventions such as prone position with supporting pillow. This procedure was repeated for 3 days in the interval of 10 mins for 3 times within the 24 hours. Then at the end of the procedure the post intervention level of after pains was assessed by using the same 0-10 numerical rating scale. The findings proved that prone position along with pillow support was very effective to improve the level of after pain among postnatal mothers who had normal vaginal delivery.⁶

Rani J, Priyanka KR (2019) conducted a quasi-experimental study to assess the effectiveness of fundal massage on reduction of after pain among postnatal mothers in Triruvallur hospital, Chennai. Total 60 samples were selected using convenient sampling technique in that 30 in experimental group and 30 in control group. The researcher developed a structured interview schedule to assess the demographic variables of the samples. The pre-test level of pain was assessed by using 0-10 Numeric Pain Rating Scale and then fundal massage is given to the postnatal mothers in the experimental group. The post-test level of pain was assessed by using the same pain rating scale. The pre-test and post-test level of pain assessed in the control group without administration of any intervention to the mother. The results revealed that t value for experimental group was $t=16.1319$ which was found to be significant $p>0.05$. Thus the fundal massage has a significant effect in reducing the after pain among postnatal mothers.⁷

Ruma Chakravarty(2016) conducted a study on effectiveness of selected nursing measures on reduction of afterbirth pain among postnatal mothers in Kolkata. Objectives of the study were-to assess the effectiveness of selected nursing intervention in reduction of afterbirth pain for both experimental and control group, to associate the post assessment level of after birth pain for both experimental and control group with selected demographic variables. Basic experimental pre-testpost-test design, postnatal ward of Kolkata Medical College, participant 60 postnatal mothers randomly selected (experimental =30, control group= 30). Selected nursing measures i.e. emptying the bladder prior to intervention, fundal massage for 15 minutes, alternate leg lifting exercise for 15 minutes before starting of pain medication to the postnatal mothers of

experimental group and routine hospital measures to the mothers of control group. The tool consisting of demographic variables, the pre and post assessment of level of after birth pain was obtained by using a combined numerical and categorical scale pain (0-10). Descriptive and inferential statistics were used for analyzing the study. The findings reveal that the mothers of experimental group showed significant decrease in the level of afterbirth pain ($p < 0.001$) in comparison to the mothers in the control group. Association of post assessment level of pain with selected demographic variable of experimental group did not show any statistical significance whereas a low significant association between educational status and level of afterbirth pain in the control group at ($p<0.005$) level was reported. So, rendering of selected nursing measure are very useful as a complement to the hospital pain management.⁸

Mrs. G. Kapagavalli (2008), conducted a study reveals effectiveness of nursing interventions in reduction of after pain among postnatal mothers. The study was conducted in the postnatal ward of Southern Railway Hospital, Chennai. Among the sample of 60, experimental nursing interventions were done among the experimental group of 30 postnatal mothers. Data was collected by using combined numerical categorical painscale. The non-equivalent control group pre-test-post-test design was employed. Nursing interventions such as emptying the bladder, fundal massage, alternate leg lifting exercise were given to reduce the after pain among postnatal mothers. Postnatal mothers showed a highly significant decreased in the level of after pain following nursing interventions at $P<0.001$, in comparison with the preassessment level of after pain. The effectiveness was also proved in experimental group in comparing with control group where the result shows $P<0.001$ level of significant.⁹

3. Materials and Methods

3.1 Research Approach

A quantitative research approach was used for the present study to assess the effectiveness of selected nursing interventions on reduction of afterbirth pain among postnatal mothers.

3.2 Research Design

A quasi-experimental non randomized control group design was adopted to assess the effectiveness of selected nursing interventions on reduction of afterbirth pain among postnatal mothers in a selected hospital, Guwahati, Assam.

3.3 Setting of the Study

The present study was conducted in postnatal ward of Gauhati Medical College and Hospital (GMCH), Guwahati, Assam.

3.4 Population

- Target population: Postnatal mothers who have undergone normal vaginal delivery.
- Accessible population: Postnatal mothers who have undergone normal vaginal delivery with or without

episiotomy within 12 hours and admitted in the postnatal ward of Gauhati Medical College and Hospital (GMCH), Guwahati, Assam.

3.5 Sample

The sample for the present study consists of postnatal mothers who were admitted in the postnatal ward of Gauhati Medical College and Hospital (GMCH), Guwahati, Assam.

3.6 Sample Size

Sample size for present study consists of 50 samples (25 experimental group and 25 control group) who have fulfilled the inclusion criteria.

3.7 Sampling Technique

Convenience sampling technique was adopted for the present study.

3.8 Sampling Criteria

Inclusion criteria

- Postnatal mothers who have undergone normal vaginal delivery with or without episiotomy.
- Postnatal mothers who are willing to participate.
- Postnatal mothers within 12 hours of normal vaginal delivery.

Exclusion criteria

- Postnatal mothers with cesarean section and instrumental delivery.
- Postnatal mothers with postnatal complications like postpartum hemorrhage, puerperal infection, puerperal pyrexia.
- Postnatal mothers who had delivered twins.

3.9 Variables

The present study consists of independent, dependent and demographic variables.

- Independent variable: Selected nursing interventions such as fundal massage, alternate leg lifting exercise.
- Dependent variable: Level of afterbirth pain among postnatal mothers.
- Demographic variables: General Information: Age in years, educational status, occupation, type of family, religion, residence, work pattern, source of information regarding nursing interventions on reduction of afterbirth pain. Obstetrical Information: Parity, number of breast feeding per day.

3.10 Description of Tool

The tool used for the data collection for the present study has been organized as follow:

- Part 1: Demographic proforma
- Part 2: 0-10 Numeric Pain Rating Scale

3.11 Data Collection Procedure

The study was conducted after obtaining permission from Institutional ethical committee and also from the ethical committee of Gauhati Medical College and Hospital (GMCH), Guwahati. The investigator obtained a written permission from the principal of Gauhati Medical College and Hospital (GMCH), Guwahati, Assam prior to data collection. The data collection period was from 25th June 2020 to 8th July 2020. The investigator introduced herself and explained the purpose of the study to the postnatal mothers who met the inclusion criteria. The investigator obtained written and informed consent from the postnatal mothers to participate in the study. The investigator selected the postnatal mothers using convenience sampling technique. The interventions were explained to the postnatal mothers of the experimental group. The postnatal mothers were encouraged to empty the bladder, 0-10 numerical pain rating scale was used to assess the pre-test level of afterbirth pains, followed by selected nursing interventions such as fundal massage for 30 seconds and alternative leg lifting exercise for minute, each leg lifting for 30 seconds in 45 degree angle respectively. This procedure was repeated for 5 times within 10 minutes in the morning and evening on the same day. At the end of the procedure the post-test level of afterbirth pain was assessed by using the same 0-10 Numeric Pain Rating Scale. In the control group without selected nursing interventions, afterbirth pain was assessed by using the same numerical pain rating scale.

3.12 Ethical Consideration

- Ethical clearance was obtained from the Institutional Ethical Committee, Army Institute of Nursing C/o 151 Base Hospital, Basistha, Guwahati, Assam On 29th May 2020.
- Ethical clearance was obtained from the Institutional Ethics Committee of Gauhati Medical College and Hospital (GMCH), Guwahati on 04th June 2020.
- Formal permission was taken from Principal i/c of Gauhati Medical College and Hospital (GMCH), Guwahati, Assam on 23rd June 2020 and permitted to conduct the study from 25th June 2020 to 08th July 2020.
- Informed written consent was taken from the participants prior to data collection. Privacy was maintained during the data collection and thereafter.
- Confidentiality and anonymity of the subjects were maintained throughout the study.

4. Results

Majority of the mothers were between the age group of 21-25 years (Experimental and Control group), in terms of educational status majority had education upto high school, majority were housewife, majority had moderate work pattern, majority were living in nuclear family, in terms of religion majority were Hindu, majority from rural area, in terms of source of information of nursing interventions on reduction of afterbirth pain majority had no information, majority were primi parity, majority mothers breast feeded their baby 5-10 times. The pre-test and post-test level of after birth pain among postnatal mothers in experimental group, with respect to the pre-test level of afterbirth pain

majority of the mothers 13(52%) had severe pain (7-10), 12(48%) had moderate pain (4-6), none of them had mild pain (1-3) and no pain (0), whereas in post-test majority of the mothers 22(88%) had mild pain (1-3), 3(12%) had no pain (0), none of them had moderate pain (4-6) and severe pain (7-10). In the experimental group the mean post-test level of afterbirth pain 1.44 ± 0.917 is lower than the mean pre-test level of afterbirth pain 6.52 ± 1.112 . The pre-test and post-test level of after birth pain among postnatal mothers in control group, with respect to the pre-test majority of the mothers 15(60%) had severe pain (7-10), 10(40%) had moderate pain (4-6), whereas in post-test majority of the mothers 17(68%) had moderate pain (4-6), 8(32%) had severe pain (7-10) none of the mothers had mild (1-3) and no pain (0). In the control group the mean post-test level of afterbirth pain is 6.34 ± 0.935 slightly lower than the mean pre-test of afterbirth pain 6.96 ± 1.020 . The effectiveness of selected nursing intervention on reduction of after birth pain among postnatal mothers in experimental group showed that mean pre-test level of afterbirth pain was 6.52 (SD=1.122) and mean post-test level of afterbirth pain was 1.44 (SD=0.917) with mean difference of 5.08. Pre-test and post-test scores were tested using paired 't' test with calculated value ($t=22.77$, $df=24$, $p=0.001$) indicates statistically highly significant. Hence, research it concluded that effectiveness of selected nursing intervention on reduction of after birth pain among postnatal mothers in experimental group. The comparison of pre-test and post-test level of after birth pain among postnatal mothers in control group showed that mean pre-test level of afterbirth pain was 6.96 (SD=1.020) and mean post-test level of afterbirth pain was 6.34 (SD=0.935) with mean difference of 0.62. Pre-test and post-test scores were tested using paired 't' test with calculated value ($t=8.048$, $df=24$, $p=0.131$) indicates statistically non-significant.

The effectiveness of selected nursing interventions of post-test level of afterbirth pain among postnatal mothers in experimental and control groups showed that mean post-test level of afterbirth pain was 1.44 (SD=0.917) in experimental group and mean post-test level of afterbirth pain was 6.34 (SD=0.935) in control group with mean difference of 4.90. Mean post-test score in experimental and control groups were tested using unpaired 't' test with calculated value ($t=17.57$, $df=48$, $p=0.001$) indicates statistically highly significant. Hence, it concluded that effectiveness of selected nursing intervention on reduction of afterbirth pain among postnatal mothers in experimental group as compared to control groups.

5. Conclusion

From the study result, it was concluded that rendering nursing interventions to postnatal mothers were effective in reducing the level of afterbirth pain. These interventions are simple, nonpharmacological and cost effective without any adverse effect. Therefore the results proved that nursing interventions (fundal massage, alternate leg lifting exercise) were effective on reduction of afterbirth pain among postnatal mothers.

6. Recommendation

- A similar study can be conducted by increasing the sample size.
- Study can be conducted in large setting.
- A comparative study can be conducted to evaluate the effectiveness of nursing interventions with other nonpharmacological measures in pain management.
- A comparative study between primipara and multipara mothers can be done.
- A comparative study can be conducted to evaluate the effectiveness of nursing interventions with other pharmacological measures in pain management.
- A comparative study between the fundal massage and alternative leg lifting exercise to see the effectiveness on reduction of afterbirth pain.
- A correlational study between breast feeding, parity and level of after afterbirth pain among postnatal mothers.
- A study can be done by providing prone position instead of fundal massage to reduce afterbirth pain.

References

- [1] Dcussen AR, Ashwood P, Martis R. Pain relief for after pains (uterine cramping / involution) after the baby's birth. Pregnancy and childbirth group [homepage on the internet]. Cochrane Library; 2011 [cited 2011 May 11]. Available from: <https://www.cochrane.org>.
- [2] Jordan RG, Farley CL, Grace KT. Prenatal and postnatal care: a woman centered approach. 2nd ed. United States of America: John Wiley & Sons; 2019: 449-577
- [3] Conningham FG, LevenoKJ, Bloom SL, HaultJC, Rouse D, Spong CY. Williams Obstetrics. 22nd ed. New York: McGraw hill; 2012
- [4] Rianne CB, Liv MF, Eveline LA. A retrospective study on persistent pain after childbirth in the Netherlands. Journal of pain research [abstract]. 2016 [cited 2016 Jan 12]; 9(8): 26834496. Available from: www.ncbi.nlm.nih.gov
- [5] Namboothiri SP. VisswanathLekha. Nature and characteristics of after pain among postnatal mothers admitted in a tertiary care hospital in South India. IJRCOG [abstract]. 2016 (cited 2016 Sept 05); 5(9): 3041-3045. Available from: <https://www.ijrcog.org>
- [6] Vimala A, Jayalakhmi B. A study to assess the effectiveness of prone position on reduction of after pain among postnatal mother who had normal vaginal delivery at Government Hospital Triruvallur. IJERGS [abstract] 2019 [cited 2019 Oct]; 7(5). Available from: www.ijergs.org
- [7] Rani J, Priyanka KR. A study to assess the effectiveness of fundal massage on reduction of after pain among postnatal mothers in Triruvallur hospital. IJARD [abstract] 2019 [cited 2019 Sept 13]; 4(5): 49-53
- [8] Chakraborty R. Assessment of effectiveness of selected nursing measures on reduction of afterbirth pain among postnatal mothers. Episteme. 2016:57
- [9] Karpagavalli G. Study reveals effectiveness of nursing interventions in reduction of after pain among postnatal mothers. Indian Journal of holistic Nursing. 2008; 30(4): 72-76