



## TO ASSESS THE EFFECTIVENESS OF CASTOR OIL PACK APPLICATION ON REDUCTION OF AFTERPAIN AMONG POSTNATAL MOTHERS IN SELECTED HOSPITALS: A STUDY PROTOCOL

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### ABSTRACT

**Background:** Holdcroft A, Snidvongs S, Cason A, Doré CJ, Berkley KJ. During the first several days after giving birth, parity causes a rise in pain and uterine contractions. Pain, 2003; after a normal vaginal delivery, approximately 50% of primiparous mothers and 86% of multiparous mothers experience afterpain<sup>1</sup>. **Objectives:** To assess the effectiveness of castor oil pack application on reduction of afterpain among postnatal mothers in selected hospitals in experimental groups. **Study Design:** **Study Duration:** The duration of the Study will be one month. **Material & Method:** Quasi- Experimental research design, Non-Randomized control group design used in this study, study will be conducted in selected hospitals of Nagpur, Maharashtra, India, participants will be 60 postnatal mothers with normal vaginal delivery with non-probability convenience sampling technique, participants will be allocated to 1 of 2 treatment groups: 1) Experimental Group will receive Castor oil pack application for 3 days. 2) Control Group will receive standard routine care followed in hospitals for normal vaginal delivery patient. The study result will be analyzed using descriptive and inferential statistics. **Expected Outcomes:** Afterpain will be reduced after the application of castor oil pack. **Limitations:** Only Postnatal mothers with normal vaginal delivery in 1-3days will be included in this Study. **Conclusion:** This Study's results will contribute to reduce afterpain to manage problems related to sub-involution due to neglected afterpain.

**KEYWORDS :** Afterpain; Castor oil pack; NPRS (Numerical Pain Rating Scale); Post-Natal Mothers.

### 1. INTRODUCTION

The period that follows a baby's birth is known as the postnatal phase. The time following delivery is pivotal. When a baby is born, the uterus frequently contracts and shrinks back to its pre-pregnancy size, causing women to witness cramping pain and discomfort<sup>2</sup>. Afterpain refers to the occasional, spasmodic pain felt in the lower tummy after delivery for a variable period of 2- 4 days. These abdominal cramps are caused by postpartum condensation of the uterus as it shrinks back to its pre-pregnancy size and position called as complication. Cramping will be most violent during the 1st day after the delivery and should taper off on the 3rd day. Afterpain will be relieved if the womb remains forcefully contracted. When the bladder is full it's unfit for the uterus to contract and it tends to relax, therefore proscribing relief from afterpain. Postnatal period is the most vulnerable period for the mama and the invigorated baby. Numerous maters witness physiological, cerebral and social changes during this period<sup>3</sup>. Post-partum period if undressed can leads to problem in early breastfeeding, it was also set up in some studies that after pain if dragged, can lead to neuro-hormonal stress response which further leads to anxiety, wakefulness, and fatigue and also there can be chances of depression<sup>4</sup>. Namboothiri SP, Viswanath L (2016) conducted a study on nature and characteristics of after pain among postnatal maters admitted in a tertiary care sanitarium in South India. The findings reveal that the maters of experimental group showed significant drop in the position of afterbirth pain (  $< 0.001$ ) in comparison to the mothers in the control group.<sup>4</sup>

Vimala A, Jayalakhmi B (2019) conducted a quasi-experimental study The findings of the study shows 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<sup>5</sup>.

Nikita H Chauhan (2018) conducted a study the findings

recommend that hot application and castor oil application to reduce joint pain<sup>6</sup>.

There are references to oil massage in ancient record of Chinese, Japanese, Arabic, Egyptian, Indian, Greek and Roman nation. Chinese use of massage dates to 1600 B C and Hippocrates made reference to the physician being experienced with "rubbing" as early as 400 Bc<sup>7</sup>.

Holcroft. A, (2004) Castor oil is wonderful as general massage oil or you can use it to alleviate sore muscles. afterpains is a common problem that affects the physical and mental wellbeing of mother, it requires the attention of health care providers, for which the present study need to be undertaken to assess the effect of castor oil pack application on reduction of Afterpain<sup>8</sup>.

### 2. MATERIALS AND METHODS

**Study Design:** This will be a Quasi- Experimental research design, Non-Randomized control group design.

**Study Setting:** The Study will be conducted in selected hospitals of Nagpur, Maharashtra, India.

**Participants:** The participants will be 60 postnatal mothers with normal vaginal delivery (30 in Experimental & 30 in the Control group).

**Sample Size Calculation:** The sample size is determined considering true difference between two treatment groups for Effect in reduction in pain by castor oil pack in proportions of afterpain in 2 groups as the primary outcome measure.

### OBJECTIVES:

- To assess the afterpain among postnatal mothers in selected hospitals.
- To assess the effectiveness of castor oil pack application on reduction of afterpain among postnatal mothers in

selected hospitals in experimental groups.

- To compare the findings of experimental and control groups.
- To co-relate the study findings with selected demographic variables.

#### Hypothesis:

- $H_0$ :- There is no significant effect of Castor oil pack application on reduction of afterpain among postnatal mothers.
- $H_1$ :- There is significant effect of Castor oil pack application on reduction of afterpain among postnatal mothers.

#### Assumptions:

Castor oil pack application may reduce afterpain among postnatal mothers.

SAMPLE SIZE required is  $n = 54$

Assuming 10% loss to follow up in one months the effective sample size will be  $n = 30$  30/group Total 60 postnatal mothers will be included in this study

Sample size formula for testing difference in proportions of 2 groups

$$N = \frac{2 \times (Z_{\alpha} + Z_{\beta})^2 \times \sigma^2}{(\epsilon - \delta)^2}$$

- ( $Z_{\alpha}$  at 5% level for equivalence (one tailed) = 1.64
- $Z_{\beta}$  at 0.80 power = (1- $\beta$ ) at 20% = 0.84
- Mean of 1<sup>st</sup> Group = 3.58 (Before)
- Mean of 2<sup>nd</sup> Group = 2.864 (Assumed for 20%)
- Clinically, relevant difference ( $\epsilon$ ) = 20% = 0.716 (Assumed)
- $N = 2 \times (1.64 + 0.84)^2 \times (0.716)^2 / (1.5)^2$
- = 54
- Considering 10% drop out = 6
- $N = \text{Samples required } 54 + 6 = 60$  each

**Sampling Procedure:** Non-probability convenience sampling

#### Inclusion Criteria:-

- Postnatal mothers who were willing to participate in the study.
- Postnatal mothers who are able to understand English/Hindi/Marathi.
- Postnatal mothers with normal vaginal delivery with or without episiotomy.

#### Exclusion Criteria:-

- Post-natal mothers who are critically ill.
- Those who are having any history of allergic to castor oil.
- Those who undergone any abdominal surgery.

#### Interventions:

##### Data Collection Tools

- 1) Demographic sheet
- 2) Numerical Pain Rating Scale (NPRS)
- 3) Castor oil pack application
- 4) Assessment of bio-physiological parameter

#### Procedure:

**Section I:** The Study shall be conducted only after the approval of the IEC. Permission to conduct the Study shall be taken from relevant stakeholders. Written informed consent shall be taken from the participants. Postnatal mothers who fulfill inclusion criteria shall then be assigned to the experimental and control group. The baseline parameters of each participant shall be assessed i.e., Socio-demographic variables, obstetrical variables, pain intensity with numerical pain rating scale, bio-physiological parameter.

**Section II:** The participants from the experimental group shall then be given castor oil pack. Application for 3 successive

days, the pain assessment will be done with Numeric Pain Rating Scale (NPRS) before and after the treatment, the biophysical parameter assess. Control Group will receive standard routine care followed in hospitals for normal vaginal delivery patient.

**Section III:** It include assessment of abdominal measurement like fundal height (in cms) measures from symphysis pubis to fundus after emptying of bladder, After application of castor oil pack for successive 3 days following normal vaginal delivery

#### Outcome Measures:

**Primary Outcome:** Effectiveness of castor oil pack application on reduction of afterpain among postnatal mothers in selected hospitals in experimental groups.

**Secondary Outcome:** Compare the findings of experimental and control groups

#### Statistical Analysis:

**Descriptive statistics:** Frequency, Percentage, Mean, Standard Deviation

#### Inferential Analysis:

- The effect of castor oil pack on reduction of afterpain by using 't' test.
- Association of effectiveness with selected demographic variables will be analysed by using Chi Square Test.

### 3. RESULTS

Castor oil pack will reduce the afterpain in postnatal mothers. There will be co-relation between study findings with selected demographic variables.

### 4. DISCUSSION

A pre-experimental study will support the present study finding Ms. Ekta fulzele, (2016) M.Sc. nursing student (obstetrical and gynecological nursing) of P.D. Hinduja National Hospital & MRC College of Nursing Mumbai, conducting study on: response to the Opinionnaire regarding castor oil pack application therapy 65% mothers strongly agreed liked this therapy of castor oil pack application having Castor oil pack application with no skin allergies, 61.7% mothers strongly agreed. 76.7% agreed for feeling of relief of the after pain on castor oil pack application on the second day somewhat respectively. 53.3% mothers strongly agreed recommendation of this therapy to other postnatal mothers. Overall there was a favorable response to the Opinionnaire given to post natal mothers regarding castor oil application therapy in reduction of after pains after delivery<sup>9</sup>.

### 5. CONCLUSION

After the completion of data collection, the conclusion will be drawn from the statistical analysis. The researcher expects participants who intervened with castor oil pack application to benefit more than those who intervened with standard routine care. The findings of this study will help to reduce afterpain in postnatal period.

#### Consent And Ethical Approval

Approval will be obtained from Institutional Ethical Committee. Written consent will be taken from the subjects for participation in the study. Postnatal mothers will be instructed that their participation in this study is entirely voluntary and they may opt out at any moment. Prior permission will be taken from head of the selected Hospitals. Throughout the Study, confidentiality will be maintained. The study's findings will be disseminated to participants and published in a peer reviewed journal.

#### Competing Interests

Authors have declared that no competing interests exist.

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