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# Effectiveness of selected nursing measures on level of after birth pain among Primipara mothers

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**Abstract:** A Study to Evaluate the Effectiveness of selected Nursing Measures (fundal massage, alternate leg exercise) on level of After Birth Pain among Primipara Mothers, using quasi-experimental design(post test only control group design). In experimental group the selected nursing measures helped in reducing the level of after birth pain and 86.6% of primipara mother had only mild pain where as in control group 46.6% of Primipara mothers had moderate pain and 53.3% had severe pain. The findings of the study supported that, with selected nursing measures (Fundal massage, alternative leg lifting exercise), there was reduction in the level of After Birth Pain.

**Keywords:** After Birth Pain, Primipara Mothers, Fundal Massage, Alternate Leg Lifting Exercise

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## 1. Introduction

The wonder of Motherhood, which the nature brings, is a remarkable change in a woman's life. It is one of the major events that is joyful and rewarding to the woman, which introduces new role experience in her life.

Despite of the fact that pregnancy and delivery are normal physiological phenomena, it involves varieties of changes in physical, physiological as well as emotional aspects of the women. The description of After Birth Pains in parent education books suggests that they are uncomfortable and more an issue of inconvenience. Women themselves however have described the pain as equal to the severity of moderate labour pain [6].

Although the ailments during postnatal period are minor, the postnatal mother may often find it disturbing and she may fail to enjoy the joyful experience of motherhood. Pain thresholds cause the amount of pain experienced to be unique to each individual. Pain is a subjective symptom. No one, but the women herself can describe or know the extent of her pain. Pain may cause anxiety, which may increase the intensity of pain. Pain and child birth are both so bound up together in our cultural expectations [1]. Soon after the baby is born the placenta separates from the wall of uterus and expelled. Immediately the uterus contracts tightly to seal off open blood vessels on uterine wall at placental site. These uterine contractions called after pain and this may felt as strong cramp

sensations for 3 postnatal days. When the uterus begins to contract again after the birth it shrinks in size. This process involves the muscles in the uterus 'retracting' to achieve this. Most women are unaware of these contractions feeling or cramping at this time [2]. Hold Croft [4] stated that, in primiparas, the puerperal uterus tends to remain tonically contracted for 1-3 days. While the newborn sucks, oxytocin will be released and during sucking, the uterus tends to contract and cause severe pain. Usually, they decrease intensity and become mild by the third day. After pain is more prominent in multiparas than primiparas. Firstly the women may notice only tightening or cramping sensation, with increasing number of pregnancies, uterine muscle tone decreases and this may leads to more severe cramping. Breast feeding the baby stimulates the production of the hormone oxytocin by the pituitary gland. Oxytocin triggers the let-down reflex that releases milk from the breasts and also causes the uterus to contract even more. This effect creates additional abdominal discomfort [2, 7].

### 1.1. Purpose for the Study

The postnatal period is a golden time for the mother to overcome the labour pain and to enjoy with her newborn, but the investigator found that most of the mothers undergo After Birth Pain during puerperium and may even lead to stress of the mothers. So to elevate the After Birth Pain the investigator found that it will be good to use some nursing measures to

make the mothers free from After Birth Pain and thus selected a selective nursing measure (fundal massage, alternative leg lifting exercises) to bring down the After Birth Pain and to make the mother feel free from After Birth Pain among primipara mothers after implementation of selected nursing measures.

## 2. Methodology

The study was conducted in Salem Poly Clinic, Salem, Tamilnadu, India. The labour ward has 20 separate labour cubicles. Every day 15-22 deliveries take place among which 10-12 were primipara mothers. Quasi experimental post tests only control group design was chosen for this study. The conceptual framework for the study was based on the Widenbach's helping art theory. An evaluative approach with post test only control group design was used to evaluate the effectiveness of selected nursing measures on level of After Birth Pain. Convenience sampling technique was used to select the sample of 60 primipara mothers, among which 30 are in experimental and 30 are in control group. The tool used comprises of two sections. Section A demographic variables and section B comprises of numeric pain intensity scale to assess the level of After Birth Pain among primipara mothers. The tool was validated by the experts and reliability was established. Selected nursing measures fundal massage and alternative leg lifting exercise were taught to experimental group and for the control group selected nursing measures were not taught and finally at the second day evening level of After Birth Pain was assessed using numeric pain intensity scale for both experimental and control group. The data were analyzed by using descriptive and inferential statistics.

### 2.1. Sampling Technique and Sample Size

The method of sampling was non-probability sampling and sampling technique was convenience sampling.

#### 2.1.1. Sample Size

The sample size was 60 primipara mothers. 30 primipara mothers in experimental and 30 in control group.

#### 2.1.2. Criteria for Selection of Sample

Inclusion Criteria:

- Primipara mothers those who are with or without episiotomy delivered by normal vaginal delivery.
- Mothers in age group between 19-35 years.
- Mothers who can speak & understand Tamil language.

Exclusion Criteria:

- Mothers with caesarean section and instrumental delivery.
- Mothers with postnatal complications like postpartum hemorrhage, puerperal infection, puerperal pyrexia etc.

Description of Tool:

The tool for collection of data for this study consists of two sections. Section 'A' and 'B'.

Section – A deals with demographic characteristics such as age, educational status, work pattern, religion, nature of delivery, amount of vaginal discharge and duration of hospital stay.

Section – B consist of Numeric pain Intensity Scale.

The scale consist of '0-10 Numeric pain'. This scale helps to assign a number, from zero to ten, to the severity of their pain. The values on the pain scale correspond to pain levels as follows;

- 1-3 = mild pain
- 4-6 = moderate pain
- 7-10 = severe pain

### 2.2. Validity and Reliability

#### 2.2.1. Validity

Validity refers to the degree to which an instrument measures what it is supposed to measure (Polit and Hungler, 1998)

Validity of the tool was established with consultation of the guide and experts. The tools were validated by one Medical Expert in the field of obstetrics and Gynecology and four nursing experts. The tool was found adequate and minor suggestions given by the experts were incorporated.

#### 2.2.2. Reliability

Reliability of the tool was established by implementing the tool on eight primipara mothers, among which four in experimental and four in control group. The reliability was established by test retest method and found  $r_1 = 0.8$ . Which indicates reliability of the tool? Hence the tool was considered for proceeding with pilot study.

## 3. Result: Data Analysis and Interpretation

This chapter deals with the description of primipara mothers on After Birth Pain, characterization analysis and interpretation of data collected from 60 primipara mothers 30 in experimental group and 30 in control group at Salem Poly Clinic, Salem. Quasi experimental post test only control group design was used samples were selected by convenience sampling technique. The investigator provided the selected nursing measures on After Birth Pain like fundal massage and alternative leg lifting exercise to the experimental group for 2 days (morning & evening) and for the control group selected nursing measures were not taught but they received routine hospital measures. Finally the investigator assessed the level of pain using numeric pain intensity scale at the second day evening among the control group & experimental group. The collected data were organized, coded, calculated and analyzed as per objectives of study, under the following heading:

### 3.1. Data Analysis

Section – I Distribution of primipara mothers according to their selected demographic variables.

Section – II Distribution of primipara mothers in

experimental and control group according to their level of after birth pain.

Section – III Effectiveness of selected nursing measure on level of After Birth Pain among experimental and control group of primipara mothers.

Section – IV Association between the level of After Birth Pain for experimental and control group among primipara

mothers with their selected demographic variables.

Section–I. Distribution of primipara mothers according to their selected demographic variables.

The data collection from the primipara mothers were classified, tabulated and presented in simple percentage analysis as follows:

**Table 1.** Frequency and percentage distribution of primipara mothers according to their selected demographic variables

Demographic variables		Experimental Group (n=30)		Control Group (n=30)	
		F	%	f	%
Age	Less than 19 yrs	3	10.00	3	10.00
	19-25 yrs	16	53.34	16	53.34
	26-30 years	10	33.34	10	33.34
	Above 30 yrs	1	3.34	1	3.34
Religion	Hindu	28	93.34	27	90.00
	Muslim	2	6.66	2	6.66
	Christian	-	-	1	3.34
	Others	-	-	-	-
Education Status	Primary school	9	30.00	9	30.00
	High school	15	50.00	14	46.66
	Higher secondary school	3	10.00	4	13.34
	Diploma holder	2	6.66	1	3.34
	Graduate	1	3.34	2	6.66
Work Pattern	Sedentary	7	23.34	9	30.00
	Moderate	21	70.00	19	63.34
	Heavy	2	6.66	2	6.66
Amount of Vaginal discharge	Mild (3pads)	-	-	-	-
	Moderate (5 pads)	28	93.34	27	90.00
	Heavy (more than 5 pads)	2	6.66	3	10.00
Duration of hospital stay	2 days	23	76.66	22	73.34
	3 days	7	23.34	8	26.66

(n = 60)

Section – II Distribution of primipara mothers in after birth pain. experimental and control group according to their level of

**Table 2.** Frequency and percentage distribution of primipara mothers in experimental and control group based on level of birth pain

Level of pain	Experimental group (n=30)		Control group (n=30)	
	Frequency	percentage	frequency	percentage
Mild pain (0-3)	26	86.6	-	-
Moderate pain (4-6)	4	13.3	14	46.6
Severe pain (7-10)	-	-	16	53.3

The above table shows that in control group 46.6 % of the primipara mothers had moderate pain and 53.3% of the primipara mothers had severe pain. Whereas in the experimental group 86.6% mother had mild pain and 13.3% had moderate pain.

It can be concluded that the primipara mothers who were in experimental group had mild pain compared with control group.

Section – III Effectiveness of selected nursing measure on

level of After Birth Pain among experimental and control group of primipara mothers

**3.2. Research Hypotheses**

H<sub>1</sub> : There will be a significant difference between level of After Birth Pain among primipara mother in control and experimental group after selected nursing measures at p≤0.05 level.

**Table 3.** Mean, standard deviation, mean percentage and independent ‘t’ value of selected nursing measure on level of after birth pain among primipara mothers in experimental and control group of primipara mothers.

Variables	Experimental group		Control group		t	df
	Post test		Post test			
	Mean	S.D	Mean	S.D		
After Birth Pain score	8.2	0.83	6.4	1.163	16.708	58

\*\* p < 0.01 highly significant

The above table shows that the independent t-test resulted to be statically highly significant regarding Selected nursing measures at 1% level (ie  $p < 0.01$ ). Hence the stated hypothesis retained and concluded that selected nursing measures were significantly effective in decreasing the After Birth Pain score among the primipara mothers.

SECTION – IV Association between the level of After Birth Pain for experimental and control group among primipara mothers with their selected demographic variables.

$H_2$ : There will be a significant difference between the level of After Birth Pain among primipara mother with their selected demographic variables  $p \leq 0.05$  level

**Table 4.** Chi- square test on level of after birth pain among experimental and control group of primipara mother with their selected demographic variables.

S. No	Demographic variables	Experimental group (n=30)			Df	$\chi^2$	Control group (n=30)			df	$\chi^2$
		Mild pain	Moderate pain	't' value			Moderate pain	Severe pain	't' value		
1	Age										
	Less than 19 yrs	3	-				2	1	7.81		
	19-25 yrs	14	2	7.81	3	1.010	7	9		3	1.983
	26-30 years	8	2				6	4			
	Above 30 yrs	-	-				-	1			
2	Religion										
	Hindu	24	4				13	14			
	Muslim	2	-	3.34	1	6.330*	2	1	5.99	2	1.037
	Christian	-	-				-	-			
	Others	-	-				-	-			
3	Educational status										
	Primary school	8	1				5	4	9.49		
	Highly school	15	-	9.49	4	16.538*	8	6		4	3.397
	Secondary school	2	1				2	2			
	Diploma holder	-	2				-	1			
	Graduate	1	-				-	2			
4	Work pattern										
	Sedentary	3	4		2	15.165*	4	5		2	2.164
	Moderate	21	-				9	10	5.99		
	Heavy	2	-	5.99			2	-			
5	Amount of the vaginal discharge										
	Mild	-	-	3.84	1	2.493	-	-		1	0.370
	Moderate	25	1				14	2	3.84		
	Heavy	1	3				1	13			
6	Duration of hospital stay										
	2 days	19	4	3.84	1	1.405	10	12	3.84	1	0.682
	3 days	7	7				5	13			

The above table 4.4 shows that there is a significant association with the level of after birth pain and the selected demographic variables such as religion, education and work pattern in experimental group. There is no association found between the levels of after birth pain with their demographic variables in control group.

## 4. Discussion

The experimental study was done to evaluate the effectiveness of selected nursing measures on level of After Birth Pain among primipara mothers admitted in selected hospital, Salem.

The objectives of the study were,

- To assess the level of After Birth Pain among primipara

mothers after implementation of selected nursing measures.

- To evaluate the effectiveness of selected nursing measures on level of After Birth Pain among primipara mothers in experimental and control group.
- To associate the level of After Birth Pain of primipara mothers in experimental and control group with their selected demographic variables.

### 4.1. Description of Demographic Variables

In experimental group, half of them 16(53.34%) belongs to the age group of 19-25 years and most of them are Hindus i.e., 28 (93.34%). Among the subjects, 15 (50%) had high school education, 9(30%) of them had primary school education. In work pattern, most of the mothers i.e., 21(70%) are moderate

workers. Among the subjects, 21 (70%) had moderate vaginal discharge. Most of the mothers i.e., 23 (76.66%) stayed 2 days in the hospital. In control group, half of them i.e., 16 (53.34%) belongs to the age group of 19-25 years and most of them are Hindus i.e., 27 (90%). Among the subjects, 14 (46.66%) had high school education, 9(30%) of them had primary school education. In work pattern, most of the mothers are moderate workers. Among the subjects, 27 (90%) had moderate vaginal discharge. Most of the mothers stayed 2 days in the hospital.

In [3], revealed that majority of the mothers were between 19-25 years, they belongs to the Hindu religion, educated up to middle education and were doing moderate work pattern. Majority of the mothers delivered spontaneously with episiotomy and had moderate amount of vaginal discharge.

Objective – 1: The First Objective of the study was to assess the level of After Birth Pain among primipara mothers after implementation of selected nursing measures.

As noted in table 2, Among primipara mothers in experimental group 26 (86.6%) of them had mild pain and 13.3% had moderate pain, where as in control group, 14 (46.6%) primipara mothers had moderate pain and 16(53.3%) had severe pain.

This finding is consistent with the finding of Molly Babu (1998) i.e., the occurrence of health problem of postnatal mother after having normal vaginal delivery reveals that 68% of mothers experience After Birth Pain between 1-2 weeks apart from other health problem. Therefore it is necessary to assess the level of After Birth Pain using standard method before effective management of pain.

Objective – 2: To evaluate the effectiveness of selected nursing measures on level of After Birth Pain among primipara mothers in experimental and control group.

The table 3 shows that there is high significance regarding selected nursing measures at 1% level. It  $p < 0.01$  by using independent 't' test (13.70) between experimental and control group. Hence, the stated hypothesis is retained and concluded that selected nursing measures was significantly effective in decreasing the level of After Birth Pain among primipara mothers.

Similar findings were obtained in the study conducted by Murray and Holdcroft [5] to assess the After Birth Pain among primipara mothers and the result shows that pain relief measures such as rest, change in position and urination helps in reduction of After Birth permanent pain in primipara mothers when compared to multi mothers.

Objective – 3: To associate the level of After Birth Pain of primipara mothers in experimental and control group with their selected demographic variables.

The above table 4 shows that there is a significant association with the level of after birth pain and the selected demographic variables such as religion, education and work pattern in experimental group. There is no association found between the levels of after birth pain with their demographic variables in control group.

This finding was supported by Holdcoft [4], in which he stated that there was no significant association found between the levels of After Birth Pain among both group of primipara

mothers with their selected demographic variables.

The several authors conducted an evaluative study to assess the effectiveness of selected nursing measures on after birth pain for a period of 4 weeks, the primipara mothers who delivered in hospital. Selected nursing measures, like emptying the bladder, fundal massage, alternative leg lighting exercise was given to primipara mother with After Birth Pain. The result of the study shows that the mean percentage was 92%. So the selected nursing measures were effective in reducing After Birth Pain.

And even conducted an evaluative study to determine the effectiveness of fundal massage and alternative leg lifting exercise on after birth pain among primiparous at Mangalore. A Quasi-Experimental post- test only design was adopted for the study. Convenience sampling technique was used. The sample consist of 50 primiparous women, 25 in each experimental and control group. The data collection tools were observational check list and demonstration of fundal massage and alternative leg lifting exercise. The result showed that the experimental group had mild pain after the selected nursing measures, were as the control group had moderate to severe pain level of after birth pain.

## 5. Conclusion

Conclusions were derived from the findings of the study. In experimental group the selected nursing measures helped in reducing the level of after birth pain and 86.6% of primipara mother had only mild pain where as in control group 46.6% of Primipara mothers had moderate pain and 53.3% had severe pain. The findings of the study supported that, with selected nursing measures (Fundal massage, alternative leg lifting exercise), there was reduction in the level of After Birth Pain.

Selected nursing measures are an effective intervention to reduce the level of After Birth Pain at 0.01%. Selected nursing measures are highly significantly effective in decreasing the level of After Birth Pain among the primipara mothers. There was a significant association with the level of after birth pain and the selected demographic variables such as religion, education status and work pattern in experimental group. There is no association found between the level of after birth pain with their selected demographic variables in control group.

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