

A Study to Assess the Effectiveness of Foot Reflexology on Incisional Pain among Post LSCS Mothers in Selected Hospitals

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Abstract: *Background:* One of the major challenging issues in obstetric nursing is the management of post - cesarean pain. Compared to vaginal delivery, mothers giving caesarean birth describe more severe pain during the first few days, and persistent pain that continue six months to one year following labor. *Objectives:* 1) To assess the level of incisional pain among post LSCS mothers in control and experimental group. 2) To assess the effectiveness of foot reflexology on incisional pain among post LSCS mothers in experimental group. 3) To compare the post - test pain scores among post LSCS mothers in control and experimental group. *method:* A study was conducted in selected hospitals to assess the effectiveness of foot reflexology on incisional pain among post LSCS mothers. 40 samples were selected by using purposive sampling technique. The sociodemographic was collected by using questionnaire method on Age, Parity, History of previous Caesarean and occupation and pain is assessed by Numerical pain rating scale. pre - test was done on 1st day. Foot reflexology was administered for 20 minutes. 1 hour after foot reflexology, Post - test was conducted using same scale twice a day for 3 postoperative days for experimental group and daily routine care was given to control group. Collected data was analyzed using descriptive and inferential statistics. *Result:* In experimental group mean pre - test pain score was 8.45 with standard deviation of ± 1.14 , whereas the mean post - test pain score was 3.55 with standard deviation of ± 1.19 . The test statistical value of the paired t test was 18.81 with p value 0.00, which is less than 0.05, showing that there was significant difference in pain scores of the experimental group. This concludes that, foot reflexology on incisional pain among post LSCS mothers was effective.

Keywords: Assess, Effectiveness, Foot Reflexology, Incisional pain, Post LSCS mothers

1. Introduction

Childbirth is one of the most marvelous and memorable segment in a woman's life. It is a natural physiological event, which introduces new experiences in a woman's reproductive life. The child birth event has a great physiological, emotional and social impact on a woman and her family. She experiences stress, physiological pain and fear of dangers related to bleeding and operative procedure like caesarean section.

In terms of the developing countries, in India, the C - section rates have crossed the WHO threshold of 15%, a severe public health concern. Other developing countries like Bangladesh, China, Sri Lanka have also seen increments in the C - section in the past two decades. C - section deliveries across the selected Indian states increased from 2015 to 2020. More than half of the states show high C - section deliveries. Maharashtra accounts 25% C - section deliveries. The highest C - section deliveries was found in Telangana (60.7%), while the lowest was observed in Nagaland (5.2%) in the first round of NFHS - 5, 2019-2020.

Caesarean section is the extraction of foetus through a trans - abdominal incision on the uterus. It is one of the most common surgical procedures performed worldwide. Postoperative pain is the expected but nonetheless undesirable by - product of all surgical procedures. Humanitarian concerns and recent quasi - governmental regulations have heightened awareness about the importance of treating postoperative pain.

Pain can be managed both pharmacologically and non - pharmacologically. Adequate pain management, increases mothers participation in baby care and early recovery. Reflexology is one of the non - pharmacological methods of pain management and is been widely practiced in many countries. Reflexology is a complementary therapy that has great potential for use by nurses in a multi - disciplinary pain management programme. Reflexology is safe, simple to learn, effective and non - invasive method of pain management. Reflexology is one of the few natural therapies to be adopted by health professionals and is being used in medical settings.

Reflexology meets the standards set by the World Health Organization, as it is simple and easy to learn, economical, can be readily found, is safe, and most importantly various studies have shown its effectiveness in relieving stress, pain, insomnia, fighting depression and alleviating edema. No matter one's age, or gender, or whether an individual is in good health or suffering, it adds to quality of life.

2. Problem Statement

A Study to assess the effectiveness of foot reflexology on incisional pain among post LSCS Mothers in Selected Hospitals

3. Objectives of the Study

- 1) To assess the level of incisional pain among post LSCS mothers in control and experimental group

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- 2) To assess the effectiveness of foot reflexology on incisional pain among post LSCS mothers in experimental group.
- 3) To compare the post - test pain scores among post LSCS mothers in control and experimental group.

Hypotheses

H₀: There will be no significant difference between pre - test and post - test pain scores of the control group and experimental group.

H₁: There will be significant difference between pre - test and post - test pain scores of LSCS mothers in the experimental group.

4. Methodology

Research Approach: Quantitative Evaluative Research approach

Research Design: Quasi experimental two group Pre - test Post - test design

Setting of the Study: Wanless Hospital Miraj and Somshekhar Hospital Miraj

Research Variables

- Independent variables: In this study Foot reflexology was independent variable.
- Dependent variable: In this study Incisional pain was dependent variable.

Target Population - The target population is aggregate of cases about which the investigator would like to generalize.

Accessible Population - The aggregate of cases which confirm to the designated criteria and which is accessible to the investigator as a pool of subjects for the study. In this study, the accessible population comprised of post LSCS mothers admitted in selected hospitals.

Sample Size: Study sample comprised of 20 post LSCS mothers in control group and 20 in experimental group.

Sampling Technique

In this study, Non probability purposive sampling technique was adopted to select the subjects. Purposive sampling is based on the belief that the researcher's knowledge about the population can be used to hand pick sample members. This sampling technique permits the researcher to decide purposively, to select subjects which are judged to be typical of the population.

Criteria for Samples Selection

Inclusion criteria

- Post LSCS mothers from 1st – 3rd postoperative day.
- Those who were willing to participate in study.
- Those who understand Marathi, Hindi and English language
- Mothers who were both primi and multigravida.

Exclusion criteria

- Mothers with post - operative complications.
- Mothers with any nerve conduction problem or diabetic neuropathy.
- Mothers having oedema, injury or pain in the foot

Description of tool

Section I - Socio - demographic variables (Age, Parity, History of previous Caesarian and occupation.)

Section II - Numerical pain rating scale.

Standardized Numerical pain rating scale was used to assess pain. '0' indicates no pain, 1 to 3 indicates mild pain, 4 to 6 indicates moderate pain, and 7 to 10 indicates severe pain.

Section III - Observational checklist

Validity and reliability

The content validity was obtained by consulting the experts from Medical, Naturopathy and Nursing field. Observational checklist and tool were approved by the experts.

The tool is standard (Standardized Numerical Pain Rating Scale) and universally accepted.

Ethical consideration

The study was approved by research committee of the institution. Assurance was given to the subjects that anonymity of each individual would be maintained.

Data collection procedure

- 1) After securing written permission from respective authority, based on inclusion and exclusion criteria, the subjects were selected.
- 2) Informed and written consent was taken from the subjects after explaining the study.
- 3) 40 subjects were selected using Non probability purposive sampling technique. (20 in control group and 20 in experimental group)
- 4) In control group pre - test was done at 6.50am on 1st day and daily routine care was given. 1 hour after routine care post - test was taken using Numerical pain rating scale twice a day for 3 postoperative days.
- 5) In experimental group pre - test was done at 6.50am on 1st day. Foot reflexology was administered for 20 minutes (10 minutes for each foot). 1 hour after foot reflexology, Post - test was conducted using same scale twice a day for 3 postoperative days. (Foot Reflexology was given 2 hours before administering the analgesic medication)
- 6) Data collected was analyzed and interpreted.

Plan for data analysis

The data analysis is the systematic organization and synthesis of research data and the testing of the research Hypotheses using that data.

The data obtained was analyzed using both descriptive and inferential statistics based on objectives of the study.

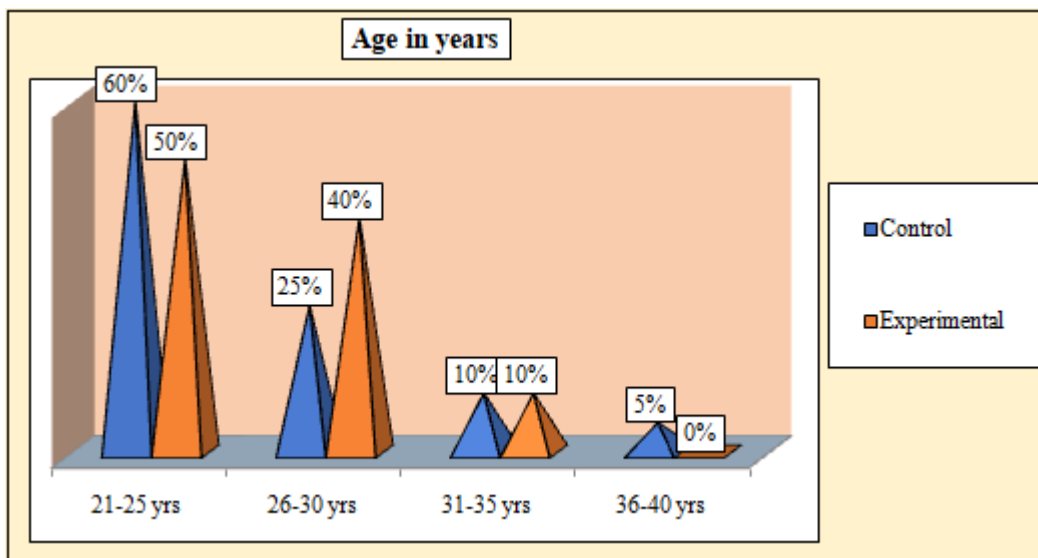
5. Result

Section I

Analysis of demographic data of post LSCS mothers in selected Hospitals.

Table 1: Frequency and percentage distribution of post LSCS mothers according to demographic variables. n=40

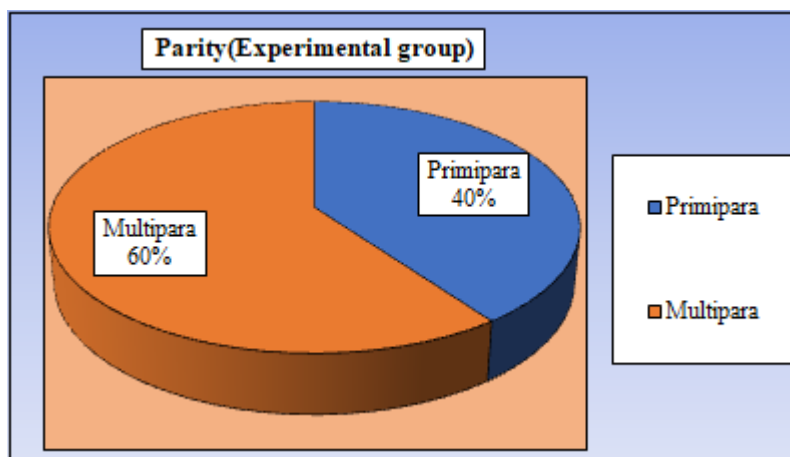
Sr. No.	Variable	Groups	Control		Experimental	
			Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1	Age in years	21 - 25	12	60%	10	50%
		26 - 30	5	25%	8	40%
		31 - 35	2	10%	2	10%
		36 - 40	1	5%	0	0%
2	Parity	Primipara	10	50%	8	40%
		Multipara	10	50%	12	60%
3	History of previous Caesarian	Yes	8	40%	7	35%
		No	12	60%	13	65%
4	Occupation	Housewife	12	60%	12	60%
		Sedentary worker	5	25%	4	20%
		Labourer	3	15%	4	20%



Graph 1: Pyramid graph showing percentage distribution of post LSCS mothers according to Age

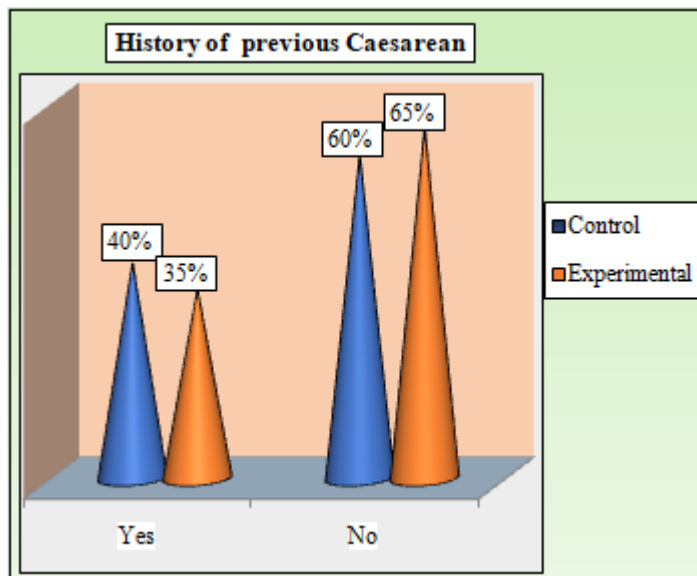
The above graph depicts that, in the control group, 12 (60%) post LSCS mothers were in the age group between 21 - 25 years, 5 (25%) were between 26 - 30 years, 2 (10%) were between 31 - 35 years and 1 (5%) belonged to 36 - 40 years.

In the experimental group, 10 (50%) post LSCS mothers were in the age group between 21 - 25 years, 8 (40%) were between 26 - 30 years and 2 (10%) were between 31 - 35 years.



Graph 2: Pie Chart showing percentage distribution of post LSCS mothers according to parity

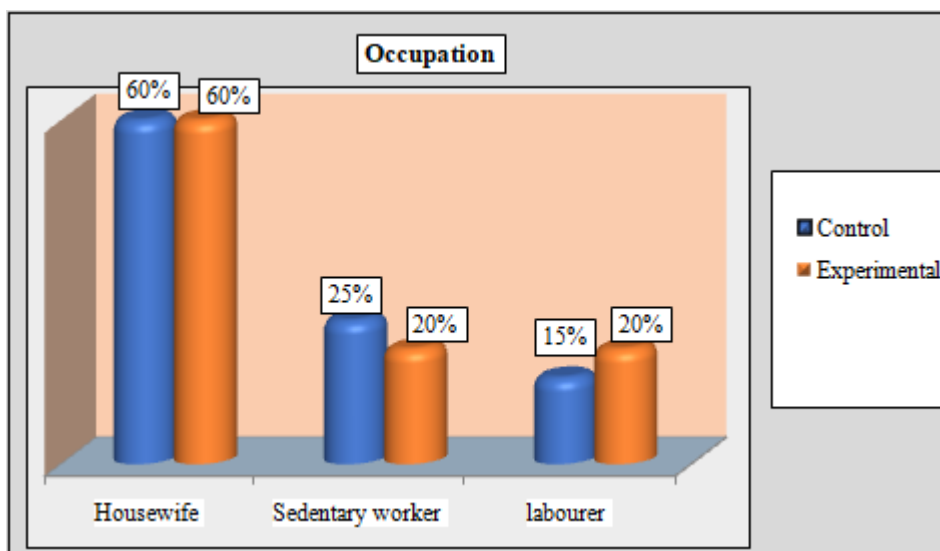
The above graph depicts that, in the control group, 10 (50%) post LSCS mothers were primi and multipara respectively. In the experimental group, 8 (40%) post LSCS mothers were primipara and 12 (60%) were multipara.



Graph 3: Cone Graph showing percentage distribution of post LSCS mothers according to history of previous caesarean

The above graph depicts that, in the control group, 8 (40%) post LSCS mothers were having history of previous caesarean and 12 (60%) were not having history of previous caesarean.

In the experimental group, 7 (35%) post LSCS mothers were having history of previous caesarean and 13 (65%) were not having history of previous caesarean.



Graph 4: Cylindrical graph showing percentage distribution of post LSCS mothers according to occupation

The above graph depicts that, in the control group, 12 (60%) post LSCS mothers were housewives, 5 (25%) were sedentary workers and 3 (15%) were labourers.

In the experimental group, 12 (60%) post LSCS mothers were housewives and 4 (20%) were sedentary workers and labourers respectively.

Table 2: Mean and standard deviation of pre - test pain scores among post LSCS mothers in control and experimental group. (n =40)

Pain Score	Mean	SD	SE	t value	p value
Control group	8.35	1.26	0.28	0.2617	0.7950
Experimental group	8.45	1.14	0.25		

The test statistical value of the unpaired t test was 0.2617 with p value 0.7950, which is more than 0.05, showing that there is no significant difference in pre - test pain scores among control and experimental group. Hence, both the groups are homogenous.

Section II

Analysis related to pre - test pain scores among post LSCS mothers in control and experimental group.

Section III

Analysis related to the effectiveness of foot reflexology among post LSCS mothers in experimental group.

Table 3: Mean and standard deviation of pre - test and post - test pain scores among post LSCS mothers in experimental group (n=20)

Experimental	Mean	SD	SE	t value	p value
Pre - test	8.45	1.14	0.25	18.81	0.00
Post - test	3.55	1.19	0.26		

The test statistical value of the paired t test was 18.81 with p value 0.00, which is less than 0.05, showing that there was significant difference in pain scores of the experimental group.

This concludes that, foot reflexology on incisional pain among post LSCS mothers was effective.

Section IV

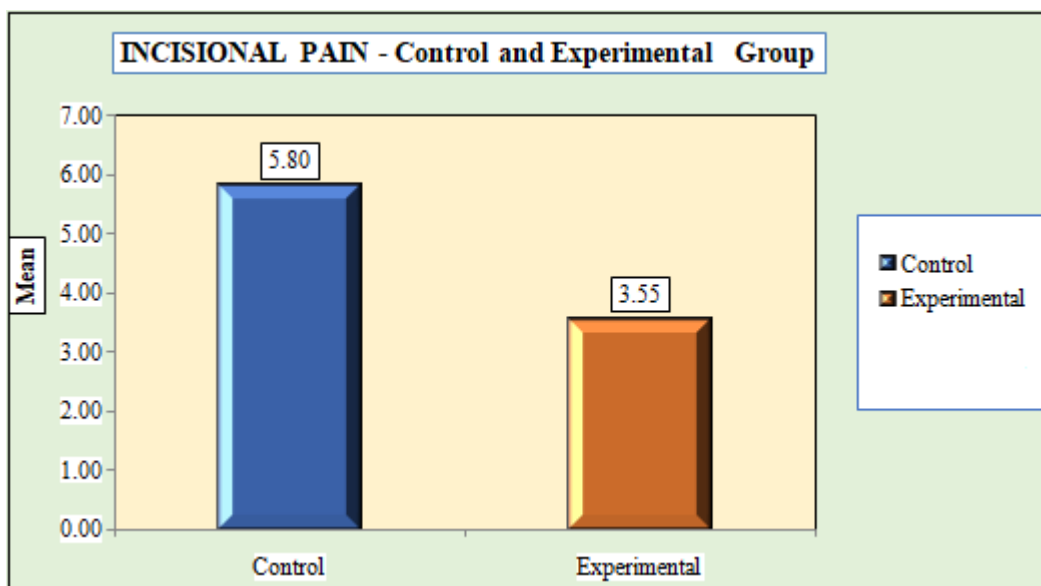
Analysis related to post - test pain scores among post LSCS mothers in control and experimental group.

Table no 4: Mean and standard deviation of post - test pain scores among post LSCS mothers in control and experimental group (n=40)

Post Test	Mean	SD	SE	t value	p value
Control	5.80	1.40	0.31	5.48	0.000
Experimental	3.55	1.19	0.26		

The above table depicts that, in control group the mean post - test pain score was 5.80 with standard deviation ±1.40 whereas in the experimental group the mean post - test pain score was 3.55 with standard deviation ±1.19.

The test statistical value of unpaired t test was 5.48 with p value 0.000, which is less than 0.05, hence H₀ is rejected and H₁ is accepted. There was significant difference in the pain scores among experimental group compared to the control group. These findings conclude that Foot reflexology was effective on incisional pain among post LSCS mothers in the experimental group.



Graph 5: Bar graph showing difference between post - test pain scores of control and experimental group among post LSCS mothers

6. Nursing Implication

The findings of the study have implications in nursing education, nursing practice, nursing administration and nursing research.

Nursing Education

Nurses in the 21st century look forward to the most independent role of alternative system in the health care system. Nurses play an important role in the health care delivery system by providing holistic approach of care to the needy ones. Nursing curriculum should enable the nursing students to develop advanced knowledge and acquire skills in developing practice of various complementary and alternative therapies. Nursing curriculum should stress on different non pharmacological interventions and make the students know about complementary therapies like foot reflexology in reducing the incisional pain among post LSCS mothers.

Nursing Practice

As the world is advancing the demand for cost effective nursing care is also increasing day by day. Nurses are responsible for clinical judgments (nursing diagnosis) based on individual responses to potential problems. Nurses can adopt foot reflexology as an effective intervention in their practice. It is cost effective, easy to learn and has no adverse effects. It does not require additional equipment, extra expenditure or preparation. Foot reflexology is a means of touch which can be used to communicate care and concern for the post LSCS mothers.

Nursing Administration

Nurses have to play a role of effective nursing administrators and managers. To perform those roles apart from the knowledge in administration, the nurses also have decision making and reasoning abilities. The findings will help nurse administrators in hospital and nursing colleges to conduct in - service education and workshops on complementary therapies so that the nursing personnel can

upgrade their knowledge and skills and apply it in their work place.

Nursing Research

The aim of nursing research is to contribute the knowledge to the body of nursing, to expand and broaden the scope of nursing. This is possible only if nurses take initiative to conduct further research. The nurse researcher can utilize the study findings in developing model/theory/conceptual framework. Based on the findings of the study, future research can be undertaken.

7. Conclusion

The conclusion drawn from the findings of the study are as follows -

- 1) Review of literature has helped the investigator to gain indepth knowledge of the content, to develop conceptual framework for the study, tool for data collection and analysis of data.
- 2) The purpose of the study was to determine the effectiveness of Foot reflexology on incisional pain among post LSCS mothers has been statistically proved and found effective.

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