

Effectiveness of Foot and Hand Massage on Level of Pain Perception among Post Caesarean Mothers

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ABSTRACT

Background of the study: -Massage therapy has been widely explored for its therapeutic benefits in different healthcare settings. It is known to promote relaxation, relieve muscle tension, improve blood circulation, and reduce stress. After a cesarean section, mothers commonly experience postoperative pain due to abdominal incision, tissue manipulation, and internal organ handling during surgery. This pain may present as discomfort around the incision site, abdominal cramps, and referred pain in the back and legs. Non-pharmacological interventions such as foot and hand massage have gained importance in postoperative care because they are simple, safe, and cost-effective methods for pain relief. Massage therapy has been shown to influence physiological responses by reducing cortisol levels and stimulating endorphin release, which naturally decreases pain perception. Pain intensity is commonly measured using a 10-point Numerical Pain Rating Scale, where “0” indicates no pain and “10” indicates the worst imaginable pain. Previous studies have reported that mothers receiving foot or hand massage after cesarean delivery experienced reduced pain levels, improved emotional well-being, and decreased anxiety compared to mothers who did not receive massage therapy. The present study aimed to assess the effectiveness of foot and hand massage on pain perception among post-cesarean mothers. **Methodology:** - A pre-test and post-test control group design was adopted for the study. The research was conducted among 60 post-cesarean mothers admitted to TMU Hospital, Moradabad, Uttar Pradesh. Purposive sampling technique was used to select the participants. The data collection tool consisted of two sections: demographic variables and the Numerical Pain Rating Scale used to assess pain perception levels. The collected data were organized into a master data sheet and analyzed using descriptive and inferential statistics with the help of SPSS software. **Result:** - The study findings revealed that there was no significant association between the pre-test level of pain perception and demographic variables such as age, age at marriage, duration of marriage, education, occupation, type of family, religion, previous knowledge regarding foot and hand massage, and source of information in both study and control groups, as the chi-square p-values were greater than 0.05. However, one variable related to prior information showed a statistically significant association with pain perception ($p = 0.022$) at the 0.05 level of significance. The results also demonstrated that mothers who received foot and hand massage reported lower pain perception scores in the post-test compared to the pre-test scores, indicating the effectiveness of the intervention. **Conclusion:** -The study concluded that foot and hand massage is an effective non-pharmacological intervention for reducing pain perception among post-cesarean mothers. The intervention promotes relaxation, improves blood circulation, reduces stress, and provides comfort,

thereby contributing to better postoperative recovery and enhanced maternal well-being. Incorporating simple and economical massage techniques into routine postnatal care may improve the quality of nursing care and patient satisfaction.

Keywords: Foot massage, hand massage, pain perception, post-caesarean mothers, non-pharmacological intervention, and postoperative pain relief.

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INTRODUCTION

“Motherhood is the biggest gamble in the world. It is the glorious life force. It is huge and scary—it is an act of infinite optimism.” — Gilda Radner

Motherhood is a joyful and life-changing experience, but for many women, childbirth through cesarean section can also be associated with significant postoperative pain and discomfort. A cesarean section is a major surgical procedure involving an incision through the abdominal wall and uterus to deliver the baby. Post-caesarean mothers commonly experience pain at the incision site, abdominal cramps, restricted mobility, fatigue, and emotional stress. Effective pain management during the postnatal period is essential for promoting maternal comfort, early recovery, breastfeeding, and healthy mother–infant bonding.

Along with pharmacological treatment, non-pharmacological interventions are increasingly being used to reduce postoperative pain and improve maternal well-being. Among these methods, foot and hand massage have gained importance as simple, safe, non-invasive, and cost-effective interventions. Massage therapy promotes relaxation, improves blood circulation, reduces muscle tension, and decreases stress. It also stimulates nerve endings and promotes the release of endorphins, the body’s natural pain-relieving hormones, while lowering cortisol levels associated with stress and pain perception. Pain perception among post-caesarean mothers can be assessed using the Numerical Pain Rating Scale, a 10-point scale where “0” represents no pain and “10” represents the worst imaginable pain. Several studies have reported that mothers who received foot and hand massage after cesarean delivery experienced reduced pain levels, decreased anxiety, and improved emotional comfort compared to mothers who received routine care alone.

NEED FOR THE STUDY

According to the World Health Organization (WHO), the ideal rate of cesarean section should be between 10% and 15% of all births. However, the rate of cesarean deliveries has increased globally over the years. In India, the National Family Health Survey (NFHS-5, 2019–2021)

reported that approximately 21.5% of births were delivered through cesarean section. Postoperative pain is one of the most common problems experienced by mothers after cesarean delivery and can interfere with mobility, breastfeeding, sleep, maternal-infant bonding, and overall recovery.

Although pharmacological methods are commonly used for pain relief, they may cause side effects such as nausea, drowsiness, and discomfort. Therefore, there is a growing need for safe, economical, and non-invasive methods to reduce pain perception among post-caesarean mothers. Foot and hand massage are simple nursing interventions that can be easily administered in hospital settings without special equipment. These techniques help in reducing pain, promoting relaxation, improving circulation, and enhancing maternal comfort. Hence, the researcher felt the need to assess the effectiveness of foot and hand massage on the level of pain perception among post-caesarean mothers.

PROBLEM STATEMENT

“Effectiveness of foot and hand massage on level of pain perception among post caesarean mothers”

OBJECTIVES OF THE STUDY

1. To assess the pre test and post-test levels of pain perception among post-caesarean mothers in both the study group and the control group.
2. To evaluate the effectiveness of foot and hand massage on the level of pain perception among post-caesarean mothers in the study group.
3. To examine the association between the pretest level of pain perception and selected demographic variables among post-caesarean mothers in both the study and control groups.

OPERATIONAL DEFINITION

EFFECTIVENESS:

Effectiveness refers to the extent to which hand and foot massage therapies reduce pain in post-caesarean mothers.

HAND MASSAGE:

It refers to utilizing olive oil to control post-caesarean moms' hands through stroking, effleurage, finger strolling, and arch pressing.

FOOT MASSAGE

OPERATIONAL DEFINITION:

It describes to the manipulation of post-caesarean mother's feet with olive oil via stroking, effleurage, finger strolling, and arch pressing using both palms of the investigator.

PAIN

OPERATIONAL DEFINITION:

Pain is a common sensation experienced by women starting from the day of their caesarean delivery, and it can be assessed using a numerical pain rating scale.

POST CAESAREAN MOTHER

OPERATIONAL DEFINITION:

Pain is a common sensation experienced by women starting on the day of their caesarean section. It is typically assessed using a numerical pain rating scale to determine its severity."

OPERATIONAL DEFINITION

EFFECTIVENESS:

Effectiveness relates to the amount to which hand and feet massage techniques relieve pain among post-caesarean mothers.

HAND MASSAGE:

It refers to using olive oil to manipulate the hands of post-caesarean mothers via stroking, effleurage, finger strolling, and arch pressing.

'0' denotes	No pain
'1-3' denotes	Mild pain
'4-6' denotes	Moderate pain
'7-10' denotes	Severe pain

DELIMITATIONS

The study is delimited to post-caesarean mothers admitted in Teerthanker Mahaveer University Hospital, Moradabad, U.P.

RESEARCH METHODOLOGY

Research methodology refers to a structured and systematic process used to address a research problem effectively. It ensures that each component of the study is aligned to yield valid and reliable answers to the identified research questions. This chapter outlines the overall design and approach within the investigation, research setting, population sampling methods, subject sample criteria, and sampling technique. It also describes the development of data collection tools, pilot study execution, procedures primary research, and the evidence gathering plan.

FOOT MASSAGE

OPERATIONAL DEFINITION:

It refers to the manipulation of post-caesarean mother's feet with olive oil via stroking, effleurage, finger strolling, and arch pressing using both palms of the investigator.

HYPOTHESES

All hypotheses are tested at the 0.05 threshold of significance.

- **H₁:** There is a Meaningful variation the Pain scores before and after intervention -C-section moms within the intervention group"
- **H₂:** There is a strong correlation with the pre-test with their sociodemographic variable.

VARIABLES

PART I DEMOGRAPHY DATA:

Age, education, occupation, family religion, mother's support, and past experience with massage of hand feet are some of the population characteristics. Clinical variables include parity, kind of discomfort, prevalence of pain, and duration related to distress.

PART II: NUMERIC RATING OF PAIN

11 is a 10- grade evaluation scale with '0' marking the peak of discomfort (. "no pain") and '10' indication the opposite severe pain (e.g. The . "pain as bad as you can imagine" &"worst pain imaginable")

CRITERIA MEASURE

The scale is categorized as follows.

RESEARCH APPROACH

The analysis approach guides the investigator on the type of information to be collected and how it should be analyzed and interpreted. Based on the nature of the research problem and the objectives of the study, it helps in drawing appropriate and meaningful conclusions from the collected data.

SETTING OF THE STUDY

The research study area indicates the exact site, environment, and context from which data is gathered. It plays a critical role within quality & Precision of the study outcomes. For the current study, the data was collected from TMU Hospital in Moradabad, Uttar Pradesh, after obtaining formal approval from the hospital's Medical Superintendent.

TARGET POPULATION

The target population consisted of post-caesarean mothers admitted to Teerthanker Mahaveer Hospital, Moradabad, Uttar Pradesh.

ACCESSIBLE POPULATION

The accessible population included post-caesarean mothers who were available and admitted to TMU Hospital, Moradabad, throughout the data collection phase

SELECTION

The model for this study consisted of post-caesarean mothers admitted to Teerthanker Mahaveer Hospital, Moradabad, who met the inclusion criteria and were available during the research period.

SAMPLE SIZE

The study involved the selection of 60 C-section mothers, with 30 individuals in the comparison group and 30 in the intervention group. The sample size were determined using a standard statistical formula appropriate in the research project design.

SAMPLING PROCESS

Sampling process involves selecting a subset of individuals from the broader population to participate in the research. In this study, a purposive sampling technique was used. This non-random method.

STUDY SETTING

The Entire investigation was performed at Teerthanker Mahaveer Hospital, located in Moradabad, Uttar Pradesh.

PARTICIPANT SELECTION CRITERIA

Inclusion Criteria

- Post-caesarean mothers willing to participate in the study.
- Mothers admitted to Teerthanker Mahaveer Hospital, Moradabad.
- Mothers within the first 24 hours after caesarean section.

Exclusion Criteria

- Post-caesarean mothers with complications.
- Mothers in serious or critical condition.

DEVELOPMENT OF THE TOOL

The research tool was developed under the guidance of academic mentors and subject experts after an extensive review of related literature from books, journals, and other sources. The draft tool was reviewed by experts to establish content validity, and necessary modifications were incorporated before finalization. A pilot study was conducted to test the feasibility and reliability of the tool before its use in the main study.

DESCRIPTION OF THE TOOL

Part I: Demographic Data

This section included variables such as age, educational status, occupation, religion, type of family, and previous knowledge regarding foot and hand massage.

Part II: Numerical Pain Rating Scale

Pain perception was assessed using the Numerical Pain Rating Scale, an 11-point standardized scale ranging from 0 (“no pain”) to 10 (“worst imaginable pain”).

VALIDITY AND RELIABILITY OF THE TOOL

Content validity of the tool was ensured through expert opinion and guidance. Reliability of the instrument was established during the pilot study, confirming its consistency and applicability for the study.

PILOT STUDY

A pilot study was conducted at TMU Hospital, Moradabad, among six post-caesarean mothers (three in the study group and three in the control group), representing 10% of the total sample. The pilot study confirmed the feasibility and practicability of the study design and tool.

METHOD OF DATA COLLECTION

Data were collected using a structured tool consisting of two sections: socio-demographic variables and the Numerical Pain Rating Scale. After obtaining permission from the hospital authority and informed consent from participants, pre-test pain assessment was conducted. Foot and hand massage intervention was provided to the study group, followed by post-test assessment to evaluate pain perception.

ETHICAL CONSIDERATIONS

- Written permission was obtained from the Medical Superintendent of TMU Hospital.
- Participants were informed about the purpose and procedure of the study.
- Confidentiality and privacy of the participants were maintained.
- Written informed consent was obtained from all participants.

DATA ANALYSIS

The collected data were analyzed using descriptive and inferential statistics. Frequency, percentage, mean, and standard deviation were used for descriptive analysis. Chi-square test was used to determine the association between demographic variables and pain perception levels. The effectiveness of foot and hand massage on pain reduction was assessed using the Numerical Pain Rating Scale.

SYSTEMATIC ORGANIZATION & ILLUSTRATION OF DATA

Analysis has been systematically organized according to the study aim & data collection strategy. Results are presented using appropriate tables and figures and are categorized into the following sections:

Section A: Frequency and percentage distribution of demographic variables among post-caesarean mothers.

Section B: Assessment of pain perception levels among post-caesarean mothers.

Section C: Evaluation of the role of feet & hand manual therapy in alleviating pain reduction.

Section D: Connection between pain perception before the test and selected demographic variables.

**SECTION A
Frequency and Percentage Distribution of Socio-Demographic Variables of Post-Cesarean Mothers.**

Table No1. Count and percentage breakdown of socio-demographic variables for post-caesarean mothers within the control group.

N=30

Sr. No	Socio-demographic factors	Category	Frequency	Percentage
1	Age in years	20-22	9	30.00
		23-25	6	20.00
		26-28	15	50.00
2	Age at marriage in years	20-22	13	43.33
		23-25	13	43.33
		26-28	4	13.33
3	Years of marital duration	1	12	40.00
		2	11	36.67
		3	4	13.33
		4	2	6.67
		5	1	3.33
		6	0	0.00
		8	0	0.00
4	Maternal education level	Absence of Formal education	1	3.33
		Primary Education	22	73.33
		Graduation & above	3	10.00
		Higher Secondary	4	13.33

5	Occupation	Home maker	23	76.67
		Self Employee	5	16.67
		Government employee	2	6.67
6	Type of family	Nuclear	18	60.00
		Joint	8	26.67
		Extended	4	13.33
7	Religion	Hindu	21	70.00
		Christan	2	6.67
		Muslim	7	23.33
8	Previous knowledge regarding feet & hand manual therapy Based on the degree of discomfort	Yes	25	83.33
		No	5	16.67
9	If yes specify	Family	19	63.33
		Book	3	10.00
		Television	7	23.33
		Internet	1	3.33

Table No. 1 shows the frequency and percentage distribution of socio-demographic variables among post-caesarean mothers in the control group (N = 30).

- With regard to age, the majority of mothers 15 (50%) belonged to the age group of 26–28 years, followed by 9 (30%) in the age group of 20–22 years and 6 (20%) in the age group of 23–25 years.
- Regarding age at marriage, 13 (43.33%) mothers were married between 20–22 years and another 13 (43.33%) between 23–25 years, while only 4 (13.33%) mothers were married between 26–28 years.
- In relation to duration of marriage, the majority 12 (40%) had completed 1 year of marriage, followed by 11 (36.67%) with 2 years of marriage. Four (13.33%) mothers had 3 years of marital duration, 2 (6.67%) had 4 years, and 1 (3.33%) had 5 years of marital duration.
- With respect to educational status, the majority of mothers 22 (73.33%) had primary education, 4

(13.33%) had higher secondary education, 3 (10%) were graduates and above, while 1 (3.33%) had no formal education.

- Regarding occupation, most of the mothers 23 (76.67%) were homemakers, 5 (16.67%) were self-employed, and 2 (6.67%) were government employees.
- In relation to type of family, the majority 18 (60%) belonged to nuclear families, followed by 8 (26.67%) from joint families and 4 (13.33%) from extended families.
- With regard to religion, the majority 21 (70%) were Hindu, 7 (23.33%) were Muslim, and 2 (6.67%) were Christian.
- Regarding previous knowledge about foot and hand massage, the majority 25 (83.33%) had previous knowledge, while 5 (16.67%) had no previous knowledge. Among those who had previous knowledge, the major source of information was family members 19 (63.33%), followed by television 7 (23.33%), books 3 (10%), and internet 1 (3.33%).

Table: Frequencies and Proportions of Socio-demographic Characteristics of Post-Caesarean Mothers (N = 30)

Sr. No.	Socio-demographic Characteristics	Category	Frequency (f)	Percentage (%)
1	Chronological age (years)	20-22	4	13.33
		23-25	8	26.67
		26-28	18	60.00
2	Age at marriage (years)	20-22	19	63.33
		23-25	10	33.33
		26-28	1	3.33
3	Duration of marriage (years)	1	6	20.00
		2	6	20.00
		3	5	16.67
		4	4	13.33
		5	4	13.33
		6	4	13.33
		8	1	3.33
4	Maternal educational background	Lack of formal schooling	2	6.67
		Primary education	23	76.67
		Higher secondary	3	10.00
		Graduation & above	2	6.67
5	Occupation	Homemaker	25	83.33
		Self-employed	4	13.33
		Government employee	1	3.33
6	Type of family	Nuclear	18	60.00

Sr. No.	Socio-demographic Characteristics	Category	Frequency (f)	Percentage (%)
		Joint	9	30.00
		Extended	3	10.00
7	Religion	Hindu	21	70.00
		Christian	3	10.00
		Muslim	6	20.00
8	Previous knowledge regarding feet & hand massage therapy on level of discomfort	Yes	23	76.67
		No	7	23.33
9	If yes, specify source of knowledge	Family	13	43.33
		Book	4	13.33
		Television	10	33.33
		Internet	3	10.00

Table No. 2 illustrates the socio-demographic characteristics of post-caesarean mothers in the experimental group (N = 30).

- Regarding chronological age, the majority of mothers 18 (60%) belonged to the age group of 26–28 years, followed by 8 (26.67%) mothers in the age group of 23–25 years, while 4 (13.33%) mothers were in the age group of 20–22 years.
- With respect to age at marriage, most of the participants 19 (63.33%) were married between 20–22 years of age, whereas 10 (33.33%) were married between 23–25 years and only 1 (3.33%) participant was married between 26–28 years.
- Regarding duration of marriage, 6 (20%) mothers each had a marital duration of 1 year and 2 years respectively. Five (16.67%) mothers had a duration of 3 years, while 4 (13.33%) mothers each had durations of 4, 5, and 6 years. Only 1 (3.33%) mother had a marital duration of 8 years.
- In relation to maternal educational background, the majority 23 (76.67%) mothers had primary education, 3 (10%) had higher secondary education, 2 (6.67%) had graduation and above, and 2 (6.67%) had no formal schooling.
- Regarding occupation, the majority of mothers 25 (83.33%) were homemakers, 4 (13.33%) were self-employed, and only 1 (3.33%) was a government employee.
- Concerning type of family, most of the participants 18 (60%) belonged to nuclear families, while 9 (30%) belonged to joint families. Only 3 (10%) mothers belonged to extended families.

Table No -3 Statistical representation of the clinical profile of post Caesarean Mother in control group.

N=30

Sr. No	Socio Demographic Variables	Category	Frequency	Percentage
1	Parity	Primary	18	60.00
		Multi	12	40.00
2	How many children	One	18	60.00
		Two & above	12	40.00
3	Type of pain	Mild	0	0.00
		Moderate	7	23.33
		Sever	23	76.67
4	Frequency of pain	More frequent & regular Pain	27	90.00
		Strong & closer	3	10.00

Statistical representation of the clinical profile of post-caesarean mothers in the control group

(N = 30)

Table No. 3 depicts the clinical profile of post-caesarean mothers in the control group.

- Regarding parity, the majority of mothers 18 (60%) were primipara, whereas 12 (40%) were multipara.
- With respect to the number of children, most of the mothers 18 (60%) had one child, while 12 (40%) had two or more children.

- Concerning the type of pain experienced after caesarean section, none of the mothers reported mild pain. The majority 23 (76.67%) experienced severe pain, whereas 7 (23.33%) experienced moderate pain.
- Regarding the frequency of pain, most of the participants 27 (90%) experienced more frequent and regular pain, while 3 (10%) reported strong and closer pain episodes.

Table No -4 Distribution of counts and percentages for the socio-clinical characteristics of post-caesarean mothers in the experimental group.

N=30

Sr. No	Demographic Variables	Category	Frequency	Percentage
1	Parity	Primary	10	33.33
		Multi	20	66.67
2	How many children	One	9	30.00
		Two & above	21	70.00
		Mild	0	0.00
		Moderate	8	26.67

3	Type of pain	Sever	22	73.33
4	Frequency of pain	More frequent & regular Pain	20	66.67
		Strong & closer	10	33.33

Table No. 4 illustrates the socio-clinical characteristics of post-caesarean mothers in the experimental group.

- Regarding parity, the majority of mothers 20 (66.67%) were multipara, while 10 (33.33%) were primipara.
- With respect to the number of children, most of the participants 21 (70%) had two or more children, whereas 9 (30%) had one child.
- Concerning the type of pain experienced after caesarean section, none of the mothers reported mild

pain. The majority 22 (73.33%) experienced severe pain, while 8 (26.67%) experienced moderate pain.

- Regarding the frequency of pain, the majority of mothers 20 (66.67%) experienced more frequent and regular pain, whereas 10 (33.33%) reported strong and closer pain episodes.

SECTION B: To evaluate the degree of pain awareness among post-caesarean mothers. Assess Pain perception status before the test among Post Caesarean Mother in research group.

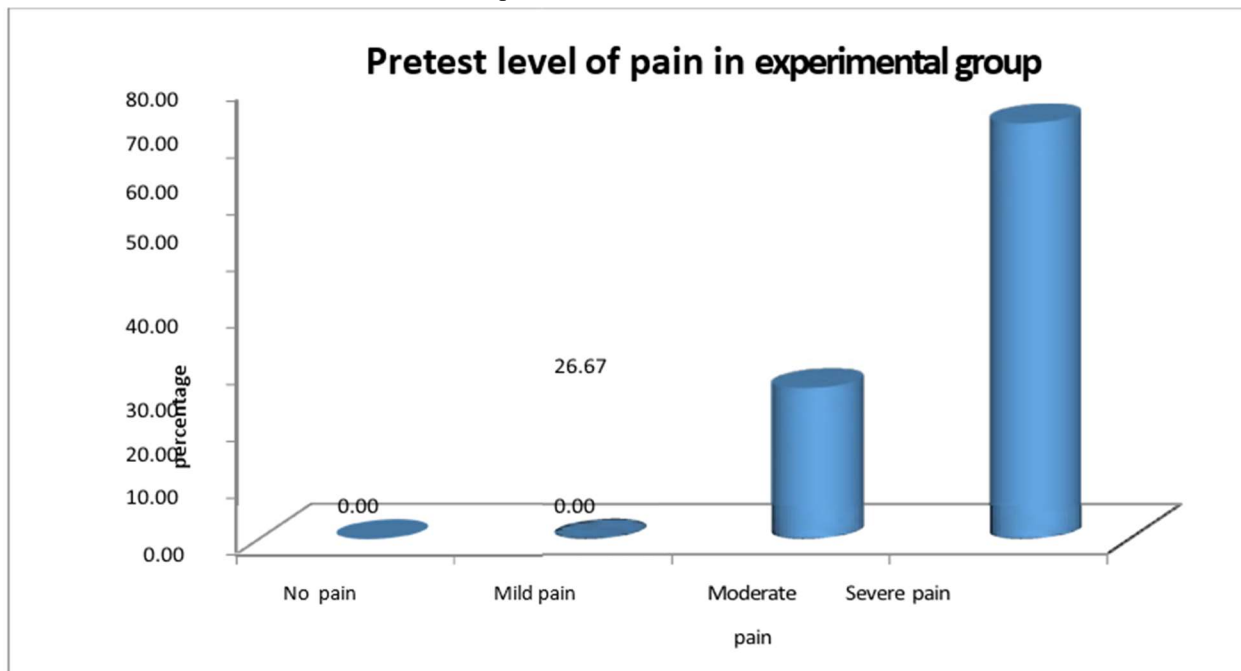


Fig. No - 1 cylindrical diagram shows Baseline measurement of pain sensation.

Depicts that in research pretest Level of Pain Perception levels shows the maximum of respondents (73.33%) have severe Pain Perception followed by 26.67% had a medium level of pain Perception, none of after c-section Mother were mild and no ache Perception in pretest experimental group.

SECTION B: To evaluate the degree of pain awareness among post-caesarean mothers.

Assess Pain perception status before the test among Post Caesarean Mother in research group.

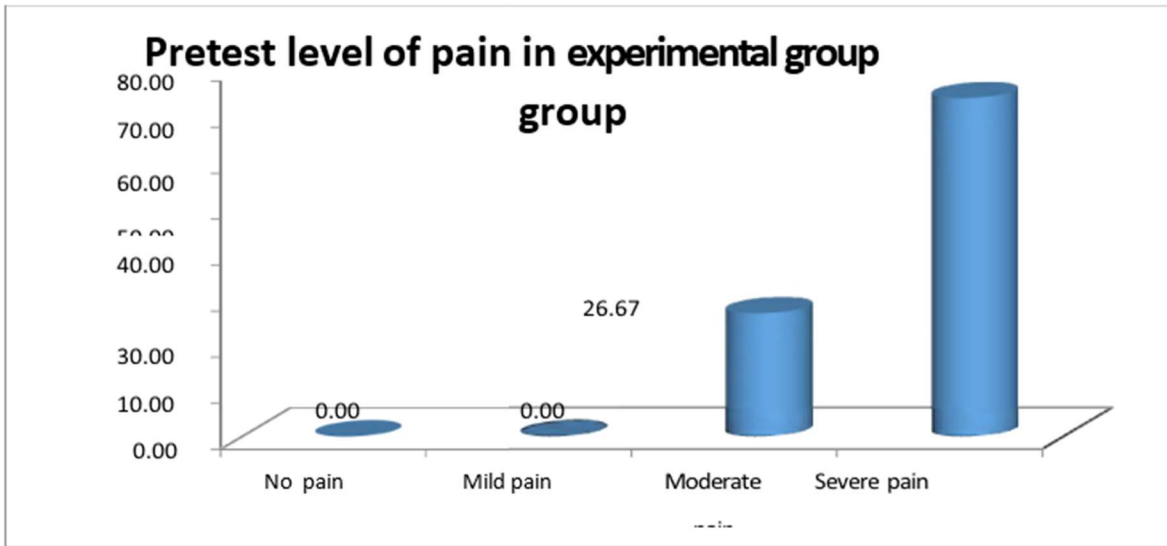


Fig. 2 Cylindrical depicts that in research pre-test Level Of Pain Perception levels shows the maximum of respondents (73.33%) have severe Pain Perception followed by 26.67% had a medium level of pain Perception, none of after C-section Mother were mild and no ache Perception in pre-test experimental group.

Table No-5 Examine the post-assessment degree of pain awareness in post-caesarean mothers of the comparison group.

N=30

Sr. No	Criterion	Range of Score	No. of respondent	Percentage
1	Pain free	0	0	0.00
2	Minor pain	1 to 3	0	0.00
3	Moderate pain	4 to 6	7	23.33
4	Severe pain	7 to 10	23	76.67

Table depicts that Post-assessment pain score in the control group levels shows maximum of respondents (76.67%) have severe Pain Perception followed by 23.33% were Average Pain Perception, none of Post Caesarean Mother were had mild and no Pain Perception in post-test control group.

SECTION C: To assess the impact of foot and hand massage on pain perception levels in post-caesarean mothers.

Table No-6 Evaluate Impact of feet & Hand the effect of massage therapy on pain intensity among post-caesarean mothers in the research group.

N=30

Sr. No	cluster	average	S.D.	Average %	paired t test	Table Outcome
1	before test	8.33	1.58	83.33	22.021	0.000
2	Post test	4.53	1.33	45.33		

* Significance level of 0.05.

Table shows Impact of Feet & Hand Massage therapy on Level Of ache Perception among Post Caesarean Mother in research group. In before Test, the average score is 8.33 with a standard deviation of 1.58, resulting in a mean percentage of 83.33%. While Post Test The average score is an average of 4.53 was observed, with a standard

deviation of 1.3., resulting 1 percentage of 45.33%. The Estimated paired t-test value is 22.021, with p value of 0.000. This indicates a significant improvement between the initial and final assessments, as evidenced by the paired t-test result (0.000), which is less than the typical significance level was found to be below 0.05, the alternative hypothesis (H1) is validated.

Table No-7 Evaluate effectiveness of Foot & Hand Massage on Level of Pain Perception among Post Caesarean Mothers in comparison group.

N=30

Sr. No	cluster	average	S.D.	average %	paired t test	Table outcome
1	Before test	8.93	1.73	89.33	1.159	0.127
2	Post test	8.83	1.69	88.33		

* Significance level of 0.05.

Table No 10 shows Efficacy of Foot & Hand Impact of massage on pain intensity in post-caesarean mothers Mother in control cluster. In Pre Test, the average score is 8.93 with a standard deviation of 1.79, resulting in a mean percentage of 89.33%. While post-test mean value

was 8.83, with a standard deviation of 1.69, resulting in an average percentage of 88.33%. The Estimated paired t-test outcome is 1.159, with p value of 0.127. This indicates no significant improvement between the initial and final assessments, as evidenced by paired t-test result (0.127), which is more than the typical significance level of 0.05. Hence the stated hypothesis H2 is rejected.

Table No-11 Assess the effectiveness of foot and hand massage on pain perception levels among post-caesarean mothers in the post-test phase of both control and research groups.

N=30

Sr. No	Cluster	Average	S.D.	average %	Unpaired t Test	p outcome
1	Experimental post test	4.53	1.33	45.3	10.917	0.000
2	Control post Test	8.83	1.69	88.3		

* Significance level of 0.05.

Table shows Efficacy of Feet & Hand Massage on Level Of ache Perception among women post-caesarean delivery in post test score of control and experimental group. In experimental post-test, an average score of 4.53 was found, with a standard deviation equal to 1.33., resulting in a mean percentage of 45.3%. While Post Test control cluster an average score of

8.83 was found, with a standard deviation equal to 1.69, resulting in an average percentage of 88.3%. The estimate unpaired t-test outcome is 10.917, with p value of 0.000.

This indicates a significant improvement between the initial and final assessments, as evidenced by the unpaired t-test result (0.000), which is less than the typical significance level of 0.05.

SECTION D: To determine the relationship between pre-intervention pain perception levels and the selected demographic characteristics of post-caesarean mothers.

Table No-8 Determine the relationship between pre-intervention pain perception and socio-demographic characteristics of post-caesarean mothers in the comparison group.

N=30

LEVEL OF PAIN

Sr. N.	Demographic and social factors	Category	Moderate f	Moderate %	Severe f	Severe %	Total	Chi square value	p outcome
1	Chronological age	20-22	2	22.22	7	77.78	9	0.435	0.805 (Not significant)
		23-25	2	33.33	4	66.67	6		
		26-28	3	20.00	12	80.00	15		
2	Age at marriage in years	20-22	4	30.77	9	69.23	13	0.867	0.648 (Not significant)
		23-25	2	15.38	11	84.62	13		
		26-28	1	25.00	3	75.00	4		
3	Marital duration years	1	2	16.67	10	83.33	12	2.261	0.688 (Not significant)
		2	4	36.36	7	63.64	11		
		3	1	25.00	3	75.00	4		
		4	0	0.00	2	100.00	2		
		5	0	0.00	1	100.00	1		
		6	0	0.00	0	0.00	0		
		8	0	0.00	0	0.00	0		
4	Maternal literacy level	No schooling history	1	100.00	0	0.00	1	7.597	0.055 (Not significant)
		Primary literacy	3	13.64	19	86.36	22		

Sr. N.	Demographic and social factors	Category	Moderate f	Moderate %	Severe f	Severe %	Total	Chi square value	p outcome
		Graduation & above	2	66.67	1	33.33	3		
		Senior secondary	1	25.00	3	75.00	4		
5	Occupation	Homemaker	5	21.74	18	78.26	23	0.859	0.651 (Not significant)
		Self-employee	1	20.00	4	80.00	5		
	Type of family	Government employee	1	50.00	1	50.00	2	0.730	0.694 (Not significant)
		Nuclear	5	27.78	13	72.22	18		
6		Joint	1	12.50	7	87.50	8		
		Extended	1	25.00	3	75.00	4		
7	Religion	Hindu	5	23.81	16	76.19	21	0.719	0.698 (Not significant)
		Christian	0	0.00	2	100.00	2		
		Muslim	2	28.57	5	71.43	7		
8	Previous knowledge regarding feet & hand massage therapy on level of discomfort	Yes	6	24.00	19	76.00	25	0.037	0.847 (Not significant)
		No	1	20.00	4	80.00	5		
9	If yes specify	Family	4	21.05	15	78.95	19	2.764	0.847 (Not significant)
		Book	0	0.00	3	100.00	3		
		Television	3	42.86	4	57.14	7		
		Internet	0	0.00	1	100.00	1		

Table No. : Indicates a correlation between the initial level of Pain Perception with Age in years, Marital age in completed years, Marital duration years, Education of the mother, Work status, Family category, Spiritual belief system, Prior awareness of foot and hand massage effects on pain perception, If yes specify the chi square p value found to be 0.805, 0.648, 0.688, 0.055, 0.651, 0.694, 0.698, 0.847, and 0.429 respectively, it is no significant the level of 0.05.

Table No-9 Determine the relationship between the pre-intervention pain perception levels and the socio-demographic characteristics of post-caesarean mothers in the research group.

Sr. No	Socio demographic variables	Category	Pre-test Levels of pain				Total	Chi square value	p outcome
			Moderate		Severe				
			f	%	f	%			
1	Chronological age	20-22	1	25.00	3	75.00	4	0.668	0.716 (not significant)
		23-25	3	37.50	5	62.50	8		
		26-28	4	22.22	14	77.78	18		
2	Age at marriage in years	20-22	7	36.84	12	63.16	19	2.790	0.248716 (not significant)
		23-25	1	10.00	9	90.00	10		
		26-28	0	0.00	1	100.00	1		
3	Marital duration years	1	0	0.00	6	100.00	6	8.097	0.231 (not significant)
		2	2	33.33	4	66.67	6		
		3	2	40.00	3	60.00	5		
		4	2	50.00	2	50.00	4		
		5	0	0.00	4	100.00	4		
		6	1	25.00	3	75.00	4		
		8	1	100.00	0	0.00	1		
4	Education of the mother	NO FORMAL EDUCATION	1	50.00	1	50.00	2	2.542	0.468 (not significant)
		PRIMARY EDUCATION	7	30.43	16	69.57	23		
		GRADUATION & ABOVE	0	0.00	2	100.00	2		
		HIGHER SECONDARY	0	0.00	3	100.00	3		
5	Occupation	HOMEMAKER	8	32.00	17	68.00	25	2.182	0.336 (not significant)
		SELF EMPLOYEE	0	0.00	4	100.00	4		
		GOVERNMENT EMPLOYEE	0	0.00	1	100.00	1		
6	Type of family	NUCLEAR	5	27.78	13	72.22	18	1.307	0.520 (not significant)
		JOINT	3	33.33	6	66.67	9		
		EXTENDED	0	0.00	3	100.00	3		
7	Religion	HINDU	5	23.81	16	76.19	21	0.292	0.864 (not significant)
		CHRISTIAN	1	33.33	2	66.67	3		
		MUSLIM	2	33.33	4	66.67	6		
8	Previous knowledge regarding feet & hand massage therapy on level of ache	Yes	6	26.09	17	73.91	23	0.017	0.896 (not significant)
		No	2	28.57	5	71.43	7		
9	If yes specify	FAMILY	1	7.69	12	92.31	13	9.598	0.022 (significant)
		BOOK	0	0.00	4	100.00	4		
		TELEVISION	6	60.00	4	40.00	10		
		INTERNET	1	33.33	2	66.67	3		

Significance level of 0.05.

Significance level of 0.05.

Table No. : Shows that Correlation of initial Pain Perception level with If yes specify the chi square p value found to be 0.022 it is significant the level of 0.05.and Correlation of initial Pain Perception level with Age in years, Marital age in years, Marital duration years,

Education of the mother, Work status, Family category, Spiritual belief system Prior awareness regarding feet & hand massage therapy on level of pain, the chi square p value found to be 0.716, 0.248, 0.231, 0.468, 0.336, 0.520, 0.864, and 0.896 respectively, it is no significant the level of 0.05.

Table No-10 Determine the relationship between the initial Pain Perception levels with clinical profile of C-section Mothers in comparison group.

Sr. No	Demographic and social factors	Category	Pre -test Levels of pain				Total	Chi square value	p value
			Moderate		Severe				
			F	%	f	%			
1	Parity	Primary	5	27.78	13	72.22	18	0.497	0.481(not significant)
		Multi	2	16.67	10	83.33	12		
	How many	One	5	27.78	13	72.22	18		0.481(not

2	children	Two & above	2	16.67	10	83.33	12	0.497	significant)
3	Type of pain	Mild	0	0	0	0	0	30.000	0.000(not significant)
		Moderate	7	100.00	0	0.00	7		
		Sever	0	0.00	23	100.00	23		
4	Frequency of pain	More frequent & regular pain	7	25.93	20	74.07	27	1.014	0.314(not significant)
		Strong & closer	0	0.00	3	100.00	3		

* Significance level of 0.05.

And relationship between baseline Pain Perception and parity, How many children, Frequency of pain, the chi square p value found to be 0.481, 0.481 and 0.314 respectively, it is no significant the level of 0.05.

Table No-11: Shows that relationship between baseline Pain Perception and Type of pain the chi square p value found to be 0.000 it is significant the level of 0.05.

Table No-12. Examine the correlation of initial Pain Perception levels with clinical profile of Post Caesarean Mother in experimental group.

N=30

Sr. No	Socio demographic variables	Category	Pre- test Levels of pain				Total	Chi square value	p value
			Moderate		Severe				
			f	%	f	%			
1	Parity	Primary	2	20.00	8	80.00	10	0.341	0.559 (not significant)
		Multi	6	30.00	14	70.00	20		
2	How many children	One	2	22.22	7	77.78	9	0.130	0.719(not significant)
		Two & Above	6	28.57	15	71.43	21		
3	Type of pain	Mild	0	0	0	0	30.000	0.000(Significant)	
		Moderate	8	100.00	0	0.00			8
		Sever	0	0.00	22	100.00			22

4	Frequency of pain	More Frequent & Regular Pain	5	25.00	15	75.00	20	0.085	0.770 not significant)
		Strong & Closer	3	30.00	7	70.00	10		

* Significance level of 0.05.

Table No-13: Shows that Association of Pain Perception before treatment in the comparison group with Type of pain the chi square p value found to be 0.000 it is significant the level of 0.05.

Additionally, the relationship between baseline Pain levels Perception with parity, How many children, Frequency of pain, the chi square p value found to be 0.559, 0.719 and 0.770 respectively, it is no significant the level of 0.0

Implications

For Nursing Practice

- Nurses can incorporate massage therapy as a part of routine postnatal care to manage pain effectively among post-caesarean mothers.

For Nursing Education

- Nurse educators should include non-pharmacological pain management strategies in the nursing curriculum.
- Educational programmes should focus on enhancing awareness regarding pain perception and self-care practices among postnatal mothers.

For Nursing Administration

- Nurse administrators should organize workshops and training programmes to empower nursing staff with knowledge and skills related to alternative pain management methods.
- Adequate resources should be allocated for manpower, materials, and logistics to implement massage therapy programmes in both urban and rural healthcare settings.

For Nursing Research

- Additional research is required to explore innovative strategies and the long-term effects of massage therapy in diverse healthcare settings.
- Continuous education and research initiatives should be encouraged to keep pace with advancements in maternal pain management.

Proposed Measures

- Drawing from the findings of the study, the following measures are suggested:
- Conduct similar studies with a larger sample size to enhance the generalizability of the findings.
- Undertake comparative studies in different geographical regions and healthcare settings.
- Employ more rigorous experimental designs, such as randomized controlled trials, to improve the validity of the outcomes.
- Explore and implement additional innovative approaches to improve maternal comfort and well-being after caesarean section.

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