

# Knowledge Assessment on Foot Reflexology as a Non-Pharmacological Pain Management Strategy among Post-Operative LSCS Mothers

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## Abstract

**Introduction:** Caesarean section is a surgical procedure often carried out to protect the health and lives of both mother and baby. A major issue faced by women in post-LSCS is pain. Foot reflexology is a complementary therapy known for being safe, simple, non-invasive, and effective in managing pain.

**Methodology:** The study adopted a non-experimental, descriptive research design. It was conducted at Swamy Vivekanandha Medical College Hospital and Research Institute, Namakkal District. Using purposive sampling, 60 post-LSCS mothers were selected. A structured questionnaire was employed to assess their knowledge regarding the effectiveness of foot reflexology in pain management.

**Results:** Findings revealed that 42 participants (70%) had inadequate knowledge, 18 (30%) had moderate knowledge, and none demonstrated adequate knowledge about the use of foot reflexology for post-LSCS pain. **Discussion:** The discussion is based on data analysed using descriptive and inferential statistics. The study's objectives guided the interpretation. Chi-square analysis revealed a significant relationship between knowledge levels and variables such as education and occupation at the 5% level. However, other variables including age, religion, and family income, type of family, place of residence, pregnancy history, and number of children were not statistically significant.

**Conclusion:** Overall, mothers' knowledge regarding the use of foot reflexology for pain relief following LSCS is lacking. It is essential for healthcare professionals to take steps to enhance awareness and understanding of this pain management technique.

**Keywords:** Foot reflexology, Knowledge, Pain, Post LSCS mothers.

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## 1. INTRODUCTION

Lower Segment Caesarean Section (LSCS) is a widely performed surgical procedure to ensure safe childbirth in conditions where vaginal delivery may pose risks to the mother or baby. Postoperative pain following LSCS is a common concern, as it may hinder early ambulation, breastfeeding initiation, maternal bonding, and recovery (1,2). Effective postoperative pain management is therefore a critical component of postpartum care.

Conventional pharmacological methods, although effective, are associated with adverse effects such as drowsiness, nausea, and delayed bowel movements. Moreover, some mothers express concerns about medication use due to potential effects on the new-born, especially during breastfeeding (3,4). This highlights the need for non-pharmacological and complementary therapies that are safe, cost-effective, and holistic.

Foot reflexology, a complementary and alternative therapy (CAT), is based on the principle that specific points on the feet correspond to organs and systems in the body. Stimulation of these reflex points through gentle pressure is believed to promote relaxation, reduce stress, and alleviate pain by improving circulation and stimulating the nervous system (5,6). It is non-invasive, easy to administer, and can be used safely alongside conventional treatments.

### Need for the Study

Several studies have reported the effectiveness of foot reflexology in reducing pain, fatigue, anxiety, and stress among postoperative patients, including those undergoing caesarean delivery (7-9). A randomized controlled trial found that women who received foot reflexology after caesarean section reported significantly lower pain scores compared to those receiving standard care alone (10). Additionally, reflexology has been associated with improved psychological well-being and satisfaction with care (11,12).

The rate of caesarean deliveries in India has shown a notable increase, rising from 17.2% to 21.5% between 2016

and 2021. The prevalence is particularly high in the private healthcare sector, where caesarean sections accounted for 43.1% of all deliveries in 2016 and rose to 49.7% by 2021—indicating that almost one in every two deliveries is performed via C-section in private institutions (13). Inadequate management of postoperative pain can lead to significant morbidity among surgical patients. Poorly controlled pain may delay physical recovery, impair the resumption of daily activities, and contribute to prolonged hospital stays and reduced patient satisfaction (14).

Despite the benefits, knowledge and awareness about reflexology among postnatal mothers—especially in rural and semi-urban settings like Namakkal District—remain limited. Cultural beliefs, lack of exposure to alternative therapies, and inadequate health education contribute to underutilization of such techniques (15, 16). Assessing knowledge levels in this context is vital to identify gaps and to design targeted educational interventions.

This study is significant because it not only evaluates the knowledge of post-LSCS mothers regarding foot reflexology, but also emphasizes the potential role of nurses and midwives in promoting evidence-based complementary therapies for better maternal outcomes. By enhancing awareness and integrating reflexology into routine postpartum care, healthcare providers can empower women with safe, effective, and holistic options for managing postoperative discomfort (17).

### **Problem Statement**

A Study to Assess the Knowledge Regarding Foot Reflexology on Post-Operative Pain among Post LSCS mothers in selected hospital at Namakkal district.

### **Objectives**

- To assess the knowledge regarding foot reflexology on postoperative pain among post LSCS mothers.
- To associate the level of knowledge among post LSCS mothers with their selected demographic variables

### **Assumptions**

- Post-operative pain is a common post-operative complication in LSCS mothers.
- Foot reflexology helps to reduce post-operative pain

### **Delimitations**

This study included only post LSCS mothers between the ages of 21 to 35 years and underwent caesarean section.

## **METHODOLOGY**

### **Research Approach:**

Quantitative Non Experimental Research Approach was used

### **Research Design**

Descriptive Research Design

### **Setting**

Selected Hospital at Namakkal

### **Population**

LSCS Mothers

### **Sample**

Mothers who underwent LSCS at Swamy Vivekanandha Medical college Hospital and Research Institute, Namakkal Dt and who fulfilled the Inclusion criteria.

### **Sample Size**

60

### **Sampling Technique**

Purposive Sampling Technique

### **Criteria for Sample Selection**

#### **Inclusive Criteria**

Post LSCS Mothers with

Age group between 21 to 35 years

Given consent to participate in this study

Present during the period of data collection

#### **Exclusive Criteria**

Post LSCS Mothers with

Decline to participate in the study  
Who can't understand Tamil or English

#### Data Collection Tool:

Tool consists of 2 parts.

#### Part 1:

**Socio demographic variables :** It consists of 10 items which include Age, Religion, Education status, Occupation of mother, Family monthly income, Residence, Type of family, Gravida, Number of children, Source of information regarding foot massage

#### Part 2:

This consist of structured questionnaire to determine the knowledge regarding Foot Reflexology among post LSCS mothers

#### Data Collection Procedure:

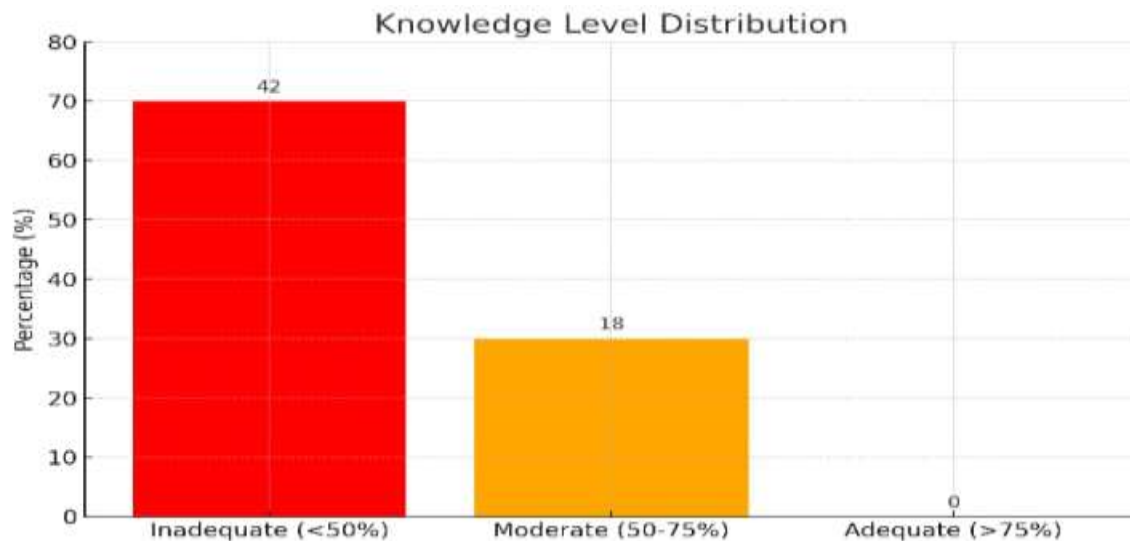
Ethical permission was obtained from the concern hospital before carrying out the study . Informed consent was taken from all the participants included in the study.

## RESULTS & DISCUSSION

**Table No 1: Frequency distribution of Participants' Characteristics** N=60

S.No	Demographic Variables	Frequency	Percentage
1.	<b>Age in Years</b>		
	a) 19 - 25	25	41.7 %
	b) 26 - 30	12	20.0 %
	c) 31 - 35	23	38.3 %
2.	<b>Religion</b>		
	a) Hindu	40	66.7 %
	b) Christian	13	21.7 %
	c) Muslim	07	11.6 %
3.	<b>Educational Status</b>		
	a) Profession	05	08.3 %
	b) Graduate or Postgraduate	19	31.8 %
	c) Intermediate	11	18.3 %
	d) High School	20	33.3 %
	e) Middle School	05	08.3 %
	f) Primary School	0	
4.	<b>Occupation of Mother</b>		
	a) Profession	09	15.0 %
	b) Semi-Profession	06	10.0 %
	c) Clerical, Shop owner, farmer	04	06.7 %
	d) Skilled worker	11	18.3 %
	e) Semi-skilled Worker	07	11.7 %
	f) Unemployed	23	38.3 %
5.	<b>Family Monthly Income</b>		
	a) Rs. 10,000 - 15,000	35	58.3 %
	b) Rs. 15,001 - 20,000	16	26.7 %
	c) Rs. 20,001 - 25,000	09	15.0 %
6.	<b>Residence</b>		
	a) Urban	26	43.3 %
	b) Rural	34	56.7 %
7.	<b>Type of family</b>		

	a) Joint Family	20	33.3 %
	b) Nuclear Family	40	66.7 %
8.	<b>Gravida</b>		
	a) Primi	26	43.3 %
	b) Multi	34	56.7 %
9.	<b>Number of Children</b>		
	a) One	43	71.7 %
	b) Two	11	18.3 %
	c) Three	06	10.0 %
10.	<b>Source of information regarding foot massage</b>		
	a) Mass Media		
	b) Family members & Peer Group	05	08.3 %
	c) Health Professionals	15	25.0 %
	d) No Information	05	08.3 %
		35	58.4 %



**Figure 1: Level of knowledge on foot reflexology among LSCS Mothers**

Fig 1 showed that a majority of participants 42 ( 70%) had inadequate knowledge(scoring<50%) about foot reflexology,18 (30%) had moderate knowledge (scoring between 50-75%), and no one demonstrated adequate knowledge (scoring >75%). This highlights a critical need for awareness and educational interventions regarding non-pharmacological pain management techniques like foot reflexology, especially in post-operative maternal care. A similar study conducted by Shinde MB and Anjum S (2015) titled "Effectiveness of foot reflexology on post-operative pain among abdominal surgery patients" supports this observation. Their research demonstrated that patients who received reflexology therapy reported significantly reduced pain scores post-operatively. However, the study also noted the importance of educating both healthcare professionals and patients to maximize the benefits of such interventions. (18)

**Table 2: Association between level of knowledge on foot reflexology and their socio-demographic variables.**

S.No	Demographic Variables	Frequency				Chi Square
		F	%	F	%	
1.	<b>Age in Years</b>					
	d) 19 - 25	19	32	6	10	1.51 NS
	e) 26 – 30	8	13	4	7	

	f) 31 - 35	15	25	8	13	
2.	<b>Religion</b>					
	d) Hindu	28	47	12	20	2.35 NS
	e) Christian	9	15	4	7	
	f) Muslim	5	8	2	3	
		07				
3.	<b>Educational Status</b>					
	g) Profession	02	3	3	5	5.72*
	h) Graduate or Postgraduate	13	22	6	10	
	i) Intermediate	07	12	4	7	
	j) High School	15	25	5	8	
	k) Middle School	05	8	0	0	
	l) Primary School	0	0	0	0	
4.	<b>Occupation of Mother</b>					
	g) Profession	07	12	02	3	5.36*
	h) Semi-Profession	04	7	02	3	
	i) Clerical, Shop owner, farmer	02	3	02	3	
	j) Skilled worker	06	10	05	8	
	k) Semi-skilled Worker	05	8	02	3	
	l) Unemployed	18	30	05	8	
		0	0	0	0	
5.	<b>Family Monthly Income</b>					
	d) Rs. 10,000 – 15,000	27	45	08	13	3.13 NS
	e) Rs. 15,001 – 20,000	09	15	07	12	
	f) Rs. 20,001 – 25,000	16	10	03	5	
6.	<b>Residence</b>					
	c) Urban	12	20	14	23	0.26 NS
	d) Rural	30	50	4	7	
7.	<b>Type of family</b>					
	c) Joint Family	14	23	06	10	2.21 NS
	d) Nuclear Family	28	47	12	20	
8.	<b>Gravida</b>					
	c) Primi	19	32	07	12	3.13 NS
	d) Multi	23	38	11	18	
9.	<b>Number of Children</b>					
	d) One	34	57	09	15	0.49 NS
	e) Two	08	13	03	5	
	f) Three	0	0	06	10	
10.	<b>Source of information regarding foot massage</b>					
	e) Mass Media	03	5	02	3	0.17 NS
	f) Family members & Peer Group	07	12	02	3	
	g) Health Professionals	03	5	02	3	
	h) No Information	29	48	06	10	

(p&lt; 0.05 level of significance)

The Table 2 revealed that knowledge of post LSCS mothers on foot reflexology was influenced by the socio demographic variables of the post LSCS mothers such as education and occupation. There is no significant association between knowledge scores of mothers' with their Age, Religion, Family monthly income, Residence, Type of family, Gravida, Number of children and Source of information regarding foot massage. These findings are supported by the study of Joseph N et al. (2016), which emphasized that education and occupation significantly impact awareness and knowledge about complementary and alternative therapies among women. Their study highlighted that educated women and those working in healthcare or teaching sectors demonstrated better knowledge of alternative health interventions, including reflexology. (19). Another supporting study by Khonsari S et al. (2017) found that knowledge and attitude toward complementary therapies like reflexology were significantly associated with the participants'

education level, indicating that increased awareness often stems from academic exposure and professional environments. (20)

## CONCLUSION

The study concluded that 70% of post LSCS mothers had inadequate knowledge, 30% had moderate knowledge and no one was having adequate knowledge regarding Foot reflexology. The study result shows that there is a need of education for non-pharmacological pain management for LSCS mothers regarding foot reflexology. Enhancing awareness and knowledge among mothers may contribute to better pain management, reduce dependency on pharmacological agents, and improve maternal comfort and recovery in the post-operative period.

## SOURCE OF FUNDING

Nil

## CONFLICT OF INTEREST

Nil

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