

Study to Assess the Effectiveness of Foot Reflexology on Pain among Post Cesarean Mothers Admitted in Selected Hospitals of Shimla, District Shimla (H. P.)

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Abstract: Introduction: Pregnancy and birth are as ordinary and extraordinary as breathing thinking or loving. The most common way of childbirth is a vaginal delivery which is also called the natural process of child birth. But there is one more way of child birth that is known as cesarean section which is a surgical procedure. According to WHO, the cesarean section rate of above 15% has not been acceptable, where as in India the prevalence rate has been 18%. Clearly these rates are unacceptably high all over the globe. In 2012, about 23 million deliveries occurred by a surgical procedure called cesarean section. A common complain after caesarean section is the sensitivity of the scar itself. For instance it may hurt to lean over to pick up baby or may cause pain with lifting or other positional changes. The scarring can cause the adjacent muscles to develop trigger points that refer pain to areas like the clitoris or urethra. Aim: The main aim of the study was to assess the effectiveness of foot reflexology on pain among post - cesarean mothers. Methods and materials: A quasi - experimental non - randomized control group design was used for the study. Total 60 post - cesarean mothers (30 in experimental and 30 in control group) who were admitted in Kamla Nehru Hospital for Mother & Child, Shimla and Deen Dayal Upadhyay Hospital, Shimla, Himachal Pradesh were selected to take part in the research. The sampling technique used for the study was convenient sampling technique. Data was collected by using numerical pain rating scale. Foot reflexology has been provided to the experimental group once a day for 3 consecutive days from 1st post operative day for 10 minutes and control group receives routine post - operative care. Results: The study results shows that foot reflexology was effective in terms of reducing pain among post - cesarean mothers. Conclusion: The study findings showed that there was significant reduction of the post interventional score in the experimental group than the control group.

Keywords: Foot reflexology, Pain, Post - cesarean mothers, Cesarean section, Effectiveness

1. Introduction

Pregnancy or birth are ordinary and extraordinary as breathing, thinking and loving. Motherhood is the greatest role of women.¹ The most common way of childbirth is a vaginal delivery which is also called the natural process of child birth. But there is one more way of child birth that is known as cesarean section which is a surgical procedure. At global level the rate of cesarean section is on the rise.²

According to WHO, the cesarean section rate of above 15% has not been acceptable, where as in India the prevalence rate has been 18%. Clearly these rates are unacceptably high all over the globe.² In the last 25 years there has been a steady increase in the rate of cesarean births, from 5.5% in 1970 to approximately 25% in 1995. This increase has occurred as result of changes in the management of several factors, including malpresentation or fetal distress, prior cesarean section or dystocia.³

A C - section can be a life saving intervention if medically indicated, but this procedure can lead to short - term or long - term health effects for women and children.⁴ Poorly controlled pain following non - emergent caesarean section occurs in between 13% to 78% of women.⁵ Abdominal wound and back pain can continue for months after a caesarean section. Mothers after normal vaginal delivery takes approximate 4 - 6 weeks for recovery and mothers

after cesarean section will recover in approximate 6 - 10 weeks.⁶

A national survey showed that more than 1500 women who delivered by C - section reported that incisional pain was a major problem (25% of the time), and a major or minor problem (83% of the time).⁷ The scarring can cause the adjacent muscles to develop trigger points that refer pain to areas like the clitoris or urethra.⁸ There are several pharmacological methods to control pain and anxiety, but in recent years, there are several studies have been done on non - pharmacological methods of pain management.⁹

Two of the widely accepted non - pharmacological methods are reflexology (a form of foot massage that targets points on the foot which are believed to corresponds with body parts) and simple massage therapy.⁹ Reflexology, also called as Zone therapy, is an alternative medicine in which there is the application of pressure to feet and hands with thumb, finger and hand techniques without the use of oil and lotion. It is based on pseudoscientific system of zone or reflex areas that purportedly reflect an image of the body on feet and hands, with the premise that such work effects a physical change to body.¹⁰

The purpose of massaging is to assist the treatment procedures by affecting the locomotors system and the nervous system as well as cardiovascular system. Massaging

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results in a variety of comforts such as general relaxation in the body, deep breath, resting and drowsiness. The relatively unspecialized nerve cell endings that initiate the sensation of pain are called nociceptors; these are sensory receptors that send signals of pain and are generally located at the surface of internal tissue and beneath the skin, densely in hands and feet. Therefore, applying foot massage is considered to be a significantly appropriate method in pain reduction.¹¹

Several studies indicate that reflexology may reduce pain and psychological symptoms, such as stress and anxiety, and enhance relaxation and sleep.¹² Reflexology is based on a principle that, hands and feet are made up of zones which reflect the different organs, body parts and systems, known as reflex areas. By stimulating these reflex areas, most commonly using specific massage techniques can reduce stress and pain in the related parts of the body and promote general well-being by improving the circulation of blood and energy.¹³

2. Objectives

- 1) To assess pre-interventional level of pain among post-caesarean mothers admitted in selected hospitals of Shimla, district Shimla.
- 2) To assess post-interventional level of pain among post-caesarean mothers admitted in selected hospitals of Shimla, district Shimla.
- 3) To compare pre and post interventional level of pain in control and experimental group among post-caesarean mothers admitted in selected hospitals of Shimla, district Shimla.
- 4) To find out association of pain among post Caesarean mothers with selected demographic variables.

3. Methodology

In this study quantitative research approach and quasi-experimental research design were used to collect data from sample size 60 Post-caesarean mothers, 30 in control group and 30 in experimental group admitted in the selected hospitals of Shimla, H. P.

60 Post-caesarean mothers, 30 in control group and 30 in experimental group by convenient sampling technique and numerical pain rating scale was used to collect data. Tool consists of the following sections:

Section A: It comprises of demographic variables including age, religion, educational status, occupation, income of the family, type of family, residing area, nature of delivery, present status of the newborn, mode of previous delivery and number of previous deliveries.

Section B: Standardized Numerical pain rating scale to assess the level of pain among post-caesarean mothers. The content validity of the tool was determined by various experts in the field of Obstetrics & Gynaecology. Necessary modification was made according to expert's opinion.

Formal approval was taken from concerned authority prior to the study. Permission was taken from college authority that was research committee of SNGNC, I. G. M. C., Shimla

for research study. Permission was taken from the MS/NS of selected hospitals of Distt. Shimla (HP). Written consent was taken from study participants. Confidentiality of the information was maintained. Pre-test was considered and thereafter Foot reflexology was administered to the selected mothers once a day for 3 consecutive days at the same time after 4 hours of administration of analgesics from 1st post-operative day. After providing foot reflexology to the experimental group, on the 3rd day post test was conducted by using standardized numerical pain rating scale.

4. Results

The study findings showed that among 30 subjects in experimental group, 10% were found in age group of 19 - 23 years, 46.7% were found in age group of 24 - 28 years, 36.7% were found in age group of 29 - 33 years and 6.7% were in age group of >33 years. Among 30 subjects in control group, 13.3% were found in the age group of 19 - 23 years, 36.7% were found in the age group of 24 - 28 years, 36.7% were found in the age group of 29 - 33 years and 13.3% were in the age group of >33 years. Furthermore, as religion, in experimental group 60% were Hindu, 3.3% was Muslim, 26.7% were Sikh and 10% was Christian. In control group 83.3% were Hindu, 10% was Muslim and 6.7% were Sikh. As per educational status, in experimental group 3.3% had no formal education, 23.3% had primary education, 36.7% had secondary education and 36.7% have done graduation. In control group, 10% had no formal education, 43.3% had primary education, 30% had secondary education and 16.7% have done graduation. As per occupation, in experimental group, 66.7% mothers were housewives and 33.3% were working women. In control group, 83.3% mothers were housewives and 16.7% were working women. As per income of family, in experimental group, 30% were having income between 5001 - 10000, 23.3% were having income between 10001 - 15000 and 46.7% were having income >15000. In control group, 3.3% were having income <5000, 26.7% were having income between 5001 - 10000, 53.3% were having income between 10001 - 15000 and 16.7% were having income >15000. As per type of family, in experimental group 60% were living in nuclear family and 40% were living in joint family. In control group 33.3% were living in nuclear family and 66.7% were living in joint family. As per residing area, in experimental group 43.3% were from rural area and 56.7% were from urban area. In control group, 70% were from rural area and 30% were from urban area. According to the nature of delivery, in experimental group, 76.7% of mothers had term delivery and 23.3% of mothers had pre-term delivery. In control group, 66.7% of mothers had term delivery and 33.3% of mothers had pre-term delivery. As per the present status of the newborn, in experimental group 43.3% of mothers had healthy newborn, 56.7% of mothers had ill newborn. In control group, 33.3% of mothers had healthy newborn, 63.3% of mothers had ill newborn and 3.3% mother's newborn had died. According to the parity, in experimental group 56.7% mothers were primiparous, 36.7% were multiparous and 6.7% mothers were grand multiparous. In control group, 36.7% were primiparous, 50% were multiparous and 13.3% were grand multiparous.

The study findings of reveals that in experimental group pre - interventional mean pain score was 7.93 with standard deviation of 0.907 whereas in control group mean score was 7.77 with standard deviation of 1.006. Maximum pain score in experimental group was 9 and in control group was also 9. Minimum pain score in experimental group was 6 and in control group was 5. In experimental group range was 3 and mean percentage was 79.33%. in control group range was 4 and mean percentage was 77.67% respectively.

The study findings reveals that in experimental group post interventional mean of pain score was 2.93 with standard deviation of 1.258 whereas in control group mean score was 5.43 with standard deviation of 1.851. Maximum pain score obtained in experimental group was 3 and in control group was 8. Minimum pain score in experimental group was 1 and control group was 2. In experimental group median score found to be 3, range was 4 and mean percentage was 29.33%. In control group median score, range and mean percentage were 5.5, 6 and 54.33% respectively.

Table 1: Comparison within the groups with paired t - test and comparison between the groups with unpaired t – test, N=60

		PAIN Score				Paired T Test			
		Pretest		Posttest		df	T	p value	Result
Group	N	Mean	SD	Mean	SD				
Experimental Group	30	7.93	0.907	2.93	1.258	29	18.730	<0.001	Significant
Control Group	30	7.767	1.006	5.43	1.851	29	6.318	0.0000	Significant
Unpaired T Test		df	58		df	58			
		T	0.674		T	6.119			
		p value	0.5031		p value	<0.001			
		Result	Non Significant		Result	Significant			
		Maximum = 10 Minimum = 0							

Table 4.17 depicted that by using paired t - test, it was found that there is significant change in post interventional pain score of experimental group with t value 18.730 at degree of freedom 29 which is significant at the 0.05 level of significance.

By using unpaired t - test it was found that there was no significant difference between pre interventional pain score of experimental and control group at t value of 0.674 with degree of freedom 58 but there is significant difference in post interventional level of pain between experimental and control group at t value 6.119 with degree of freedom 58.

5. Conclusion

The study was conducted to assess and evaluate the effectiveness of foot reflexology on pain among post cesarean mothers. There was a significant change in post interventional pain score of experimental group as comparison to the control group. Hence the study findings conclude that foot reflexology was effective to reduce pain among post - cesarean mothers.

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