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A STUDY TO ASSESS THE EFFECTIVENESS OF FOOT REFLEXOLOGY AS COMPLEMENTARY THERAPY ON PAIN AMONG POST CAESAREAN MOTHERS ADMITTED IN POSTNATAL WARD AT SELECTED TERTIARY CARE HOSPITAL, VADODARA

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ABSTRACT

Background: The increasing rate of caesarean deliveries has led to an increased incidence of post-caesarean pain. Despite advances in understanding the pathophysiology of pain and developing new analgesics for post-caesarean pain, pharmacological management is limited, complementary therapy can be used along with actual management. Reflexology is a complementary therapy that has been shown to be effective in reducing pain. As it is thought to activate the pituitary and hypothalamus and reduce pain by boosting endorphin release. Therefore foot reflexology need as a complementary therapy among post caesarean mothers. **Aim:** This study aimed to determine the effect of foot reflexology on pain among post-caesarean mothers. **Material and method:** A quasi experimental research design with an evaluative approach was used to select 40 post cesarean mothers in experimental group and 40 post cesarean mothers in control group by using non probability purposive sampling technique. To assess the effectiveness of foot reflexology on pain among post cesarean

mothers in both groups the experimental group had received foot reflexology for 10 minutes on each foot. Foot reflexology was applied to 5 different pressure points. Each pressure point was utilized for 2 min. Three technique of reflexology .i. e direct pressure for 40 sec, pressure and release for 40 sec; clockwise massage for 40 sec was applied for each pressure point. The data was collected among post caesarean mothers admitted in post natal ward at tertiary care hospital, by using numerical pain rating scale. **Result:** It has beenfound that there was a significant effect of foot reflexology on post cesarean pain among the experimental group as the calculated 'p' value is less than 0.05 level. **Conclusion:** This study conducted that the foot reflexology as complementary therapy is effective on reduction of pain among post caesarean mothers.

Keywords: foot reflexology, pain, complementary therapy, effectiveness, post caesarean mothers

INTRODUCTION

'Motherhood comes in moments. There will be hard times and frustrating times. But amid the challenges, there are shining moments of joy and satisfaction'. The journey of pregnancy, labour, birth and all the physiological and psychosocial changes inherent in the process, are intended to build the foundation for women's ability to give their child **[1]**. The process of the birth of a child is called delivery or labour. This experience shapes how mother will construct appropriate self-efficacy, positive feelings for the new-born, and as mother amendment to be a mother as properly as the background ride for future births **[2]**. This central event in any woman's life withers a vaginal delivery or surgical shipping via caesarean section has the closing aim of preserving the mother's existence and safely giving birth to her child **[3, 4]**.

A foetus can be delivered via vaginal delivery, assisted vaginal delivery and Caesarean section **[5]**. A caesarean section is an operative procedure whereby the foetus is delivered through an incision on the abdominal and uterine wall **[6]**. Post caesarean Pain has two mechanisms, somatic and visceral. Somatic pain coming up from neural receptors inside the abdominal wound has both curvaceous and deep compounds. Visceral uterine neural stimuli are conveying pain. Pain seriously interferes with early and also late functional recovery **[7]**. Analgesic use is limited by fetal drug transfer, and postoperative analgesics given to the mother have the potential for transfer to the breastfeeding neonate.

Nursing care for post-caesarean pain is challenging since women are expected to resume their maternal responsibilities for the new-borns almost immediately after the operation **[8]**. Complementary therapies work by stimulating the body's natural healing processes, reducing inflammation,

and promoting relaxation, which can help reduce post Caesarean pain [9]. reflexology is a complementary therapy that is used to treat a variety of ailments, including post-operative discomfort and pain. It is thought to activate the pituitary and hypothalamus and reduce pain by boosting endorphin release [10].

Reflexology is essentially to find out about of how one part of the human body relates to another part of the body. Reflexology practitioners provoke the reflexes map of the feet and arms to all the internal organs and other human body parts. They accept as true with that by means of applying the suitable pressure and massage certain spots on the feet and hands, all different physique components should be energized and rejuvenated [11].

MATERIALS AND METHODS:

Quantitative research approach was used. Quasi–Experimental research design was used in this study. The study was conducted at post-natal ward in selected tertiary care hospital, Vadodara. The target population for this study consisted of post caesarean mothers admitted in post-natal ward at selected tertiary care hospital, Vadodara. The sample for the present study comprises of 80 post caesarean mothers, 40 post caesarean mothers in experimental group and 40 post caesarean mothers in control group. Non-probability purposive sampling technique was used to select the sample for

this study. Tool for the data collection consist of two sections. First section include socio demographic and maternal variables such as age (in years) of the mother, education, monthly family income (in Rupees), types of family, gestational age (in weeks), Number of gravida, Number of parity. Section 2: content related to post caesarean pain assessment. That include Numerical pain rating scale was used to assess pain. The Data collection period was three weeks. The investigator was certified in foot reflexology under an authorized trainer the investigator had collected data for six days in a week Participants inform consent was taken from the participants. They were assured that no physical or emotional harm would be done in the course of the study. Data pertaining to the socio-demographic and maternal variables were collected by interview method. The pre-test was conduct for 10 min. The investigator had used numerical pain rating scale for assessing post caesarean pain. The scale is most commonly anchored by "no pain" and "worst pain". And the mother was asked to place a line at the point that represented their pain intensity in both experimental and control group. Following by pre-test the intervention which is foot reflexology had given for experimental group, and control group had received normal hospital routine care, foot reflexology was not given

to the control group. The intervention had been given for total 20 min to each participant of experimental group. Foot reflexology was applied to 5 different pressure points on each foot. Each pressure point was utilized for 2 min. Three technique of reflexology .i. e direct pressure for 40 sec, pressure and release for 40 sec; clockwise massage for 40 sec was applied for each pressure point. Post-test were taken for 3 times.1st post-test at immediate after intervention, 2nd post-test at 60 min and 3rd post-test at 90 min after intervention by using numerical pain scale in both groups. The data were analysed by descriptive and inferential statistics. Frequency and percentage distribution were used to describe the socio demographic and maternal data. Mean, mean percentage and standard deviation were used to describe level of post caesarean pain. Paired 't'test 'p' value, 'f' value was used to assess the Effectiveness of foot reflexology on pain among post caesarean mothers in experimental group. Unpaired 't'test was used to compare the post-test level of pain score among post caesarean mothers of experimental and control group. Chi – square was used to determine association between post-test level of pain score among post caesarean mothers with socio-demographic and maternal variables in experimental and control group.

RESULTS:

Table 1 depicts that according to age of post caesarean mothers, majority ware below 30 years in both groups. Regarding education of post caesarean mothers majority had primary education in both group. As per monthly income of post caesarean mothers, majority 24(60%) had 10,000-20,000 Rs in both groups. With regard to type of family of post caesarean mothers maximum was living in joint family. According to gestational age of post caesarean mothers, majority had 38-40 weeks of gestational age. As per Number of gravida maximum post caesarean mothers were primi gravida in both experimental and control group. Regarding Number of parity majority post caesarean mothers were primi Para mothers.

Table 2, Depicts that the difference in pre-test and post-test mean pain score in experimental group was compared by using paired t-test. Which shows it was statistically highly significant at p<0.01 level. An ANOVA (F-test) was conducted to determine whether the observed difference in mean was statistically significant. The observed F value 203.66 was higher than that of table value at 0.05 and it is inferred that there was a statistical significance at degree of freedom 39 and result was found highly significant at p value <0.001.

Table 1: Shows Frequency and percentage distribution of socio demographic and maternal variables in Experimental and control group

S. No	Socio demographic Variables	Experimental Group (n=40)		Control Group (n=40)	
		F	%	F	%
1.	**Age(in years)**				
	a. Below 30	36	90	31	77.5
	b. Above 30	4	10	9	22.5
2	**Education**				
	a. No formal education	2	5	0	0
	b. Primary	24	60	28	70
	c. Secondary	14	35	11	27.5
	d. Higher secondary	0	0	1	2.5
	e. Graduation and above	0	0	0	0
3	**Monthly family income (in Rs)**				
	a. < 10,000	16	40	6	15
	b. 10,000-20,000	24	60	32	80
	c. 20,001-30,000	0	0	2	5
	d. Above 30,000	0	0	0	0
4	**Type of family**				
	a. Joint family	30	75	19	47.5
	b. Nuclear family	10	25	21	52.5
	c. Extended family	0	0	0	0
	Maternal variables				
5	**Gestational age (in weeks)**				
	a. 37 completed	6	15	0	0
	b. 38-40	31	77.5	40	100
	c. Above 40	3	7.5	0	0
6	**Number of gravida**				
	a. Primi gravida	25	62.5	15	37.5
	b. Multi gravida	12	30	23	57.5
	c. Grand multigravida	3	7.5	2	5
7	**Number of parity**				
	a. Primi Para	27	67.5	17	42.5
	b. Multi Para	12	30	21	52.5
	c. Grand multipara	1	2.5	2	5

Table 2: Effectiveness of foot reflexology on pain among post caesarean mothers in experimental group.
N=40

Experimental Group	Mean	SD	Mean D	't' value	df	'p' value
Pre-test	7.62	0.952				
Post-test 1	6.18	0.903	1.46	13.53	39	0.001*
Post-test 2	5.08	0.971	2.55	12.80	39	0.001*
Post-test 3	2.90	0.672	4.72	26.94	39	0.001*
F value	F=203.66					
Df	df=3					
P value	P= 0.001*					

*p<0.05 level of significance

Table 3: Compare the post-test level of pain score among post caesarean mothers of experimental and control group

Comparison	Experimental group		Control group		Mean difference	't' value	df	'p' value
	Mean	SD	Mean	SD				
Post-test 1	6.18	0.903	7.80	0.823	1.62	8.415	78	0.001*
Post-test 2	5.08	0.971	7.80	0.823	2.72	13.54	78	0.001*
Post-test 3	2.90	0.672	6.48	0.816	3.57	21.39	78	0.001*

DISCUSSION

Based on the objectives

The first objective of the present study was to assess the pretest level of pain score among post caesarean mothers of experimental and control group.

In experimental group result shows that in pre-test majority 34(85%) post caesarean mothers had severe pain and 6(15%) post caesarean mothers had moderate pain, and no post caesarean mother had mild pain. In control group result shows during pretest majority 37(92.5%) post caesarean mothers had severe pain, 3(7.5%) post caesarean mothers had moderate pain and no post caesarean mother had mild pain.

The second objective was to evaluate the Effectiveness of foot reflexology on pain among post caesarean mothers in experimental group.

Findings reveals that in pre-test mean pain score was 7.62and SD was 0.952which was reduced in mean pain score in the 1st post test mean pain score was 6.18 and SD was 0.903, in the 2nd post test mean pain score was 5.08and SD was 0.971 and in 3rd post test mean pain score 2.90 and SD was 0.672 with mean difference of 1.46, 2.55 and 4.72 respectively. The difference in pre-test and post-test mean pain score in experimental group was compared by using paired t-test. Which shows it was statistically highly significant at p<0.01 level. An ANOVA (F-test) was conducted

to determine whether the observed difference in mean was statistically significant. The observed F value 203.66 was higher than that of table value at 0.05 and it is inferred that there was statistical significance at degree of freedom 39 and result was found highly significant at p value <0.001.

The third objective was to compare the posttest level of pain score among post caesarean mothers of experimental and control group.

the comparison of the post-test level of pain score among post caesarean mothers of experimental and control group was tested by using unpaired t test findings revealed that in the 1st post-test of experimental group mean pain score was 6.18and SD was 0.903and in control group mean pain score was 7.80and SD was 0.823with mean difference of 1.62 with obtained 't' value was 8.415, df was 78 which was statistically highly significant at p<0.01 level. in the 2nd post test of experimental group mean pain score was 5.08and SD was 0.971and in control group mean pain score was 7.80 and SD was 0.823with mean difference of 2.72 with obtained 't' value was 13.54 and df was 78 which was statistically highly significant at p<0.01 level. in the 3rd post test of experimental group mean pain score was 2.90and SD was 0.672and in control group mean pain score was 6.48and SD was 0.816with mean

difference of 3.57 with obtained 't' value was 21.39 and df was 78 which was statistically highly significant at p<0.01 level.

The fourth objective was to find out the Association between post-test level of pain score among post caesarean mothers with socio-demographic variables in experimental and control group.

chi square test was done to find the association between post-test levels of pain score among post caesarean mothers with selected socio-demographic variables. in experimental group Result showed that age, education, monthly family income, type of family, gestational age, Number of gravida and Number of parity of post caesarean mothers were not significant association as the p>0.05. in control group Result showed that age, education, monthly family income, type of family, gestational age, Number of gravida and Number of parity of post caesarean mothers were not significant association as p> 0.05 level.

Summary

The goal of this study was to evaluate the effectiveness of foot reflexology as a complementary therapy on pain among post caesarean mothers. The study used a non-probability purposive sampling method and a quasi-experimental two group pre-test post test design. 80 samples were chosen based on inclusion and exclusion criteria,

with 40 samples going into the experimental group and 40 samples going into the control group. Both descriptive and inferential statistics were utilized for the analysis of the data, which was designed based on the study's aims and hypothesis. Tables and graphs are used to interpret the data. The findings revel a statistically significant impact of foot reflexology on post caesarean pain.

CONCLUSION

According to the study's findings, using foot reflexology as a complementary therapy to treat post caesarean pain was successful. Foot reflexology can help post caesarean mothers feel more comfortable and are both affordable and non-pharmacological management. It might therefore be simply implemented as a regular intervention.

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