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A Quasi experimental study to evaluate the effectiveness of hand and foot massage on level of pain perception among post caesarean mothers in CIMS Hospital, at Bilaspur, Chhattisgarh

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Abstract

Caesarean section is the most frequently performed surgery in the world. In Chhattisgarh and Tamil Nadu, however, the prevalence of C-sections only varied by 4.9% and 3.5% respectively depending on the number of ANC visits. The non pharmacological pain relief method is a good option for the obstetric nurse to manage post-caesarean pain.

So, to know which alternative therapy is more effective for treatment and management of post caesarean pain. Therefore the researcher had choosen this study i.e. "A Quasi experimental study to evaluate the effectiveness of hand and foot massage on level of pain perception among post caesarean mothers in CIMS Hospital, at Bilaspur, Chhattisgarh." Study was undertaken as a partial fulfillment of requirement for the degree of Master of science in Obstetric and Gynecological Nursing. It was done by Ms. Shraddha Pal from Pt. Deendayal Upadhyay Memorial Health Science and Ayush University of Chhattisgarh, Raipur Chhattisgarh.

Objective

1. To assess the pain among post caesarean mothers in experimental group.
2. To assess the pain among post caesarean mother in control group.
3. To evaluate the effectiveness of hand and foot massage on pain perception among post caesarean mothers in experimental group.
4. To find out the association between pain perception among post caesarean mothers with their selected socio-demographic variables in experimental and control group.

Conclusion: The main study was conducted in CIMS, Bilaspur, Chhattisgarh (post-natal ward) and purposive sampling was done. The sample size was 100, i.e. 50 for experimental group and 50 for control group were selected. Data collection was analyzed by an paired 'Z' test which reveals that the pre-test post caesarean pain in experimental group was (X = 7.64, SD = 1.12) as the control group was (X = 6.98, SD = 0.88) and obtained 'Z' = 9; whereas, in the post- test mean pain perception in experimental group (X =5.48, SD =1.11) were compare to control group (X = 6.54, SD = 0.9) and obtained 'Z' = 4; which indicated that there was significant difference in reduction pain perception of experiment then control group.

comparison of post test level of pain perception among post caesarean mothers in experimental and control group the 'Z' value between control and experimental group calculated value is 5.35 in experimental group was highly significant. Hence H1 and H2 was accepted.

This study concluded that the hand and foot massage is effective in reducing the level of pain perception among post caesarean mothers

Keywords: Hand and foot massage, pain perception, Post caesarean Mothers

Introduction

Caesarean section is the most frequently performed surgery in the world. These are common than most surgeries due to many factors, one factor is certain, that nearly 50% of world population are women and pregnancy is still a common condition. A Caesarean section is a surgical procedure in which incision is made through a mother's abdomen and uterus to deliver one or more babies, or rarely, to remove a dead fetus. A caesarean section is usually performed when a vaginal delivery would put the baby's or mother's life or health at risk, although in recent times it has been also performed upon request for childbirths that could otherwise have been natural. It has now become increasingly the procedure of choice in high-risk pregnancies, to prevent perinatal morbidity and mortality.

In that hand and foot massage is one of the cheapest and cost-effective methods to reduce pain among post-cesarean mothers. Foot and hand massage stimulates the nerve fibers to produce pain-relieving endorphins.

Comparing with all the non pharmacological methods of pain relief for post-cesarean mothers, foot and hand massage has the potential benefits in relief of pain, and it is effective, inexpensive, low risk, and easily applied massage technique for post-cesarean pain management.

Need of the study: The prevalence of caesarean sections increased across India, Tamil Nadu and Chhattisgarh despite a decrease in pregnancy complications among the study participants. At the all-India level, those who visited ANCs more than 4 times had nearly double the rates of caesarean section (29.2% in NFHS) as those who did not visit at all (15.9%). In Chhattisgarh and Tamil Nadu, however, the prevalence of C-sections only varied by 4.9% and 3.5% respectively depending on the number of ANC visits.

The incidence of caesarean section is steadily rising. In the last few decades, the caesarean section rates have increased dramatically in the developed countries. Thirty-two percent of all births in the United States occur by Caesarean section. The operations have been increasing steadily; and have become the most common surgery in American hospitals. I found that many of the postnatal mothers, after a caesarean section suffered from pain. The researcher also noticed that most of the mothers were not able to own care and baby also because of increased pain after caesarean section. Physiological responses to pain create harmful effects that prolong the body's recovery after surgery. Patients routinely report mild to moderate pain even though pain medications have been administered. So, I felt there is a need to conduct the study regarding pain management after caesarean section.

Statement of problem

"A quasi experimental study to evaluate the effectiveness of hand and foot massage on level of pain perception among post caesarean mothers in CIMS Hospital, at Bilaspur, Chhattisgarh."

Objective

1. To assess the pain among post caesarean mothers in experimental group.
2. To assess the pain among post caesarean mother in control group.
3. To evaluate the effectiveness of hand and foot massage on pain perception among post caesarean mothers in experimental group.
4. To find out the association between pain perception among post caesarean mothers with their selected socio-demographic variables in experimental and control group.

Hypothesis

- **H_1:** There will be significant difference between pre test and post test level of pain perception among post caesarean mothers in experimental group and control group.
- **H_2:** There will be significant association between pre test level of pain perception among post caesarean mothers with their selected socio-demographic variables in experimental group and control group.
- **H_0:** There will be no significant difference between pre test and post test level of pain perception among post caesarean mothers in experimental group and control group.

Operational definition

Evaluate: In this study it refers to the statistical measurement of pain perception among post caesarean mothers in experimental group after hand and foot massage.

Effectiveness: In this study it refers to the extent to which hand and foot massage technique reduces the pain perception among post caesarean mothers as measured by numerical pain intensity scale.

Hand and Foot Massage

In this study it refers to manipulation of hand and foot of the post caesarean mothers by stroking, effleurage, pulling, squeezing and arch press by both palms of the investigator for 5 minutes in each extremities, adding to a total of 20 minutes for a day after 2 hours of administration of pain medication.

Pain: In this study it refer to a subjective feeling that is experienced by mothers from the day of caesarean section and first two days of hospitalization and is assessed by using numerical pain intensity scale.

Post caesarean Mothers: In this study it refers to both primigravida and multigravida mothers who have undergone elective caesarean section.

Inclusive criteria

This study is limited to-

- Mothers who undergone caesarean section with spinal anesthesia after 4 hours of surgery.
- Willing to participate in the study.
- Did not get any analgesics before hand and foot massage for at least 2 hours.
- Mother who are follow the instruction.

Exclusion criteria

- Mothers who are not willing to participate in the study.
- Post caesarean mothers who have any associated post caesarean complication.

- Not able to provide the data of the study.
- The participants move out at the time of study.

Research Design
The study design selected for this study was quasi experimental research design. The present study tends to measure the effectiveness of hand and foot massage on level of pain perception among post Caesarean mothers.

Setting of the study
The present study was conducted in post natal ward of CIMS Hospital, Bilaspur, Chhattisgarh. The criterion for selecting this setting was feasibility for conducting the study, availability of the samples and familiarity of the research investigator with the setting.

Population of the study
In this study population is post caesarean mother with pain perception.

Development of Instrument
The tool was used under two sections.

Section-A: Socio-demographic variables
The structured interview schedule was used to collect sociodemographic variables such as age in year, postnatal days, history of previous caesarean section, types of anaesthesia, parity.

Section-B: Numerical Pain Intensity Scale
It consists of Numerical Pain Intensity Scale to assess the pain among post caesarean mothers.

Scoring Criteria
Criteria measure used in this study as follows:

Table 1: Total score of pain perception was determined by no, mild, moderate and severe pain as follows:

Score	Level of pain
0	No Pain
1-3	Mild Pain
4-6	Moderate Pain
7-10	Severe Pain

Data Collection Method
The investigator introduces self and explain the purpose and confidentiality to the post caesarean mothers and planned the schedule for collecting the data.

Exp. Group: on 1st day pre test assessment of pain perception was done on post caesarean mothers, followed by the hand and foot massage for 2 consecutive day and post test was conducted on 2nd day of administration.

Cont. Group: on 1st day pre test assessment of pain perception will be done on post caesarean mothers, followed by the routine treatment continue for 2 consecutive day and post test was conducted on 2nd day of administration.

Data Analysis
The plan of data analysis was worked out with the expert in the field of statistics and nursing.

The steps for analysis
- The data will be organize in master sheet and tabulated.
- Data will be analyzed using descriptive and inferential statistics.
- The data will be organize in master sheet and tabulated.
- Using window excel sheet data were obtain.
- Frequency and percentage distribution of post caesarean mothers according to socio demographic variables.
  a. Experimental group (hand and foot massage)
  b. control group (routine treatment)

- Mean, mean percentage, standard deviation were used to analyse pre-test on pain perception of post Caesarean Mothers in experimental group and control group.
- Comparison of mean, mean percentage, standard deviation and mean difference were used to analyse post-test on pain perception of post Caesarean Mothers in experimental group and control group.
  a. Experimental group - 1 (hand and foot massage)
  b. Experimental group – 2 (routine treatment)

Section A: Description of socio demographic variables offer post caesarean mothers in control group and experimental group.

Section B: Assessment of the level of pain perception among post cesarean mothers in control group and experimental group.

Section C: Assessment of effectiveness of hand and foot massage on level of pain perception among post caesarean mothers in experimental group and control group.

Section D: To compare the post test level of pain perception among post caesarean mothers in experimental group and control group.

Section E: Data on association association between pre test level of score with their selected socio demographical variable among post caesarean mothers in experimental group and control group.

Description of socio demographic variables of post caesarean mothers in control group and experimental group

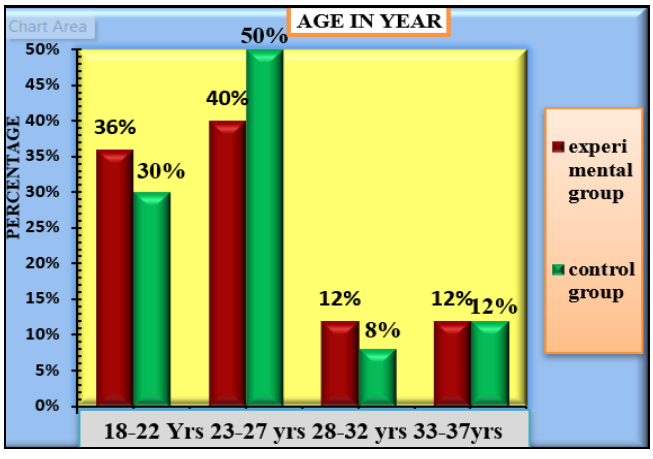

Fig 1: Analysis level of pain perception

Table 2: Distribution of Subject According to age in year

Age In Year	Experimental Group		Control Group	
	F	%	F	%
18-22 Year	18	36%	15	30%
23-27 Year	20	40%	25	50%
28-32 Year	6	12%	4	8%
33-37 Year	6	12%	6	12%
Total	50	100%	50	100%

Section B

Table 3: Assessment of the level of pain perception among post cesarean mothers in control group and experimental group

Level Of Pain Perception	Experimental Group				Control Group			
	Pre Test		Post Test		Pre Test		Post Test	
	F	%	F	%	F	%	F	%
No Pain	3	6	9	18	0	0	1	2
Mild Pain	9	18	22	44	11	22	8	16
Moderate Pain	22	44	17	34	24	48	26	52
Severe Pain	16	32	0	0	15	30	13	26

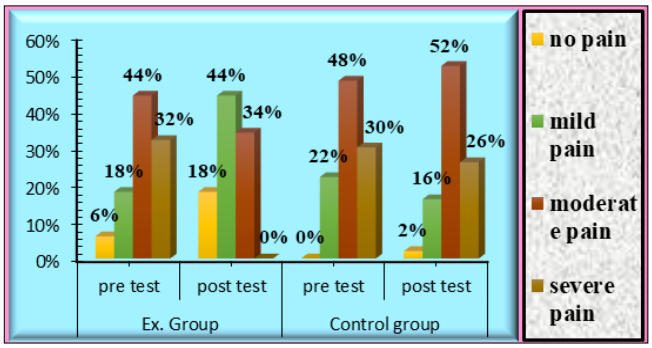

Fig 2: Assessment of pain perception

Section C (I)

Table 4: Among post caesarean mothers in experimental group by total Mean, Mean percentage, SD, and 'Z' test of pre and post level of pain perception in experimental group.

Pain Perception among post caesarean mothers in experimental group						
Experimental Group	N	Mean	Mean %	SD	'Z' Test	Inference
pre test	50	7.64	76.4%	1.12	9	$p<0.05$ Highly significant
post test	50	5.48	54.8%	1.11		

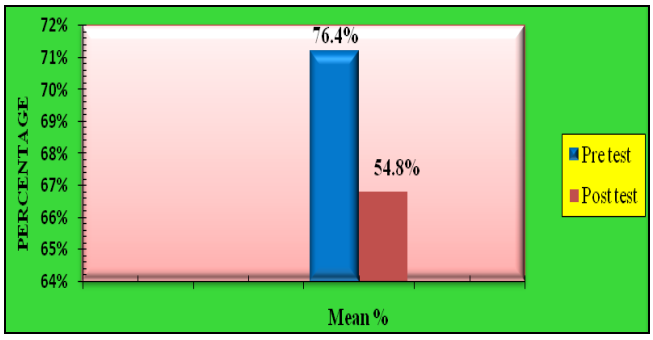

Fig 3: Mean Percentage of Experim Ental group

Section C (II)

Analysis level of pain perception among post caesarean mothers in control group by total Mean, Mean percentage, SD, and 'Z' test of pre and post level of pain perception in control group.

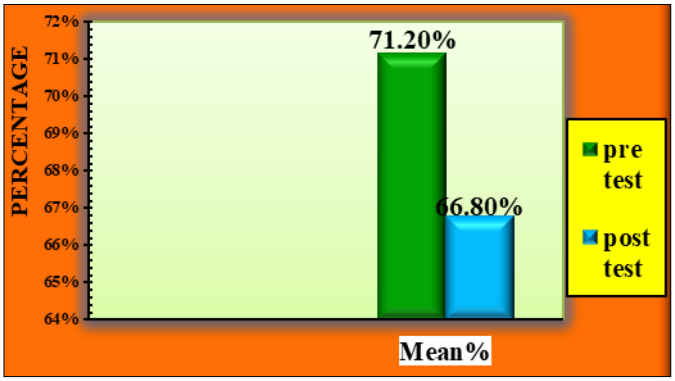

Fig 4: Mean Percentage of control group

Table 5: Pain Perception among post caesarean mothers in control group

Control Group	N	Mean	Mean %	SD	'Z' Test	Inference
pre test	50	6.98	71.20%	0.88	4	$p<0.05$ significant
post test	50	6.54	66.80%	0.9		

Section D

Comparison of Post Test Level of Pain Perception Among Post Caesarean Mothers in Experimental and Control Group.

Table 6: Pain Perception Among Post Caesarean Section

Post test	N	Mean	SD	Mean difference	'Z' Test	Inference
Experimental Group	50	5.48	1.11	1.06	5.35	$p<0.05$ Highly significant
Control Group	50	6.54	0.9			

Section E

Association between score of (post-test) level of pain perception among post caesarean mothers in experimental and control group with selected socio demographic variables

There was no association found between Age and post-test level of score the i.e. 2.08 was less than the table value of chi square (16.9) at 0.05 level of significance.

There was association found between postnatal days and post-test level of score the i.e. 7.89 was greater than the table value of chi square (7.81) at 0.05 level of significance.

There was association found between parity and post-test level of score the i.e. 8.36 was greater than the table value of chi square (7.81) at 0.05 level of significance.

There was no association found between history of previous C- section and post-test level of score the i.e. 4.66 was less than the table value of chi square (7.81) at 0.05 level of significance.

Association between score of (post-test) level of pain perception among post caesarean mothers in control group with selected socio demographic variables

There was no association found between Age and post-test level of score the i.e. 6.89 was less than the table value of chi square (16.9) at 0.05 level of significance.

There was no association found between postnatal days and

post-test level of score the i.e. 6.93 was less than the table value of chi square (7.81) at 0.05 level of significance.
There was no association found between parity and post-test level of score the i.e. 5.53 was less than the table value of chi square (7.81) at 0.05 level of significance.
There was no association found between history of previous C- section and post-test level of score the i.e. 4.66 was less than the table value of chi square (7.81) at 0.05 level of significance.
In control group showed that there is no association between post test level of pain perception with selected socio demographic variables.
In experimental group on applying, the chi-square test socio demographic variable "post natal days and parity" were significantly associated with the post test level of pain perception in the experimental group. The χ^2 value of "post natal days" was 7.89 and "parity" was 8.36 greater than the table value (7.81) at 0.05 degree of freedom. Hence H2 i.e. there is a significantly association between the post test level of pain perception in the experimental group with "post natal days and parity" is accepted.

Conclusion

The present study assessed pain perception among post caesarean mothers with standardized tools and found that the mean percentage obtained from experimental group the pre-test was (76.4%) and in post-test was (54.8%) while in the control group the pre-test was (71.20%) and in post test (66.80%) with the standard deviation in experimental group in pre-test (1.12) and in post-test (1.11). This showed that experimental group is significant in decrease the score of pain perception. This shows the effectiveness of hand and foot massage on reduction of pain.

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