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Effectiveness of Zone therapy on Pain among Post Caesarean Mothers

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ABSTRACT

AIM: A study to assess the effectiveness of Zone therapy on pain among post caesarean mothers in selected hospital at Mangaluru.

OBJECTIVES:

- To determine the pain among post caesarean mothers using Numerical Pain Rating Scale in experimental and control group.
- To find the effectiveness of Zone therapy on pain among post caesarean mothers in experimental group.
- To find the association between post-test score among experimental group and selected demographic variables.

METHODOLOGY: Quantitative research method with Quasi -experimental design was used for this study. A total of (40) sample are assigned as experimental (20) and control(20) group were selected using non probability purposive sampling technique. Data collection was done using Demographic Performa and Numeric Pain rating scale. Formal written permission was obtained from the authorities prior to the data collection process. The data was analyzed by using both descriptive and inferential statistics on the basis of objectives and hypothesis of the study.

RESULT: The mean post-test pain score (2.95±0.825) were less than that of mean pre- test pain score (8.55±0.604) in the experimental group. The findings revealed that the calculated 't' value (15.41) was greater than the table value (t_{19}=2.09) at 0.05 level of significance. In experimental group the mean post-test pain score (2.95±0.825) was less than that of the control group (4.6±0.97). Unpaired 't' test was used ,the findings revealed that the calculated unpaired 't' value (7.5) was greater than the table value (t_{38}=2.02) at 0.05 level of significance. Hence, the researcher concludes that Zone therapy is effective in reducing the post caesarean pain.

Keywords: Zone therapy, Post Caesarean Mothers.

INTRODUCTION/BACKGROUND

"The pains of child birth were all together different from the enveloping effects of other kinds of pain. These were pains one could follow with one's mind"

- Margaret Mead

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Caesarean section (C.S) is the birth of foetus through a trans-abdominal incision in the uterus. It is one of most common surgical procedure worldwide. It has played a major role in lowering both maternal and perinatal morbidity and mortality rates during the past century. The initial purpose of the operation was to preserve the life of the mother with obstructed labor and her newborn [2].

A recent study from the National Family Health Survey 2014-15 (NFHS-4) reveals that at the all India level the rate of CS have doubled over the last decade, while in last 20 years, it has risen six times. Some states like Telangana, Tripura, West Bengal, Kerala, Karnataka, Goa, Andhra Pradesh and Tamil Nadu it has been increased. However, the increasing influence of non-medical factors for performing CS is a growingconcern[3].

Moreover, post caesarean section incision pain is defined as an unpleasant sensory and emotional experiencing arising from actual or potential tissue damage. Pain includes not only the perception of an uncomfortable stimulus but also the response to that perception[7].

Additionally, pain management post caesarean section is necessary for mothers and medical reasons. Good pain relief improves mobility and woman's ability to breastfeed and care for her infant. Opioid drugs are routinely administered for post caesarean section pain but it has the common side effects of dizziness, drowsiness, headache, nausea, insomnia, vomiting and weakness. And there is concern for opioid transmission to the neonate through breastfeeding, so the reduction of opioid use is desirable [9]

Massaging can stimulate large nerve fibers and dermatome layers which are tactile and pressure receptors. The receptors subsequently transmit the nerve impulse to the central nervous system. The gate control system of brain in the dorsal horn is activated through the inhibitory interneurons, thus closing the gate. Subsequently, the brain does not receive the pain message.

Zone therapy appears to be effective inexpensive, low risk, flexible and easily applied strategy for post operative pain management. Its also been recognized as a non-drug treatment for postoperative pain[1]. It has been shown importance to reduce stress, improve blood circulation, decrease pain, enhance sleep, reduce swelling, promote relaxation, decrease doses of analgesics and increase oxygen capacity of the blood.

MATERIALS AND METHODS

Hypothesis

The hypothesis will be tested at 0.05 level of significance:

- **$H_1$1:** There will a significant difference between pre and post test score among post caesarean mothers in the experimental and control group.
- **$H_1$2:** There will be a significant difference in the post-test scores between experimental and control group.
- **$H_1$3:** There will be significant association between post-test score among experimental group with selected baseline variables.

Research Approach: Evaluative research approach

Research Design: Quasi –experimental research design, Time-series design

Variables

Independent variables: In this study, Zone therapy as a intervention is administered to post cesarean mothers is the independent variable.

Dependent variables: In this study dependent variable is the pain among post cesarean mothers.

Settings: The study was conducted at Government Lady Goshen Hospital, Mangaluru.

Sample and sample size: 40 post caesarean mothers, (20) experimental group and (20) control group from selected hospital in Mangaluru.

Sample technique: Non-probability sampling

Inclusion criteria

Postnatal mothers:

- who can understand Kannada and English.
- Who are in 2nd or 3rd postoperative day.
- Willing to participate in study
- Who are available during the time of data collection

Exclusion criteria

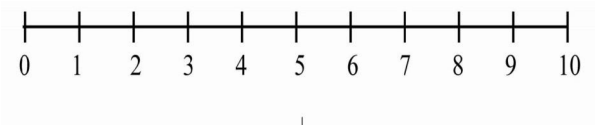
Postnatal mothers:

- Already exposed to zone therapy.
- Suffering from any complication like heavy blood loss, vomiting, confusion, drowsiness, severe constipation and deep vein thrombosis.

Data collection technique and tools

Part A: Demographic variables as age, religion, educational status, occupational status, types of family, parity, history of previous caesarean section, previous knowledge on zone therapy.

Part B: Numerical Pain Rating Scale



Numeric pain rating scale

Score interpretations

- 0 indicate no pain
- 1 to 3 indicates mild pain
- 4 to 6 indicates moderate pain
- 7 to 10 severe pain

Data collection procedure

- PHASE 1: Pre-test phase: It was conducted by collecting baseline data followed by administration of Numeric pain rating scale for the experimental and control group.
- PHASE 2: Intervention phase: The investigator administered Zone therapy to the experimental group for 20 minutes each day, before 2hrs prior to the administration of analgesics, for five consecutive days.
- PHASE 3: Post-test phase: Post test of experimental group was done each day after 30 minutes of the episode of Zone therapy for 5 consecutive days by using Numerical pain rating scale. In control group the post-test was done each day for 5 consecutive days by using Numeric pain rating scale.

FINDINGS

The data were analyzed under the following headings

- **Part I**: Description of demographic characteristics of sample.
- **Part II**: Assessment of pre-test score among post caesarean mothers in experimental and control group.
- **Part III**: Effectiveness of Zone therapy.
- **Section A**: Comparison of pre-test and post-test score of experimental group.
- **Section B**: Comparison of pre-test and post-test score of control group.
- **Section C**: Comparison of post-test score of experimental and control group.
- **Part IV**: Association between post-test score among experimental group with selected demographic variables.

Part I: Description of demographic characteristics of sample.

Findings shows that majority (45%) of the participants were in the age group of 26-30yrs, Majority (60%) of the sample belonged to Hindu religion, among participants most (40%) had went till primary schooling, (60%) of the participants are daily wage workers, highest percentage (40%) participants belongs to nuclear family. Majority (62.5%) mothers are multipara, (40%) of participants had previous history of caesarean section and none were having the knowledge regarding Zone therapy.

Part II: Assessment of pre-test score among post caesarean mothers in experimental and control group

Table 1: Frequency and percentage distribution of pain among post caesarean mothers in E.G and C.G

Level of pain	*Range of score*	*E.G*		*C.G*	
		F	*%*	*f*	*%*
No pain	0	-	-	-	-
Mild pain	1-3	-	-	-	-
Moderate pain	4-6	-	-	-	-
Severe pain	7-10	20	100%	20	100%

N=20

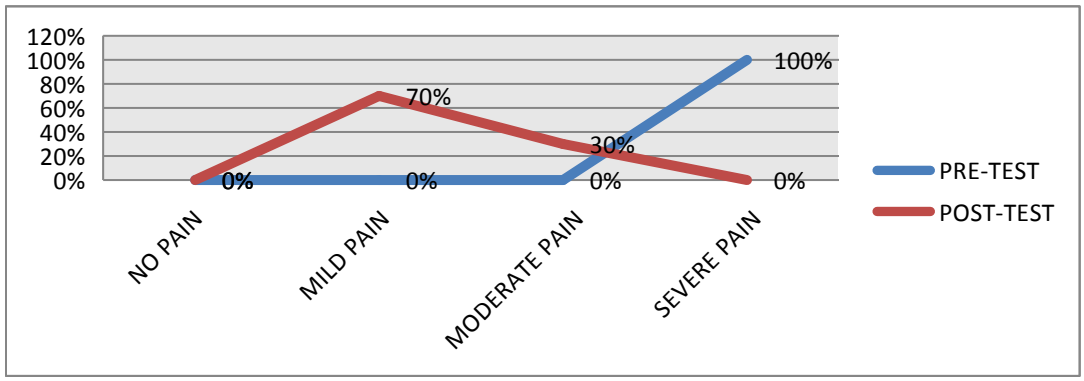


Fig. 1: Line with markers diagram showing pre-test and post-test pain in experimental group

Table 2: Mean, Median and SD of pre-test and post-test pain score in experimental group

n=20

Test	*Mean*	*Median*	*S.D*
Pre-test	8.55	9	0.604
Post-test	2.95	3	0.825

Data in the table 1 shows that after the survey highest percentage (100%) of post caesarean mothers in both the group had severe pain.

Part III: Effectiveness of Zone therapy.

Section A: Comparison of pre-test and post-test score of experimental group.

Data in the figure 1 shows that in the experimental group all (100%) of post caesarean mothers had severe pain in the pre-test whereas in the post-test (70%) of them had mild pain and (30%) of them had moderate pain.

Here the data shows that in experimental group the mean post-test score(2.95±0.825) was less than that of pre-test score(8.55±0.604).

To compare the pre-test and post-test pain paired "t" test was used. In order to test

Table 3: Mean, S.D, mean difference and "t" value of pre-test and post-test pain score in experimental group

N=40

Test	*Mean score*	*S.D*	*Mean difference*	*t-value*
Pre-test	8.55	0.604	5.6	15.41
Post-test	2.95	0.825		

the statistical significance the following null hypothesis was stated.

- **$H_0$1:** There is no significant difference between pre-test and post-test pain score among post caesarean mothers in the experimental group.

Data in the table 3 shows that the mean post-test pain (2.95±0.825) was lower than mean pre-test pain (8.55±0.604). The calculated t-value (15.41) was greater than table value (t_{19}=2.09) at 0.05 level of significance. Hence the null hypothesis was rejected and research hypothesis is accepted.

Section B: Comparison of pre-test and post-test score of control group.

Data in the table 4 shows that all (100%) of post caesearan mothers had severe pain in

Table 4: Frequency and percentage distribution of sample according to the pain in control group.

n=20

Level of pain	*Range*	*Pre-test*		*Post-test*	
		f	%	f	%
No pain	0	-	-	-	-
Mild pain	1-3	-	-	8	40%
Moderate pain	4-6	-	-	12	60%
Severe pain	7-10	20	100%	-	-

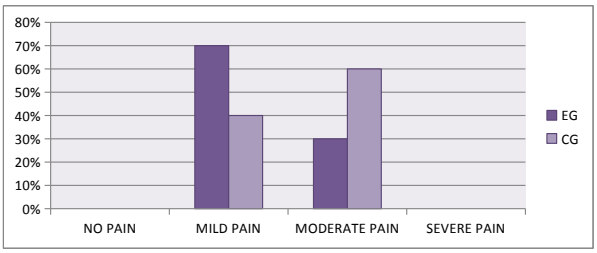


Figure 2: Clustered cylinder showing the post-test score of pain in experimental group and control group

pre-test and in post-test (40%) had mild pain and (60%) had moderate pain.

The data in table 5 shows that in control group the mean post-test score (4.6±0.97) was less than pre-test score (8.55±0.51)

Section C: Comparison of post-test score of experimental and control group.

Data in figure2 shows that in the experimental group 70% had mild pain and 30% had moderate pain in post-test, where as in control group 40% had mild pain and 60% of them had moderate pain.

The result shows that mean score of post-test pain (2.95) in experimental group after Zone therapy session was lower than the mean score of post-test pain (4.6) in control group. The calculated "t" value is (7.5) is greater than the table value (t_{38} = 2.02) at 0.05 level of significance. Hence the null hypothesis was rejected and research hypothesis was accepted. This shows that Zone therapy was effective in reducing the post caesearan pain.

Table 5: Mean, Median and S.D of pre-test pain score in control group

n=20

Test	*Mean*	*Median*	*S.D*
Pre-test	8.55	9	0.51
Post-test	4.6	4	0.97

Part IV: Association between post-test score among experimental group with selected demographic variables.

The result reveals that there is significant association between the post- test pain score among experimental group with demographic variables (i.e, age and previous knowledge regarding Zone therapy). Hence the null hypothesis is rejected and research hypothesis is partially accepted.

CONCLUSION

The pre-test reveals that all post caesarean mothers in both the group had severe pain. The post test findings reveals that the pain were lower than those of pre-test score in experimental group where as in control group there were slight reduction. The mean percentage of pain reduction supported that zone therapy were effective in reducing post-caesarean pain.

LIMITATIONS OF THE STUDY

- No attempt was made to assess the improvement in practice of zone therapy by post caesarean mothers.
- The duration of the study was limited to one month
- The study was confined to only 30 subjects in experimental and control group.
- The study was limited only to selected maternity hospital.

RECOMMENDATIONS

- A similar study can be carried out in a large scale with different demographic
- Variables to generalise the findings.
- A survey can be conducted to assess the prevalence of post caesarean pain among mothers.

- A comparative study can be conducted by comparing the Zone therapy and other alternative methods.
- A study can be performed to assess the effectiveness of foot reflexology on sleep and comfort on post caesarean mothers.

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SOURCE OF FUNDING: Self -funded project

CONFLICT OF INTEREST

The author declared no conflict of interest.

ETHICAL CLEARENCE

The ethical clearance of this study was obtained from institutional Ethical Committee (IEC).

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