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Effectiveness of hand and foot massage on pain reduction among post-caesarean mothers at selected hospitals of Hubballi, Dharwad

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Abstract

Objectives: To assess the level of pain among post-caesarean mothers in experimental group before hand and foot massage. To assess the level of pain among post-caesarean mothers in control group. To evaluate the effectiveness of hand and foot massage on level of pain among experimental group in terms of pain reduction. To find out an association between pre-test pain scores of experimental group with their selected socio-demographical variables. To find out an association between pre-test pain scores of control group with their selected socio-demographical variables.

Research design: A quasi-experimental; Pre-test post-test control group design was used to select 20 post-caesarean mothers, who were divided into two groups (experimental group & control group).

Tool: The demographic Proforma were collected using structured interview schedule & Modified McGill Pain Questionnaire to measure the level of pain. Data obtained in these areas were analysed using descriptive and inferential statistics.

Results: The results showed that, There was statistical difference in post-test and pre-test score regarding pain reduction among post-caesarean mothers in experimental group at 0.05 level of significance. There was statistical difference in the post-test score regarding pain among post-caesarean mothers in experimental group and control group at 0.05 level of significance. There was no significant association between pre-test pain score of both experimental and control group with their and selected demographic variables. This indicated that the post-test pain score of control group was greater than the experimental group who were exposed to Hand and Foot Massage.

Conclusion: Therefore, the study concluded that hand and foot massage was effective, in-expensive and easily applied strategy for reduction of pain among post-caesarean mothers.

Keywords: Complementary therapies, hand and foot massage, post-caesarean mothers, experimental and control group, quasi- experimental study

Introduction

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, would have been a natural delivery. It has now become increasingly the procedure of choice in high risk pregnancies, to prevent perinatal morbidity and mortality^[1]. National Family Health Survey-4 in 2017 shows- the number of caesarean section has more than doubled in the past decade, going up from 8.5% of the total births in 2005-06 to 17.2% in 2015-16^[2]. While the WHO recommends the rate of caesarean delivery to be 10-15%, the number was 17.2% for India during the period from Jan 2015 to Dec 2016. This is higher than the rate seen in rich countries such as the Netherlands and Finland. The report says that if this trend continues, India could soon have the largest number of caesarean section births in the world^[3]. In India the total number of caesarean section in Rural was 12.9% and in Urban it was 28.3%. In regard to the state, Karnataka the total number of caesarean section in Rural was 19.9% and in Urban it is 29.2%^[4]. Pain is one of the major discomforts which drives post-caesarean section mothers to seek help. Caesarean section does not eliminate the pain of labor, and neither has it eliminated the pain of delivery. Where as in case of C-section, it is easier to undergo but the after pain is much worse. The numbness around the incision and occasional aches and pain can last for several months^[5], this interferes with mother-infant interaction and health of the mother. But if the mother is comfortable that definitely would make breastfeeding and newborn care easier.

One of the major challenging issues in obstetric nursing is the management of post-caesarean pain. Alternative and complimentary therapies are commonly used treatment modalities in present days as it does not have side effects and also it is effective^[6].

Massage is one of the manual healing methods which come under CAM and one among that is hand and foot massage. Massage is a systematic and rhythmic form of touch, using certain manipulations of the soft tissues of the body in order to promote patients' comfort, well-being and pain relief. Foot and hand massage stimulates the nerve fibers to produce pain-relieving endorphins. Since the highest concentration of pain receptors are in the hands and feet (each of the extremities has more than 7,000 nerve endings), foot and hand massage and neurons' stimulation may be a good technique for assuaging pain and anxiety after cesarean section⁷. Massage is becoming a cost effective, non invasive approach to 'meaningful pain'.

A study results shows that the mean pre-test pain score among experimental group, was 6.50 and the mean post-test pain score was 3.60 with $t=6.51$ Significant at $P=0.001$ level. And the

mean pre-test pain score among control group was 6.13 and the mean post-test pain score was 5.53 with $t=1.26$ which is Not significant at $P=0.21$ level, indicated that the reduction in pain intensity was significant in intervention groups, as compared to control group^[6].

Literatures reveal that introducing complementary and alternative therapies such as hand and foot massage is an effective method to relieve pain among post-cesarean mothers. It is observed that the trials on hand and foot massage in Indian setting are very much limited, hence foot and hand massage appears to be an effective, inexpensive, low-risk, flexible, and easily applied strategy for post-cesarean pain management and this study be considered important in providing empirical evidence. Hence the above mentioned factors motivated the investigator to undertake the study.

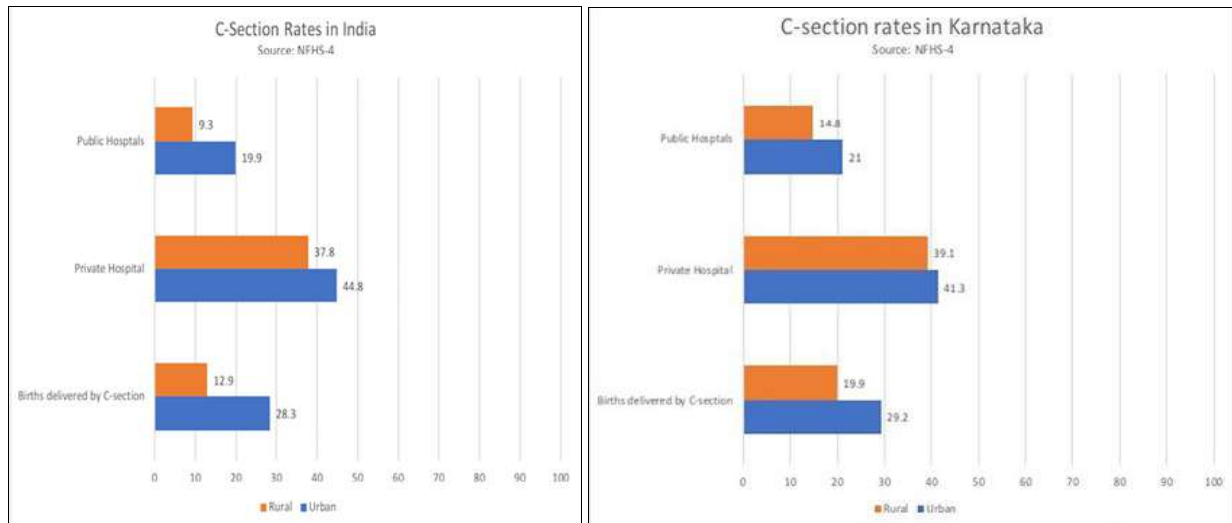


Fig 1: Source; National Family Health Survey-4 (2017)

Problem statement

“Effectiveness of hand and foot massage on pain reduction among post-caesarean mothers at selected hospitals of Hubballi, Dharwad”

Objectives of the study

1. To assess the level of pain among post-caesarean mothers in experimental group before hand and foot massage.
2. To assess the level of pain among post-caesarean mothers in control group.
3. To evaluate the effectiveness of hand and foot massage on level of pain among experimental group in terms of pain reduction.
4. To find out an association between pre-test pain scores of experimental group with their selected socio-demographical variables.
5. To find out an association between pre-test pain scores of control group with their selected socio-demographical variables.

Materials and Methods

- **Research Approach:** An evaluative approach was adopted.
- **Research design:** Quasi-experimental; Pre-test post-test control group design was selected for this study.
- **Research Setting:** Moon Maternity Hospital, Hubballi and Jyothi Memorial Hospital, Dharwad.
- **Sample size:** The sample size consists of 20 post-caesarean mothers, 5 were assigned to experimental group from Moon Maternity Hospital, Hubballi and 5 were assigned to control group from Jyothi Memorial Hospital, Dharwad.
- **Sampling Technique:** Non probability: convenient sampling technique was used to select subjects according to the sample selection criteria.

Criteria for sample selection:

The criteria for selection of samples in this study involves:-

Inclusive criteria:

- Are in 1st, 2nd and 3rd post-operative day
- Are willing to participate in the study.
- Can understand Kannada and English.

Exclusion criteria

Post-caesarean mothers who have any associated post-caesarean complications

Like: Infection, Surgical injury to bladder or intestines, Amniotic fluid embolism (Amniotic fluid or fetal material enters the maternal bloodstream), Inflammation of the uterus, Bleeding.

- **Tool:** structured interview schedule consists of questionnaire related to socio demographical variables and Modified McGill Pain Questionnaire to assess intensity of pain.

- **Procedure for data collection:** After obtaining verbal consent from the post-caesarean mothers, data was collected using structured interview schedule (Modified McGill Pain Questionnaire) every time for experimental and control group. The experimental group received Hand and Foot Massage for 5 min on each extremities, adding to a total of 20 minutes for, twice a day for first 3 days (morning and evening after 2 hours of administration of pain medication) using gingelly oil, and the pain was assessed after 60 min of intervention. No intervention was given to control group. Posttest was done using the same tool for experimental group and control group. The data were tabulated and analyzed manually.

Results

Section I: Pain score of post-caesarean mothers in both the groups.

Section A: Pain score of post-caesarean mothers Experimental Group.

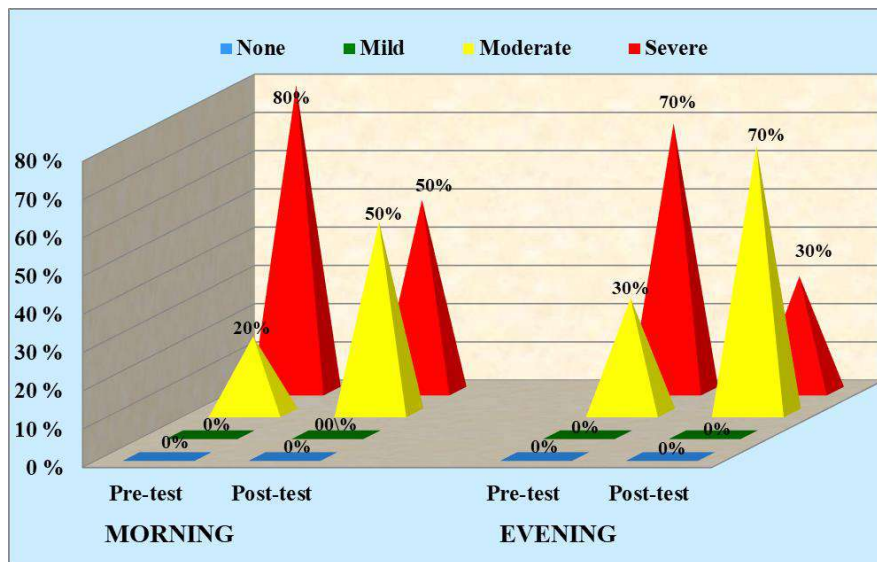


Fig 2: The pyramid graph represents the distribution of the subjects according to pain intensity level in experimental group.

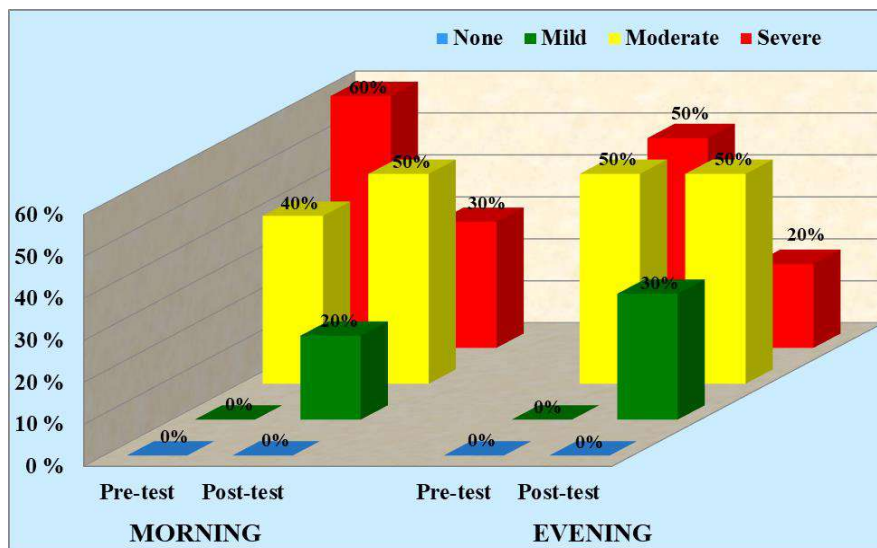


Fig 3: The pyramid graph represents the distribution of the subjects according to pain intensity level in experimental group.

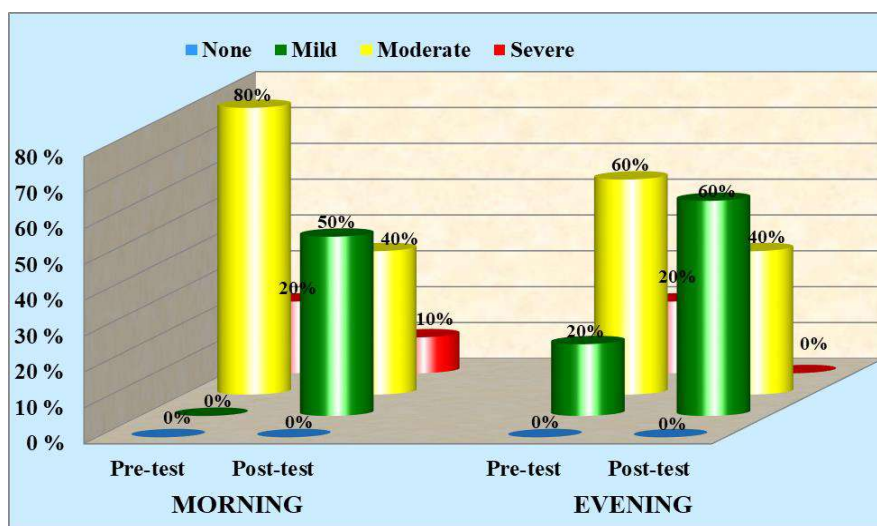


Fig 4: The pyramid graph represents the distribution of the subjects according to pain intensity level in experimental group.

Section B: Pain score of post-caesarean mothers in Control Group.

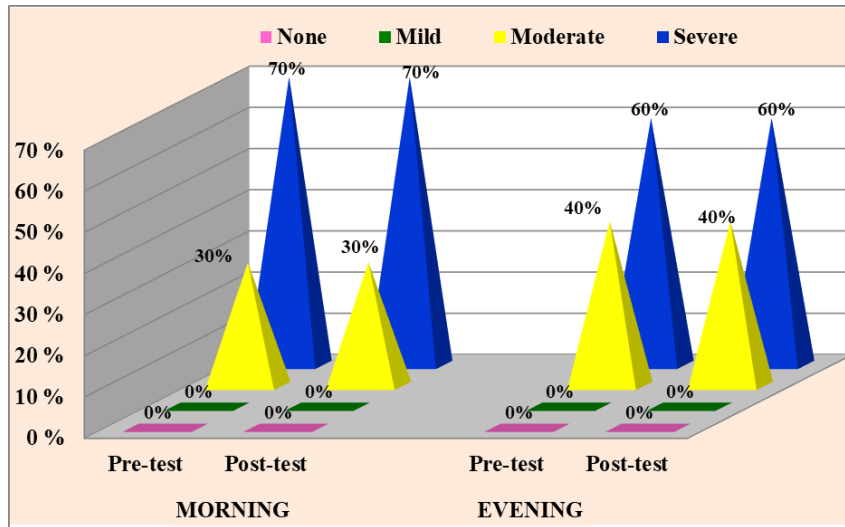


Fig 5: The pyramid graph represents the distribution of the subjects according to pain intensity level in control group.

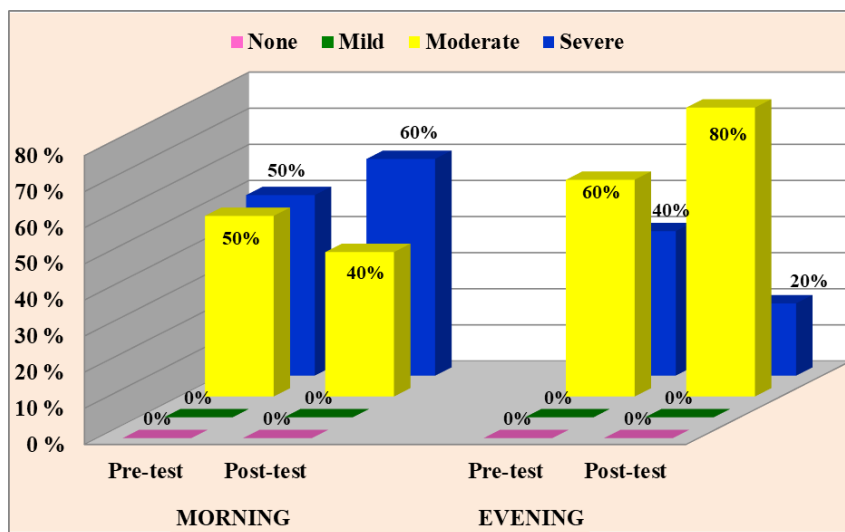


Fig 6: The pyramid graph represents the distribution of the subjects according to pain intensity level in control group.

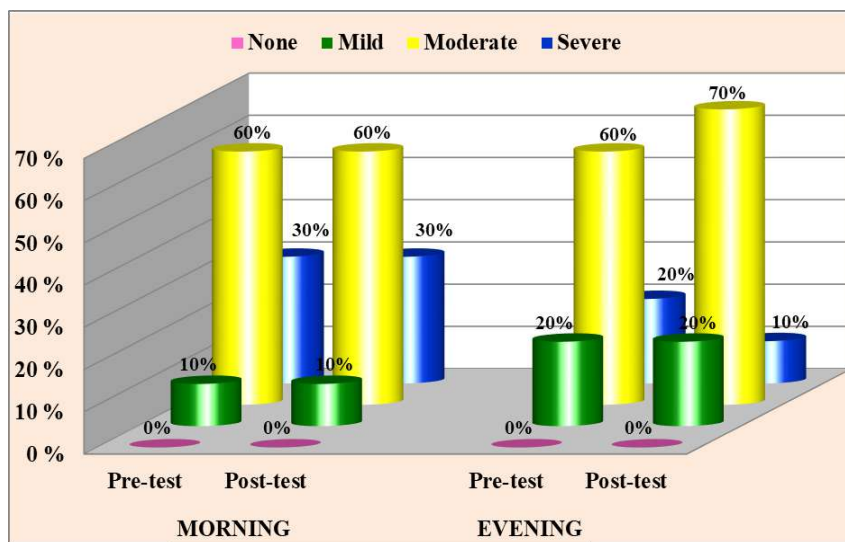


Fig 7: The pyramid graph represents the distribution of the subjects according to pain intensity level in control group.

Section II: Effectiveness of hand and foot massage in reducing pain among post-caesarean mothers. The findings revealed that there was a significant difference in post-test and pre-test score regarding pain reduction among post-caesarean mothers in experimental group at 0.05 level of significance. Day 1, Morning ($t_{cal} = 8.19$) was greater than the tabulated value

($t_{tab} = 2.26$). Evening ($t_{cal} = 6.15$) was greater than the tabulated value ($t_{tab} = 2.26$). Day 2, Morning ($t_{cal} = 6.72$) was greater than the tabulated value ($t_{tab} = 2.26$). Evening ($t_{cal} = 6.55$) was greater than the tabulated value ($t_{tab} = 2.26$). Day 3, Morning ($t_{cal} = 8.17$) was greater than the tabulated value ($t_{tab} = 2.26$). Evening ($t_{cal} = 7.35$) was greater than the tabulated value ($t_{tab} = 2.26$).

There was no statistical difference in post-test and pre-test score regarding pain reduction among post-caesarean mothers in control group, Day 1, Morning ($t_{cal}=0.72$) was lesser than the tabulated value ($t_{tab}=2.26$). Evening ($t_{cal}=1.95$) was lesser than the tabulated value ($t_{tab}=2.26$). Day 2, Morning ($t_{cal}=0.07$) was lesser than the tabulated value ($t_{tab}=2.26$). Evening ($t_{cal}=0.42$) was lesser than the tabulated value ($t_{tab}=2.26$). Day 3, Morning ($t_{cal}=0.43$) was lesser than the tabulated value ($t_{tab}=2.26$). Evening ($t_{cal}=1.38$) was lesser than the tabulated value ($t_{tab}=2.26$).

Section III: Comparison of post-test score regarding pain among post-caesarean mothers and unpaired 't' values of pain

Table 1: Mean, standard deviation, mean difference and unpaired 't' values of post-test score regarding pain among post-Caesarean mothers in experimental and control group $n_1+n_2=20$

| | Experimental group | | Control group | | Mean difference (d) | Standard error of difference (SED) | Unpaired 't' values | |
|--------------|--------------------|-------|---------------|-------|---------------------|------------------------------------|---------------------|-----------|
| | Mean | SD | Mean | SD | | | Calculated | Tabulated |
| Day 1 | | | | | | | | |
| Morning | 71.7 | 13.13 | 94.4 | 10.72 | 22.7 | 2.41 | 4.23 | 2.101 |
| Evening | 70.6 | 10.30 | 90.6 | 10.04 | 20 | 0.26 | 4.39 | 2.101 |
| Day 2 | | | | | | | | |
| Morning | 60.5 | 18.63 | 88 | 9.06 | 27.5 | 9.56 | 4.19 | 2.101 |
| Evening | 52.5 | 18.19 | 84.6 | 8.69 | 32.1 | 9.50 | 5.03 | 2.101 |
| Day 3 | | | | | | | | |
| Morning | 43.7 | 15.76 | 78.9 | 18.01 | 35.2 | 2.24 | 4.64 | 2.101 |
| Evening | 35.1 | 8.81 | 72.9 | 18.84 | 37.8 | 10.03 | 5.74 | 2.101 |

*Significant at 0.05 level

Section IV: Association of the between pre-test pain scores of post-caesarean mothers with their selected socio demographic variables

The computed chi square test for experimental group and control group revealed that there was no statistical association between the pre-test pain scores of post-caesarean mothers of experimental group and control group with their selected demographic variables.

Discussion

The overall post-test and pre-test score regarding pain reduction among post-caesarean mothers in experimental group. The calculated paired 't' value for Day 1, Morning ($t_{cal}=8.19$) was greater than the tabulated value ($t_{tab}=2.26$). Evening ($t_{cal}=6.15$) was greater than the tabulated value ($t_{tab}=2.26$). Day 2, Morning ($t_{cal}=6.72$) was greater than the tabulated value ($t_{tab}=2.26$). Evening ($t_{cal}=6.55$) was greater than the tabulated value ($t_{tab}=2.26$). Day 3, Morning ($t_{cal}=8.17$) was greater than the tabulated value ($t_{tab}=2.26$). Evening ($t_{cal}=7.35$) was greater than the tabulated value ($t_{tab}=2.26$). These findings were supported through a study conducted by Ms. Sheela Mary who observed that there was reduction in the pain of post-caesarean mothers after hand and foot massage. The calculated paired 't' value for Day 1, Morning ($t_{cal}=21.39$) was greater than the tabulated value ($t_{tab}=2.043$). Evening ($t_{cal}=30.56$) was greater than the tabulated value ($t_{tab}=2.043$). Day 2, Morning ($t_{cal}=14.84$) was greater than the tabulated value ($t_{tab}=2.043$). Evening ($t_{cal}=17.69$) was greater than the tabulated value ($t_{tab}=2.043$). Day 3, Morning ($t_{cal}=9.95$) was greater than the tabulated value ($t_{tab}=2.043$). Evening ($t_{cal}=12.04$) was greater than the tabulated value ($t_{tab}=2.043$)⁸. This indicates that the post-test pain score was less than pre-test pain score which is statistically significant at $p<0.05$ level.

Conclusion

Cesarean section is a major surgery in obstetrics and gynecology, and it is currently among the most common surgical procedures. Thus, the management of post-caesarean complications is of particular importance. However, post-caesarean section pain remains a major challenge for health care providers. Hence, the study concluded that the hand and foot massage was effective, in-expensive, low-risk, flexible, and easily applied strategy for reduction of pain among post-caesarean mothers.

score of subjects of experimental and control group.

The results showed that there was statistical difference in post-test score regarding pain among post-Caesarean mothers in experimental and control group at 0.05 level of significance. Day 1, Morning ($t_{cal}=4.23$) was greater than the tabulated value ($t_{tab}=2.101$). Evening ($t_{cal}=4.39$) was greater than the tabulated value ($t_{tab}=2.101$). Day 2, Morning ($t_{cal}=4.19$) was greater than the tabulated value ($t_{tab}=2.101$). Evening ($t_{cal}=5.03$) was greater than the tabulated value ($t_{tab}=2.101$). Day 3, Morning ($t_{cal}=4.64$) was greater than the tabulated value ($t_{tab}=2.101$). Evening ($t_{cal}=5.74$) was greater than the tabulated value ($t_{tab}=2.101$). Table 1.

References

- Manjula B. Effectiveness of hand and foot massage on pain among post caesarean mothers at selected hospitals, Salem [dissertation on the internet]: Sri Gokulam college of nursing, Salem; April 2014 [cited 2019 Feb 6]. Available from: <http://repository-tnmgrmu.ac.in/10145/>
- Sharma S. C-section Vs natural birth: Why are expectant moms increasingly coming under the scalpel? Hindustan times [Internet] 2017 [cited 2019 Feb 6]. Available from: <https://www.hindustantimes.com/india-news/c-section-vs-natural-birth-why-are-expectant-moms-increasingly-coming-under-the-scalpel/storymdrsyl8rjegakidgiymdj.html>
- Pacha A. India might soon have the most Caesarean births. The hindu [Internet], 2019. [Cited 2019 nov 21]. Available from: <https://www.thehindu.com/sci-tech/science/india-might-soon-have-the-most-caesarean-births/article26756931.ece>
- Shetty D. The news minute [Internet]. Tuesday, 2018. [Cited 2019 Feb 20]. Available from: <https://www.thenewsminute.com/article/mothers-distress-how-forced-c-sections-are-depriving-parents-their-choice-birth-82894>.
- Sheelamary S. A quasi experimental study to evaluate the effectiveness of foot reflexology on reduction of pain among post-operative caesarean mothers in selected hospitals at Dindigul District, Tamil Nadu. [Dissertation on the internet]: Sakthi College of nursing, Oddanchatram, Dindigul, Tamil Nadu, 2015. [Cited 2019 feb 11]. Available from: <http://repository-tnmgrmu.ac.in/1655/>
- Manjula B. Effectiveness of hand and foot massage on pain among post-caesarean mothers at selected hospitals, salem [dissertation on the internet]: Sri Gokulam College of nursing, Salem, 2014. [Cited 2019 feb 6]. Available from: <http://repository-tnmgrmu.ac.in/10145/>
- Irani M. The effect of hand and foot massage on post-caesarean pain and anxiety. Journal of midwifery and reproductive health 2015;3(4):201-211.
- Sheelamary S. A quasi experimental study to evaluate the effectiveness of foot reflexology on reduction of pain among post-operative caesarean mothers in selected hospitals at Dindigul District, Tamil Nadu. [Dissertation on the internet]: Sakthi College of nursing, Oddanchatram, Dindigul, Tamil Nadu, 2015. [Cited 2019 feb 11]. Available from: <http://repository-tnmgrmu.ac.in/1655/>.