



Research Article

ASSESS THE EFFECTIVENESS OF HAND AND FOOT MASSAGE IN REDUCING POSTOPERATIVE PAIN AMONG ABDOMINAL SURGERY PATIENTS

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ABSTRACT

Introduction: Pain is a common sequel of surgery and massage has been advocated as effective and easy technique that can be applied independently by nurses to patients in postoperative period to relieve pain intensity. It involves a simple technique, costs little and requires no special equipment. The aim of this study is to evaluate the effectiveness of foot and hand massage reducing pain in postoperative patients. **Objective:** To assess the effectiveness of foot and hand massage in reducing post operative pain. **Methods:** An experimental design with Simple random sampling was adopted to conduct the study with 30 samples were selected as control group and 30 samples in experimental group. Foot and Hand massage was given for 20 minutes in the experimental group, control group has a regular treatment and pain score was assessed by numerical rating scale before and after intervention. Data were analyzed by using descriptive and inferential statistics. **Result:** Experimental group the pre test mean is 29.47 and SD 5.56, the post test mean is 17.92 and SD 3.39. The t test revealed that foot and hand massage was found to be effective in reducing pain among post operative patients undergoing abdominal surgery at the level of $P < 0.05$. **Conclusion:** The findings of the present study revealed that the foot and hand massage is reducing post operative pain among patient undergoing abdominal surgery. However, we need further studies with larger samples to investigate the effect of foot and hand massage in reducing pain.

Key Words: Effectiveness, Hand and Foot Massage, Reduce, Postoperative Pain, Abdominal Surgery, Patients

INTRODUCTION

Pain is a distressing feeling often caused by intense or damaging stimuli. The [International Association for the Study of Pain](#)'s widely define as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage";¹ Pain is a multidimensional phenomenon it is very difficult to define and it is more subjective & personal there are no objective measurement so it is nurses duty to help patient to overcome pain & make them comfortable. Pain is a signal from the tissues to indicate that there is something wrong. It is often difficult to describe pain, because everyone reacts so differently to it. It is a major symptom in many medical conditions, and can interfere with a person's [quality of life](#) and general functioning.²

Postoperative pain assessment and management is a internal part of nursing practice. the World Health Organization and International Association for the Study of Pain have recognized pain relief as a human right.³ Poorly managed postoperative pain can lead to complications and prolonged rehabilitation.⁴ Analgesics are not much effective in eliminating post operative pain. Utilization of non pharmacological interventions like massage therapy, ice therapy may assist in reducing post operative pain. The degree of post operative pain depends on the site of the surgery. Surgery on thorax and abdominal region are usually more painful. Massage is most widely used complementary therapy in nursing practice. Foot massage has many benefits as it provides tranquility and relaxation, improves circulation and rejuvenates the patient's energy.⁵

Massage therapy is defined as a manipulation of soft tissues by hands to generate positive effects on the function of various systems of the body. In addition it involves the application of combinations of specialized strokes, rubs, and the application of pressure in varying intensity to the soft tissues of the body in order to relieve postoperative pain.

Massage is most widely used complementary therapy in nursing practice. Foot massage has many benefits as it provides tranquility and relaxation, improves circulation and rejuvenates the patients' energy. Massage is the simple way of easing post operative pain as well as aiding relaxation promoting a feeling of well being and a sense of receiving good care. Massage is recognized as a safe treatment modality without risk or side effect.

Post operative pain can have a significant effect on patient recovery. An understanding of patient attitude and concerns about post operative pain is important for identifying ways healthcare professional can improve postoperative care. A recent study published in pain management nursing. Showed how a 15 min foot and hand massage helped to significantly reduce pain the day after the surgery. The study took at 18 subjects 20yrs or older. Who were recovering from a variety of surgeries including gastro intestinal, gynecological, urological, head & neck or plastic surgery.

Joy Chitra⁶(2014) conducted study on to assess the effectiveness of Foot Massage on Pain among Patients after Abdominal Surgery in a Selected Hospital at Delhi. Quasi-experimental time series designs with 60 samples were selected in this study. The experimental group was subjected to foot massage (effleurage

and kneading) for 20 minutes a period of three days and control group received routine care. The pretest and posttest level of pain was assessed by Numerical pain rating scale in both the groups. Data was analyzed using descriptive and inferential statistics and SPSS software. Findings revealed significant statistical difference between mean pre-test and mean posttest pain score in experimental group after the administration of foot massage and in control group ($p < 0.05$). Also comparing the mean score of pain severity between both groups before the intervention showed that there were no meaningful difference ($p > 0.05$) but this difference was meaningful after intervention i.e. foot massage ($p < 0.05$).

Gate control theory proposed by Ron Mezaack & Patrick suggested that when you rub an area that is hurting, you are simply preventing the pain message to be sent to brain. The pain is "gated", so to speak, by a more pleasant experience of massage. Massage acts like an analgesic and inhibits those pain signals from being transmitted to brain. It is also thought that massage helps the body to release naturally produced chemicals or pain killers such as opioids or endorphins. Hence the researchers conducted a study with the aim to assess the effectiveness of foot and hand massage in reducing post operative pain.

MATERIALS AND METHODS

The research approach used in the study was quantitative approach by using experimental research design. The study was conducted at Saveetha medical hospital with 30 samples in control group and 30 samples in experimental group after obtaining approval from ethical clearance with reference number 014/05/2017/IEC/SU and formal permission from the authority. The samples who met the inclusion criteria were selected by simple random sampling technique. Patient with foot ulcer, critically ill and ventilator were excluded. Explained the study in detail and obtained informed consent from the samples. Demographic variables were collected by self-administered questionnaire and followed by the pre test level of pain was assessed by using numerical pain rating scale for both groups. The experimental group patients were given hand and foot massage for 20 minutes daily at morning and evening one time three consecutive days and control group patients were continued the routine treatment and level of pain was assessed by using numerical pain rating scale for both experimental and control group. Confidentiality was maintained throughout the procedure. Collected data were analyzed by using both descriptive and inferential statistics.

RESULTS

Frequency and Percentage Distribution of Demographic Variables

In that the age of experimental group, 6 (20%) abdominal surgery were 25-35 years, 9 (30%) abdominal surgery were 36-45, 8 (26.6%) abdominal surgery were 46-55, and 7 (23.3%) abdominal surgery were 55-65. In control group 10 (33.33%) abdominal surgery were 25-35 years, 6 (20%) abdominal surgery were in 36-45, 7 (30%) abdominal surgery were 46-55 years. 5 (16.6%) abdominal surgery were 55-65.

The sex in experimental group, 17 (56.6%) abdominal surgery were males, 13 (43.3%) abdominal surgery were females. In control group, 12 (40%) abdominal surgery were males, 18 (60%) abdominal surgery were females.

The religion in experimental group, 24 (80%) abdominal surgery were Hindu, 6 (20%) abdominal surgery were Muslim. In control

group, 12 (40%) abdominal surgery were Hindu, 8 (26.6%) abdominal surgery were Muslim, and 10 (33.3%) abdominal surgery were Christian.

The education in experimental, 3 (10%) abdominal surgery were illiterate, 13 (43.3%) abdominal surgery were primary, 12 (40%) abdominal surgery were high school, 12 (40%) abdominal surgery were degree. In control group, 6 (20%) abdominal surgery were illiterate, 14 (46.6%) abdominal surgery were primary, 5 (16.6%) abdominal surgery were high school, 5 (16.6%) abdominal surgery were degree.

The diet in experimental, 7 (23.3%) abdominal surgery were eating vegetarian, 23 (76.6%) abdominal surgery were eating non vegetarian. In control group, 3 (10%) abdominal surgery were eating vegetarian, 27 (90%) abdominal surgery were eating non vegetarian.

Frequency and percentage distribution of pre test and post test level of pain during hand & foot massage in reducing post operative among abdominal surgery patient in the experimental group

It shows that 3 (10%) has mild level of pain in the pre test and 15 (50%) in the post test, and majority 19 (63.34%) had moderate level of pain in the pre test and 13 (43.33%) in the post test, 8 (26.66%) had severe level of pain in the pre test and 2 (6.67%) in the post test in experimental group

In experimental group the pre test mean is 29.47 and SD is 5.56 The post test mean is 17.92 and SD is 3.39. the t value is 2.05 which is found to be statistically significant at the level of $P < 0.05$

Association between the post test level of pain among patients who had undergone abdominal surgery with the demographic variables.

Chi square test reveals that there is a significant association between sex, education, dietary habits at the level of $P < 0.05$

DISCUSSION

An increasing number of patients undergo abdominal surgery multiple times during their lifetime, due to a higher life expectancy and advances in surgical technology; this is expected to increase even further⁵. The present investigation examined that the foot and hand massage reducing the post operative pain among patients undergoing abdominal surgery. Present study findings reveal that foot and hand massage for three days leads to significant reduction of pain in the post operative patients. Numbers of studies related to the hand and foot massage are very limited.

Naglaa F .A Youssef (June 2017) conducted study on effect of hand and foot massage on alleviating pain and anxiety among post operative patients at a university hospital. A randomized control trial was conducted over a period of eight months for 60 women who had abdominal surgery. Although there was no significant difference between the massage and control groups' pain intensity at baseline (Day-1-pre test) ($p > 0.05$), the intervention group had a significantly higher decrease in pain intensity than the control group after applying a massage ($p \leq 0.000$). Over 96% of the intervention group experienced moderate/severe anxiety, while 100% of the control group experienced moderate/very severe anxiety at baseline with no significant difference ($p > 0.05$). After the three sessions of hand and foot massage, the intervention group showed a remarkably lower score of anxiety than the control group ($p = 0.000$).

TABLE 1: FREQUENCY AND PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES

n= 60

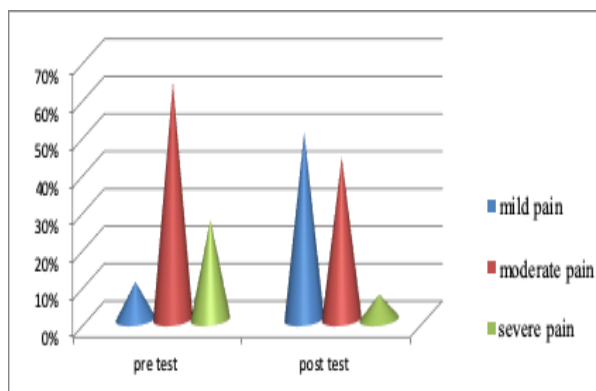
Demographic Variables	Experimental Group N=30		Control Group N=30	
	No	%	No	%
1.Age in years				
a) 25-35	6	20%	10	33.3%
b) 36-45	9	30%	6	20%
c) 46-55	8	26.6%	9	30%
d) 56-65	7	23.3%	5	16.6%
2.Sex				
a) Male	17	56.6%	12	40
b) Female	13	43.3%	18	80
3.Religion				
a) Hindu	24	80%	12	40%
b) Muslim	6	20%	8	26.6%
c) Christian	-	-	10	33.3%
4) Education				
a) Illiterate	3	10%	6	20%
b) Primary	13	43.3%	14	46.6%
c) High School	12	40%	5	16.6%
d) Degree	2	6.6%	5	16.6%
5) Diet				
a)Vegetarian	7	23.3%	3	10%
b) Non vegetarian	23	76.6%	27	90%

Frequency and percentage distribution of pre test and post test level of pain during hand & foot massage in reducing post operative among abdominal surgery patient in the experimental

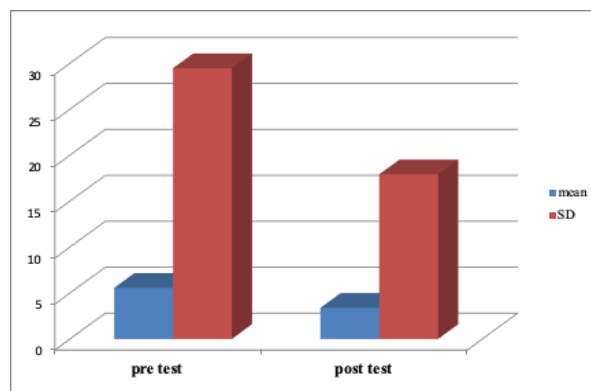
Pain	No pain		Mild pain		Moderate		Severe		Mean	S.D
	No	%	No	%	No	%	No	%		
Pre test	0	0	3	10	19	63.34	8	26.66	29.47	5.56
Post test	0	0	15	50	13	43.33	2	6.67	17.92	3.39

Association between the post test levels of pain among patients who had undergone abdominal surgery with the demographic variables.

S.NO	DEMOGRAPHIC VARIABLES	LEVELS OF PAIN			CHI-SQUARE χ^2
		MILD PAIN	MODERATE PAIN	SEVERE PAIN	
1.	Age in years				
	a) 22-26 years	4	2	-	$\chi^2=142.7$ df=6; NS
	b) 27-30 years	3	6	-	
	c) 31-35 years	6	2	-	
	d) 36-40 years	2	3	-	
2.	Sex				$\chi^2=1.26$; df=3; S
	a) Male	5	-	-	
	b) Female	17	7	1	
3.	Religion				$\chi^2=26.67$ df=6; NS
	a)Hindu	11	12	1	
	b)Muslim	4	2	-	
	c)Christian	-	-	-	
4.	Education				$\chi^2=8.29$ df=9 S
	a)literate	1	1	1	
	b)Primary	8	4	1	
	c)High school	7	5	-	
	d)Degree	-	2	-	
5.	Diet				$\chi^2= 2.419$ df=2 S
	a)Non vegetarian	7	-	-	
	b)Vegetarian	8	13	2	



Effectiveness of hand and foot massage on reducing pain among patients undergoing abdominal surgery



Frequency and percentage distribution of pre test and post test level of pain during hand & foot massage in reducing post operative among abdominal surgery patient in the experimental group

Nuriye Degirmen (2010) study was conducted Effectiveness of foot and hand massage in post caesarean pain control in a group of Turkish pregnant women. This study was conducted in obstetric intensive care units and services of all the public and university hospitals in the province of Eskisehir. The mean age of the participants was 27.3 ± 4.77 (range =18–40). There was no significant difference between the socio demographic characteristics of the control group and the intervention group except educational status ($p > 0.05$). There were relatively more women with higher degrees of education in the control group in contrast to the intervention groups. Approximately one fifth of the women (17.33%) were working, and 85.33% had moderate income levels. The difference between the groups was not considered to be significant with regard to previous experiences of hospitalization and operation and frequency of the use of analgesics. The massage intervention was applied 2.5 ± 1.0 hours after the administration of analgesics in the intervention groups, illustrating no statistically meaningful difference ($p > 0.05$).

CONCLUSION

In conclusion, the findings of the present study revealed that the foot and hand massage is improvement in reduction of pain among post operative patients undergoing abdominal surgery. However, we need further studies with larger samples to investigate the effect of foot and hand massage in different types of surgery.

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