



ORIGINAL RESEARCH PAPER

Nursing

HAND AND FOOT MASSAGE ON POST-OPERATIVE PAIN AMONG PATIENTS UNDERGONE ABDOMINAL SURGERY

KEY WORDS: Abdominal surgery, hand and foot massages, massage, Pain, post-operative pain

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ABSTRACT

Pain after abdominal surgery will limits the physical functioning including the ability to cough, deep breath, move, sleep and self-care activities. Hence the study aimed to determine the effectiveness of hand and foot massage on reduction of post-operative pain among patients who have undergone abdominal surgery. Quasi experimental research design was employed with 30 samples matched the inclusion criteria and were selected by non-probability convenience sampling technique. Pre-test was done by using numerical pain scale for both experimental and control group. Experimental group received hand and foot massage twice a day for five days. At the end of fifth days post-test was done for both experimental and control group. The result of the study reveals that there is significant reduction in the level of pain after the hand and foot massage.

INTRODUCTION:

Pain is displeased sensory and emotional experience associated with actual or potential tissue damage. Pain is highly subjective and unique in nature^[1]. Patients who have a problem with pain have sensational and emotional responses that can be called pain intensity and pain distress (Smeltzer and Bare)^[2]. Tranmer et al, 2010 reported that 74% of post-operative patients in their study experienced pain^[3]. Post-operative pain is temporarily related to incision that resolves during the appropriate healing period. It is normal to experience pain after surgery. Steps can be taken to minimize or eliminate pain, but pain that gets worse, especially if other symptoms are present, can be a sign of a surgical complication. Pain medication should be given when needed and prior to pain becoming severe. According to the National centre for Health statistics (2014), 48 million surgical procedures performed worldwide and amongst 6.1 million are abdominal surgeries^[4].

Abdominal surgery is defined as surgery pertaining to the contents of the abdominal cavity, its walls and orifices” (American Board of American Surgery as cited in Burns and Blackwell)^[5]. Abdominal surgeries take place in the area between the first rib and the pelvic floor and can be performed on a variety of abdominal organs, such as the reproductive organs, stomach, gallbladder, intestine, appendix, liver, spleen or esophagus. Surgery may be warranted for many reasons, including obstruction, infection, inflammatory bowel diseases or tumors. The most common abdominal surgeries are appendectomy, caesarean section, inguinal hernia, laparotomy and laparoscopy. Larger incisions are generally used in open abdominal surgery, with smaller incisions made for laparoscopic surgery. Most common abdominal surgery complications are atelectasis, pneumonia, deep vein thrombosis. Pain after abdominal surgery will limits the physical functioning including the ability to cough, deep breath, move, sleep and self-care activities. Uncontrolled pain promotes a fight or flight reaction. This reaction tends to delay wound healing and increases the complication rate including infection. It will make the patient readmission and delays the discharge from the hospital and health care cost because of longer stay in hospital which leads to increase the financial needs of the patient.

There are number of non-pharmacological management includes alternative and complementary therapies for pain is exist. One among them is massage which help to reduce the intensity of pain. Maureen Salamon (2018) indicated that massage helped patients with surgical pain and acted similarly to anti-inflammatory pain drugs^[6]. The hand and foot massage stimulate nerve fibers (A-beta fibers) which

contain tactile and pressure receptors. The receptors transmit the nerve impulse to the central nervous system. The gate control system in the dorsal horn at the spinal cord will be activated through the inhibitory interneuron whereas the excitatory interneurons are inhibited, resulting in the inhibition of T-cell functioning thus closing the gate. The pain signal, therefore, is not transmitted along the ascending system of the neuropathy and the brain does not receive the pain message^[7]. Massage therapy produces meaningful benefits in lowering pain, disability and other health-related effects for patients with pain and the most immediate benefit of getting a foot massage is the release of physical and mental tension from the body^[8]. According to Reflexology of Wisconsin, the aim of foot massage is to unify mind, body and spirit in a state of relaxation and healing. Foot massage is useful for normalizing the functioning of glands in the body. A foot massage is believed to boost circulation and assist digestion and helps to inhibit the pain signal to the brain^[9]. Based on these scientific background, the investigator has found that hand and foot massage is simple and easy method to decreasing the pain level. Hence the investigators have opted the hand and foot massage as an alternative therapies with the aim to determine the effectiveness of hand and foot massage on reducing pain among patients who undergone abdominal surgery.

METHODS AND MATERIALS

The research approach adopted in the study was quantitative approach by using quasi experimental research design. A study was conducted after obtaining formal permission from the hospital authority. Samples who met the inclusion criteria were selected by using non probability convenience sampling technique. Samples who do not understand Tamil or English, mentally and critically ill were excluded from the study. Total number of samples was 30 and randomly allocated into experimental (n=15) and control group (n=15). The participants who consented for willing to participate were informed about the purpose of the study. Demographic variables were collected by using multiple choice questionnaires followed by pre-test was done by using numerical pain scale for both experimental and control group. Experimental group received hand and foot massage twice a day for five days. Control group received routine care. Post-test was done for both experimental and control group at the end of fifth day by using same tool. The data were tabulated and analyzed by descriptive and inferential statistics.

RESULTS

Regarding demographic variables, majority of them were female and belongs to the age group of 40-60 years in both

experimental and control group and all of them had undergone surgery under general anesthesia. Most of the participants were received interventions from the first post-operative day

Table 1: Frequency and percentage distribution of pre-test level of pain in experimental and control group.

Level of pain	Experimental group		Control group	
	Frequency	percentage	Frequency	Percentage
Moderate Pain	1	6.67	3	20
Severe Pain	14	93.33	12	80

Out of 15 samples in experimental group, 1(6.66%) have moderate pain, 14(93.33) have severe pain, whereas in the control group 3(20%) have moderate pain and 12(80%) have severe pain.

Table 2: Frequency and percentage distribution of post-test level of pain in experimental and control Group.

Level of pain	Experimental group		Control group	
	Frequency	percentage	Frequency	Percentage
Mild Pain	10	66.67	-	-
Moderate Pain	5	33.33	4	26.67
Severe Pain	0	0	11	73.33

With regards to post-test level of pain, out of 15 samples in the experimental group 10(66.66%) have mild pain, 5(33.33%) have moderate pain whereas in control 4(26.66%) have moderate pain and 11(73.33%) have severe pain.

Table 3: Determine the effectiveness of hand and foot massage on reduction of post-operative pain among patients who have undergone abdominal surgery.

Experimental group	mean	Standard deviation	Paired 't' test
Pre test	8	1	23.46, df= 14,
Post test	3.47	0.7430	P< 0.05

The table 3 shows that pre-test mean and standard deviation of the experimental group is 8 and 3.47 and the post-test mean score was 1 with standard deviation of 0.74. The paired 't' test value is 23.46 which is found statistically significant at P<0.05.

DISCUSSION:

The main focus of this study was to assess the effectiveness of hand and foot massage on reduction of post-operative pain among patients who have undergone abdominal surgery. The findings of the present study reveals that out of 15 samples in pre-test the experimental group 1(6.66%) have moderate pain, and 14(93.33%) have severe pain whereas in control group 3(20%) have moderate pain and 12(80%) have severe pain. This findings were supported by Abolfazl Rahimi Zarchi, et.al (2016) who reported that out of 90 samples in the experimental group pre-test, 5(11.11%) have moderate pain, and 40(88.88%) have severe pain, whereas in the control group 7 (15.5%) have moderate pain and 38(84.4%) have severe pain^[10]. The present study found the significant reduction of post-operative pain among patients who have undergone abdominal surgery. This finding was supported by Naglaa Youseef (2017) who found significant at p<0.05 which showed higher decreased in the pain intensity after applying massage^[11]. Hariprasath Pandurangan reported that foot massage had been effective on reduction of post-operative pain among patients who have undergone abdominal surgery^[12]. Similarly Morvarid Irani, et al proved the significant decrease in the pain level after hand and foot massage among cesarean mothers^[13]. In another study by Joy chitra (2014) who revealed significant difference between mean pre-test and mean post-test pain score in the experimental group after the administration of foot massage and in control group^[14]. This finding is also supported by Abbaspoor Z, et al and Nuriye

Degirmen, et al who reported that post caesarean pain intensity was found to be reduced after intervention compared with the intensity before the intervention^[15,16]. The study findings consistent with other study findings which revealed that foot and hand massage is effective in reducing pain. The study is limited to assess the other variables like pulse, respiration, blood pressure, anxiety, sleep quality, and stress. Hence, similar study can be conducted by assessing these variables with large number of samples.

CONCLUSIONS

Hand and foot massage is an effective, simple, non-invasive, cost effective method that can be used easily without any side effects or extra efforts from the part of practitioners. A similar study can be conducted as a true experimental study.

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