Research Article

A study to assess the effectiveness of therapeutic back massage on reduction of pain among post-operative patient

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ABSTRACT

Introduction: Pain is a naturally recurring state of mind and body characterized by altered consciousness, relatively inhibited sensory activity, inhibition of nearly voluntary muscles, and reduced interaction with the surrounding. Pain is a basic need of human. Massage therapy, the scientific manipulation of the soft tissue of the body, is a healing art, an act of physical caring, and a way of communicating without words. Massage therapy is a technical that promotes the manual mobilization several structures from both muscle and subcutaneous tissue, by applying mechanical force to tissue this mobilization improves lymph movement and venous return reduce swelling, mobilize muscle fibers, tendon, and skin. The massage therapy may be used to promote muscle relaxation and to reduce pain, stress, and anxiety. **Aim:** The aim of the study was to evaluate the level of pain among post-operative mothers and to determine the therapeutic back massage to improve the level of pain to post-operative mothers. **Materials and Methods:** A quasi-experimental research design was used for the study. A total of 30 participants were selected using a purposive sampling technique. Data were selected using pain scale to control and experimental group for twice a day. For the experimental group, therapeutic massage was given twice a day. **Results:** The demographic variables place of residence had shown statistically significant association with post-test level of pain among post-operative patient at $P < 0.05$ level and the other demographic variables have shown statistically significant association with post-test level of pain among post-operative patient in the experimental group. The pre-test of the experimental group, 9 (60%), had severe pain, and 6 (40%) had moderate pain, whereas, in the post-test, 11 (73.33) had mild pain, and 4 (26.7%) had moderate pain. The pre-test of control group, 9 (60%), had severe pain and 6 (40%) had moderate pain, whereas, in the post-test, 4 (93.33%) had moderate pain, whereas, in the post-test, 4 (93.33%) had moderate pain and 1 (6.67%) had severe pain. **Conclusion:** The research found that back massage is effective in improving the quality of sleep and reduced pain in among post-operative patient than the back massage therapy.

KEY WORDS: Reduction of pain, Sleep pattern, Therapeutic back massage

INTRODUCTION

Massage therapy, the scientific manipulation of the soft tissue of the body, is a healing art, an act of physical caring, and a way of communicating without words. As an adjust to medical treatment, massage may be helpful in reliving backache, headache, muscle spasm and pain, hypertension, swelling, and pain from injuries or after surgery, epileptic seizure, insomnia, anxiety, and depression.[1-3]

Massage therapy can be reduced agitation in people with Alzheimer's disease and it has been used to relieve stress at disaster sites. Massage therapy is a field that has been around since ancient civilizations, including part of complementary and alternative medicine. It is, however, increasingly being altered along with standard treatment for a wide range of medical conditions and situation. Massage therapy helps people to spend more time in sleep.[4-7]

The restorative stage in which the body barely moves which reduces the neurotransmitter associated with pain. In massage therapy and therapist use the fingers to strike, press, and knead and pinch of stimulate acupoints along with the promote flow of energy, people often report pleasant feeling and deep relation after massage.[8-10]

An experimental study was conducted to evaluate the effectiveness of back massage in improving quality

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of sleep among 60 post-coronary artery bypass grafting and valve replacement patients in Vellore, Tamil Nadu. The results showed that quality of sleep improved in the experimental group with the intervention of back massage, 73.3% of subjects had a good sleep, whereas sleep quality deteriorated in the control group. In experimental group during pre-test, 98.3% of subjects responded about the inability to sleep more than 5 h during last night. After the intervention of back massage, this inability decreased to 36.7% and 63.33% subjects slept for more than 5 h at night. The study concluded that back massage is perceived by patients as a soothing, relaxing, and effective sleep-inducing measure. The study recommended that nurses can use this therapeutic and cost-effective art to improve the quality of sleep of post-operative patients.[11-13]

Report from 2005 shows that out of 60,000 open-heart surgeries done every year, the majority are CABGs and valve replacements. According to the American Heart Association, more than 8,000,000 CABG procedures were performed annually. Roughly, 1,313,000 inpatient PCI procedures were performed in 2006, while 448,000 inpatient bypass procedures were performed.

An estimated 47 million Indians had coronary artery disease in 2010 while efforts are being made to control this epidemic by educating public and applying preventive measures, the ever increasing burden of patients with symptomatic and life-threatening manifestations of the disease is posing a major challenge.[14]

MATERIALS AND METHODS

A quantitative approach with a quasi-experimental design was used to direct the study at Thiruvallur Governmental Hospital. Thirty patient who met that inclusion criteria were selected using purposive sampling techniques. The data collection was done after obtaining ethical clearance from the Institutional Ethical Committee of Saveetha Institutional Medical and Technical Science, followed by getting formal permission from the medical officer of a governmental hospital at Thiruvallur. Subsequent to obtaining the consent was obtained from them. Demographic variables were collected and pre-test was done using a numerical pain scale for both experimental group and control group, for the experimental group, back massage was given twice a day for 5 days. Control group received routine care at the end of 5th day. Post-test was done for the experimental group and control group. The data were analyzed by descriptive and inferential statistics. The data collection was done after obtaining ethical clearance from the Institutional Ethical Committee of Saveetha Institutional Medical and Technical Science, followed by getting formal permission from the medical officer of governmental hospital at Thiruvallur. Subsequent to obtaining the consent was obtained from them.

RESULTS AND DISCUSSION

Section A: Description of the Demographic Variables of the Post-operative Patient

In the experimental group 8 (53.3%) were in the age group of 35–45 years, 13 (86.7%) were males, 7 (46.7%) were Hindus, 5 (33.3%) had secondary and higher secondary education, 10 (66.7%) were doing business, 10 (66.7%) were married, and 7 (46.7%) had a monthly income of Rs.1500–25,000/–7 (46.7%). We are residing in an urban area, 12 (80%) belonged to the nuclear family, 14 (93.3%) were non-vegetarian, 11 (73.3%) had no history of previous surgery, 8 (53.3%) had major surgery, 10 (66.7%) were given spinal anesthesia, and 9 (60%) had spo2 level at <90.

Whereas, in the control group 10 (66.6%) were in the age group of 35–45 years, 9 (60%) were males, 6 (26.7%) were Hindus, 8 (53.4%) had secondary education, and 7 (46.7%) were unemployed, 8 (53.3%) were single, and 4 (26.7%) had a monthly income of below Rs.5000\–Rs.15,000/–25.000/and above 25,000/–, respectively, 8 (53.3%) had no history of the previous surgery, 8 (53.3%) had major surgery, 10 (66.7%) were given spinal anesthesia, and 8 (53.3%) had spo2 level at <90.

The pre-test of the experimental group, 9 (60%), had severe pain and 6 (40%) had moderate pain, whereas, in the post-test, 11 (73.33) had mild pain and 4 (26.7%) had moderate pain. The pre-test of the control group, 9 (60%) had severe pain and 6 (40%) had moderate pain, whereas, in the post-test, 4 (93.33%) had moderate pain, whereas, in the post-test, 4 (93.33%) had moderate pain and 1 (6.67%) had severe pain [Table 1 and Figure 1].

Section B: Comparison of Pain among Post-operative Patient Within and between the Experimental Group and Control Group

The pre-test mean score of pain among post-operative patient was 6.80 ± 0.77 and the post-test mean score was 2.93 ± 0.79. The calculated Paired' test value $t = 23.401$ was found to be statistically highly significant at $P < 0.001$ level [Table 2].

The above finding clearly inters that therapeutic back massage administered to post-operative patient had significant effect which resulted in the reduction in the level of pain among post-operative patient in the experimental group.

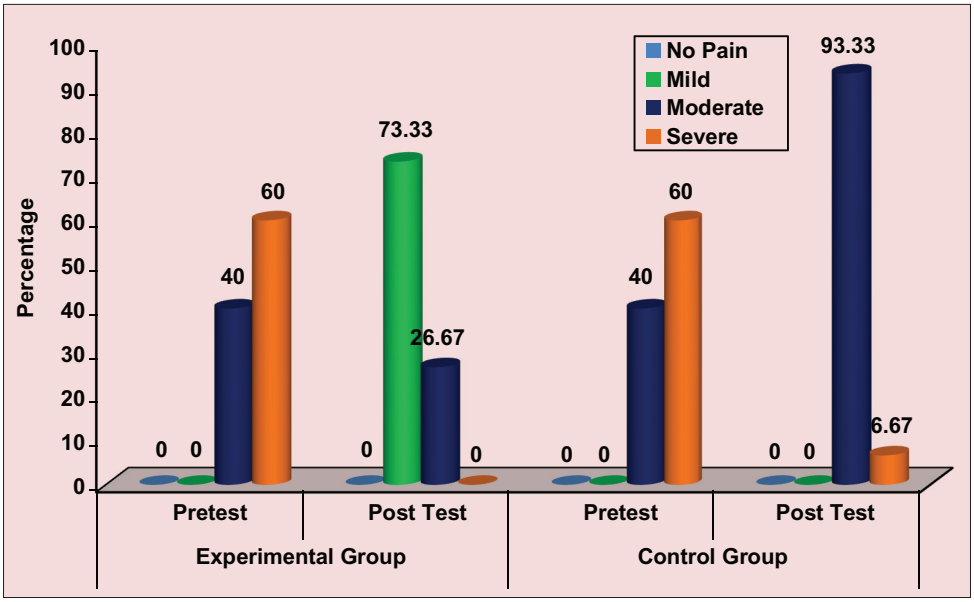

Figure 1: Percentage distribution of pre-test and post-test level of pain among post-operative patients in the experimental and control group

Table 1: Assessment of the level of pain among post-operative patient in the experimental group and control group. *n*=30 (15+15)

Group	Test	No pain (0)		Mild (1–3)		Moderate (4–6)		Severe (7–10)	
		No.	%	No.	%	No.	%	No.	%
Experimental group	Pre-test	0	0	0	0	6	40.0	9	60.0
	Post-test	0	0	11	73.33	4	26.67	0	0
Control group	Pre-test	0	0	0	0	6	40.0	9	60.0
	Post-test	0	0	0	0	14	93.33	1	6.67

Table 2: Effectiveness of therapeutic back massage on pain among post-operative patient in the experimental group. *n*=15

Variables	Test	Mean	S.D	Paired "*t*" test value
Pain	Pre-test	6.80	0.77	*t*=23.401 *P*=0.0001 S***
	Post-test	2.93	0.79	

***$P<0.001$, S: Significant

Table 3: Comparison of pre-test and post-test level of pain among post-operative patient in control group. *n*=15

Variables	Test	Mean	S.D	Paired "*t*" test value
Pain	Pre-test	6.87	0.99	*t*=10.583 *P*=0.0001 S***
	Post-test	5.53	0.74	

***$P<0.001$, S: Significant

The pre-test mean score of pain among post-operative patient was 6.87 ± 0.99 and the post-test mean score was 5.53 ± 0.74. The calculated Paired' test value of t = 10.583 was found to be statistically significant at $P < 0.001$ level. The above finding clearly inters that there was a reduction in the level of pain was observed among post-operative patient in the control group who had gone normal hospital routine massage [Table 3].

The pre-test mean score of pain among post-operative patient in the experimental group was 6.80 ± 0.77 and the mean score in the control group was 6.87 ± 0.99. The calculated students independent t-test value of $t = –0.205$ was not found to be statistically significant. The post-test mean score of pain among post-operative patient in the experimental group was 2.93 ± 0.79 and the post-test mean score in the control group was

Table 4: Comparison of pre-test and post-test level of pain among post-operative patient between the experimental group and control group. *n*=30 (15+15)

Test	Group	Mean	S.D	Student independent "*t*" test value
Pre-test	Experimental	6.80	0.77	*t*=–0.205 *P*=0.839 N.S
	Control	6.87	0.99	
Post-test	Experimental	2.93	0.79	*t*=9.229 *P*=0.0001 S***
	Control	5.53	0.74	

***$P<0.001$, S: Significant, N.S: Not significant

5.53 ± 0.74. The calculated student independent "s" test value of $t = 9.229$ was found to be statistically significant at $P < 0.001$ [Table 4].

Section D: Association of Post-test Level of Pain with Selected Demographic Variables

The demographic variable place of residence had shown statistically significant association with post-test level of pain among post-operative patient at $P < 0.05$ level and the other demographic variables had shown statistically significant association with post-test level of pain among post-operative patient in the experimental group.

CONCLUSION

Back massage therapy was found to be effective in promoting sleep quality among post-operative patient. The result of this study shows that the back massage is an effective non-pharmacological measure which is an effective, simple, on invasive, and cost-effective method that can be used easily without any side effects or extra effort from the part of practitioners. A similar study can be conducted as a true experimental study.

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AUTHORS' CONTRIBUTIONS

All the authors actively participate in the work of the study. All authors read and approved the final manuscript.

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