"A QUASI EXPERIMENTAL STUDY TO ASSESS EFFECTIVENESS OF THERAPEUTIC BACK MASSAGE IN REDUCTION OF BACK PAIN AMONG POST CABG PATIENT IN D. Y. PATIL HOSPITAL."

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ABSTRACT

In India prevalence of CABG surgeries are more, and it shown in the many studies that Post CABG patient Develop Pain. In Recent Years more of non-pharmacological managements evaluated to reduce pain, Back Massage is one best clinical practice tested in different situation to reduce pain.
Aim: The aim of study to assess the effectiveness of back massage on the pain among post CABG patients
Method: In this research study, the researcher had used quasi experimental study design to determine the effectiveness of back massage techniques on pain among CABG patient who receive back massage. Sample were selected by convenient sampling techniques and sample size was 30 out which 15 placed in experimental and 15 placed in control group. Data were calculated by numerical rating scale to evaluate the effectiveness of intervention. Pre test was taken prior give back massage then back massage given to the patient and post test done on same day
Result: Result of Study shown that In Control group Mean pain score of pre test and post test is 6.33 and 6.13 respectively, and Standard Deviation of pain score of pre test and post test is 1.397 and 0.99 respectively. T value above table is 1.382 and P value is 0.188

In Experimental group Mean pain score of pre test and post test is 6.267 and 5.33 respectively, and Standard Deviation of pain score of pre test and post test is 1.66 and 1.75 respectively. T value above table is 0.021 and P value is 0.021

Conclusion: The result of this study shows that the back massage is an effective non pharmacological measure in reducing pain among post CABG patient. As in result we seen Back massage is an highly effective as well as it is simple , non-invasive, and cost-effective method that can be used easily without any side effects or extra effort. A similar study can be conducted as a true experimental study

Keywords: Effectiveness , Back massage , Pain , CABG.

INTRODUCTION

"When you are a nurse, you know that every day you will touch a life or a life will touch yours"

Pain is a universal experience that everyone experiences throughout some amount of their life. However, some diagnostic and treatment procedures in health care cause patients to suffer from long-term and severe pain. cardiac surgery is one amongst these procedures. Nurses have tremendous role in the management of pain as primary health workers.

Briefly, pain is a generalized or localized unpleasant bodily sensations or complex of sensations that causes mild to severe discomfort, emotional distress and typically result to body disorders.

The most common applied interventions for management of pain are back massage, drug treatment, exercise, and manual therapies, all of which have some evidences to support them.

Specifically, in this study we will determined the effectiveness of therapeutic back massage in reduction of pain (precisely in post CABG patients)

Massage therapy (MT) is a technique that promotes the manual mobilization of several structures from both muscle and subcutaneous tissue, by applying mechanical force to tissues. This mobilization improves lymph movement and venous return, reduces swelling, and mobilizes Muscle fibers, tendons and skin. Thus, massage therapy may be used to promote Muscle relaxation and to reduce pain, stress and anxiety, which help patients improve their level of sleep and speed of recovery.

The last decade has been a growth in the utilization of complementary and alternative medicine therapies and one of most popular and sought after complementary and alternative medicine therapies for back pain is massage therapy.[3]

Massage may often be perceived as a safe therapeutic modality without any significant risk or side-effects and has been recommended by the physiotherapy for the management of various pain related conditions especially those of muscular skeleton origin.

Pain, stress anxiety, and sleep disorders are common after surgery. Evidence Indicates that patient's quality of sleep after surgery is frequently poor, particularly during the post-operative period, and that patients experience high levels of sleep disruption, irregular sleep cycle, and variation in slow wave sleep. Poor quality of sleep on the post-operative period may be due to several factors including pain from surgical incision, pain caused by prolonged time in the bed and high anxiety level.[5]

Coronary artery bypass grafting (CABG) and valve replacement (VR) are cardiac surgeries commonly performed across the globe. Patients undergoing cardiac surgery frequently experience symptoms such as pain and anxiety, which could interfere with postoperative recovery. With the International Association for the Study of Pain declaring 2017 as the global year against pain after surgery, relieving pain after cardiac surgery is an issue of major importance. Recent studies indicate that massage administered in the context of standard treatments can be beneficial in managing pain and anxiety in acute care units., yet the evidence is inconclusive with regards to these positive effects early after surgery when pain intensity is high and patients are admitted to the intensive care unit (ICU).[4]

Specific to critical care, postoperative pain can be aggravated by painful procedures that are commonly performed in the ICU such as chest tube removal, turning/repositioning, breathing, and coughing exercises [4,6]. Owing to the unique context of the ICU and the recovery post–cardiac surgery, as well as the high intensity and complex nature of pain in this clinical setting, further research is needed to evaluate the effect of massage on the pain of cardiac surgery ICU patients.[4]

Need of the study

Integrative therapies such as massage have gained support as interventions that improve the overall patient experience during hospitalization. Cardiac surgery patients undergo long procedure and have a postoperative back and shoulder pain, anxiety, and tension. Given the promising effect of massage therapy for alleviating of pain, tension and anxiety, we studied the efficacy and feasibility of massage therapy delivered in post-operative cardiovascular surgery setting. Patients were randomized to receive a massage or to have quiet relaxation time (control).In total, 113 patient completed the study(massage, n=62;control,n=51).Patients receiving massage therapy had significantly decreased pain, anxiety and tension. Patients were highly satisfied with intervention, and no major barriers to implementing massage therapy were identified.

The investigator during his clinical experience came across many patients, who undergone CABG surgery and seen them in pain. This motivated the investigator to undertake the study by using back massage after CABG surgery to relieve pain and make the patient feel better .

Scope of the study

•This study will help the investigator in opening new avenue for future research in relation to pressure ulcers.
•This study will help the investigator to find various reasons behind the occurrence of pressure ulcers
•This study will help the investigator to identify the needs to implement necessary care in relation to pressure ulcers on bed ridden patients.

Problem statement

A quasi experimental study to assess effectiveness of therapeutic back massage in reduction of back pain among post CABG patient in D. Y. Patil Hospital
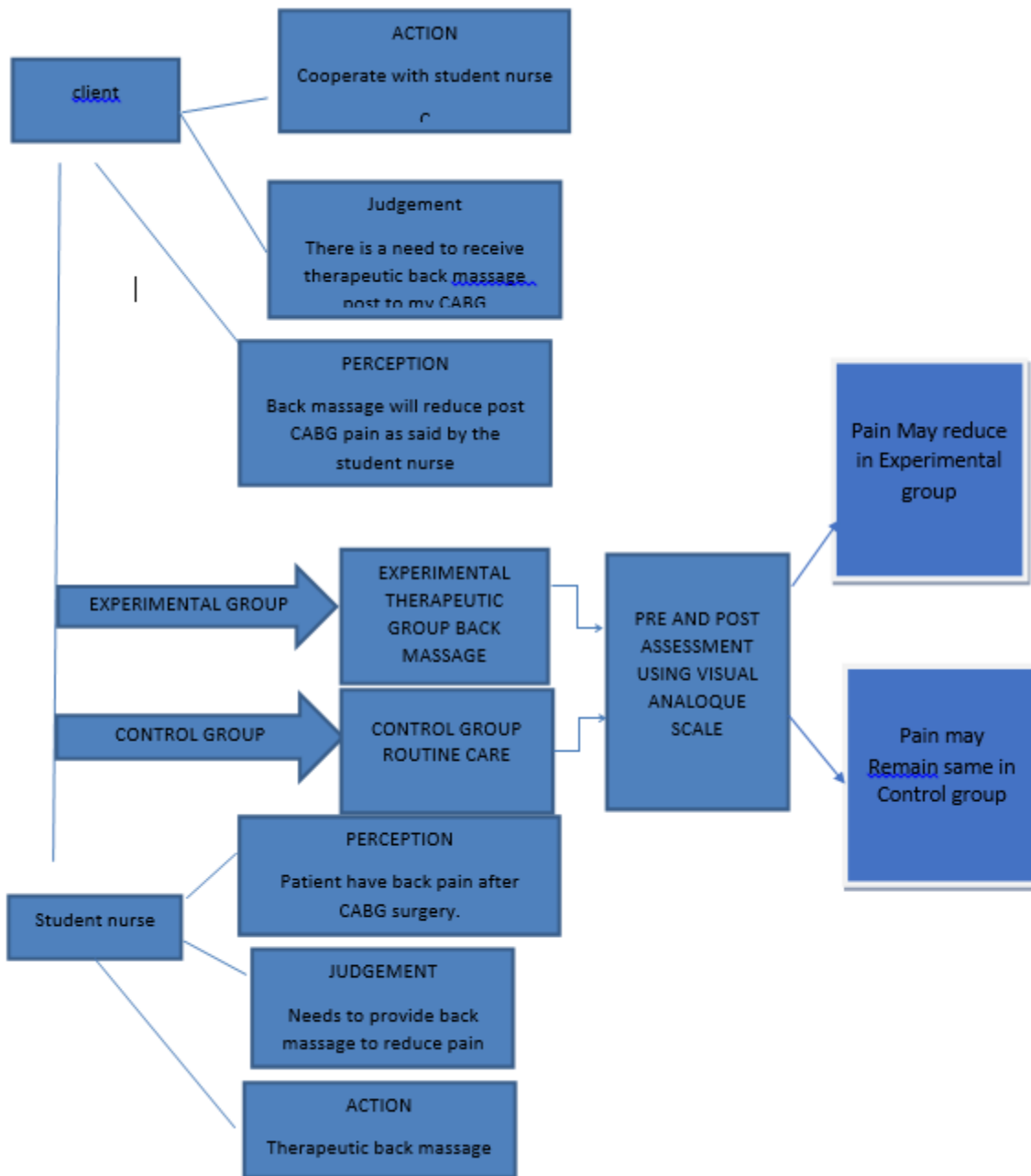
Objectives of the study

1. To assess the level of pain among CABG patients in experimental and control group
2. To determine the effectiveness of therapeutic back massage in reduction of pain among post CABG patients in experimental group.

Operational definition

1. Effectiveness: In this study 'effectiveness' refers to the degree to which back massage successfully reduce back pain.
2. Back massage: According to this study, a back massage is any mechanical manipulation at the back that involves the following steps, effleurage, petrissage, thumb friction, tapping, cupping and vibration
3. Back pain: in this study, it is subjective feeling which the postoperative CABG patients will perceive from third to fourth day post operation.
4. Post operative patients; in this study, it refers to the patients who have undergone CABG surgeries and transferred from intensive care unit to the post-operative cardiac care unit in the period of 3 rd and 4th -operative day.

CONCEPTUAL FRAMEWORK (based on Imogene King's Theory**)**

ACTION

Cooperate with student nurse

client

Judgement

There is a need to receive therapeutic back massage post to my CABG

PERCEPTION

Back massage will reduce post CABG pain as said by the student nurse

Pain May reduce in Experimental group

EXPERIMENTAL GROUP

EXPERIMENTAL THERAPEUTIC GROUP BACK MASSAGE

CONTROL GROUP

CONTROL GROUP ROUTINE CARE

PRE AND POST ASSESSMENT USING VISUAL ANALOQUE SCALE

Pain may Remain same in Control group

PERCEPTION

Patient have back pain after CABG surgery.

Student nurse

JUDGEMENT

Needs to provide back massage to reduce pain

ACTION

Therapeutic back massage

RESEARCH METHODOLOGY

Research methodology is a science of studying how research is done scientifically. Research methodology is the way to solve problems systematically. This chapter contains the methodology and different steps that were undertaken for the collection and organization of the data by the investigator. The methodology of the study includes research approach, design, setting, population sample size, technique, sampling criteria, data collection procedure and statistical analysis of data.

Research approach

A quantitative approach was used in this study

Type of study

A Quasi-experimental study was conducted for the evaluating the effectiveness of therapeutic back massage in post CABG patient.

Research design

The research design is the framework of research method and techniques chosen by a researcher. The design allows the researcher to hone in on a research method that are suitable for the subject matter and set up their studies up for success. The research design chosen for the this study was quasi experimental research design

GROUP	INTERVENTIONS	PAIN SCORE
Experimental group	X	Y
Control group	X1	Y1

X-Back massage given
X1-Back massage not given
Y-Pain score in experimental group
Y1-Pain score in control group
Study type
The present study was conducted to estimate the empirical evidence of prevalence of pressure ulcer and to identify the associated factors for the development of pressure ulcer using a systematic review.
Search Strategy
An extended search for primary research articles was collected from different databases like NCBI, PubMed, Researchgate.net, Google scholar, ERIC database library using the keywords like 'pressure ulcer','pressure sore', 'bed sore' or 'decubitus ulcer', 'prevalence' and 'risk factors', 'hospitalized patients' and 'adult patients'.The reference lists of retrieved articles were also examined as a potential source.The search was carried out on June, 15th 2020 to June, 19th 2020.The full text or the abstract of all the articles, documents and reports yielded by the advanced search were extracted. Out of 500 articles fulfilling the initial search criteria, 08 articles were chosen for detailed review of the full text and were included in our review.
Criteria for article selection
Relevant data for the selected studies were collected from different databases like NCBI, PubMed, Researchgate.net, Google scholar, ERIC database library.
Inclusive criteria
1. CABG patients who are willing to participate in the study.
2. CABG patients between 30-60yrs
3.CABG patient who are conscious and well oriented.
 Exclusion criteria
1. CABG patients who are not willing to participate
2. CABG patients whose physiological parameters unstable
3.Those CABG patients who are having complaints of bedsore and ulcerative wound at the back.

Findings and interpretation

Data analysis is a method of organising data in such a way that the research questions can be answered. Interpretation is the process of making sense of result and examining the implication of the finding within a broader content.

The data has been organized and presented in two sections.

SECTION A: Findings related to the percentage distribution of subjects according to demographic variable
Table 1: Frequency and percentage distribution of demographic variables
SECTION B : Findings related to Effectiveness of Back Massage on reduction of pain among post CABG patient
Table 2: Finding related to Pain score in Control group
Table 3: Finding related to Pain score in Experimental group
SECTION A

Table No. I. Frequency and percentage distribution of demographic variables

DEMOGRAPHIC VARIABLES		PERCENTAGE DISTRIBUTION			
		EXPERIMENTAL GROUP		CONTROL GROUP	
		Frequency	Percentage	Frequency	Percentage
Age	45-55	6	40.0%	7	46.6%
	56-65	6	40.0%	4	26.6%
	66-75	3	20.0%	4	26.6%
Sex	Male	12	80.0%	9	60.0%
	Female	3	20.0%	6	40.0%
Education	Primary	5	33.3%	3	20.0%

	Secondary	6	40.0%	6	40.0%
	Graduate	3	20,0%	3	20.0%
	Post Graduate	1	6.66%	2	13.3%
	Illiterate	0	0%	1	6.66%
Marital Status	Married	15	100%	15	100%
	Unmarried	0	0%	0	0%
Occupation	Unemployed	4	26.6%	4	26.6%
	Self Employed	3	20.0%	5	33.3%
	Service	8	53.3%	6	40.0%
Pain Score	Moderate	7	46.6%	9	60.0%
	Severe	0	0%	6	40.0%
	Very Severe	8	53.3%	0	0%

The findings in the study showed that , the age group ,the control group had maximum 7subject (46.6%) were from age between 45 -55 year and minimum 4 subject (26.6%)were between age of 56 -65 ; were as in the experimental group maximum of 6 subject (40.0%) were from age between 45-55 year and minimum 3 subject (20.0%) were between age group 66-75. In the Group group the control group had 9 males (60.0%) and 6 females (40.0%). In experimental group 12 males (80.0%) and 3 females (20.0%) .In Education group had maximum 6 subjects(40.0%) who had completed secondary education and minimum 0 subjects (0%0 who had illiterate .In the control group maximum 6 subjects (40.0%) completed secondary education and minimum 1 subject (6.66%0) who had illiterate . In the occupation group the experimental group had maximum 8 subjects (53.3%) who were service and minimum 3 subjects (20,0%) who was self employed In control group maximum 6 subjects (40.0%) and minimum 4 subjects (26.6%). who was unemployed . In the Pain score in the experimental group had maximum 8 subjects (53.3%) who had very severe pain and minimum 7 subjects (46.6%) who had moderate pain

SECTION B : Findings related to Effectiveness of Back Massage on reduction of pain among post CABG patient

Table 2: Finding related to Pain score in Control group

Pain Score	Mean	SD	T	P value
Pre Test	6.33	1.397	1.382	0.188
Post Test	6.13	0.99		

Above table Shown that Mean pain score of pre test and post test is 6.33 and 6.13 respectively, and Standard Deviation of pain score of pre test and post test is 1.397 and 0.99 respectively. T value above table is 1.382 and P value is 0.188 which is more than 0.05 so above table revealed that there is no significant difference in pre test and post pain score in Control group.

Table 3: Finding related to Pain score in Experimental group

Pain Score	Mean	SD	T	P value
Pre Test	6.267	1.66	0.761	0.021
Post Test	5.33	1.75		

Above table show that Mean pain score of pre test and post test is 6.267 and 5.33 respectively, and Standard Deviation of pain score of pre test and post test is 1.66 and 1.75 respectively. T value above table is 0.021 and P value is 0.021 which is less than 0.05 so above table revealed that there is significant difference in pre test and post pain score in Experimental group. Hence Study Prove that There is significant effect of Back Massage on reduction of pain in post CABG patient

Results

We included 7 articles in this review for prevalence of pressure ulcer and 3 for risk factors for the development of pressure ulcer. One study showed the highest prevalence of pressure ulcer (33%) in ICU. 5 studies reported that, 10 to 26% of adult patients were developed pressure ulcer and one study reported lowest prevalence of 7.8%. The most common risk factors like moisture, friction, immobility,

prolonged hospitalization and aging were a major cause of the development of pressure ulcer. One study reported that low albumin level also can develop pressure ulcer among adult patients.

Discussion

The study was conducted to evaluate the effectiveness of therapeutic back massage in reduction of pain in post CABG patients at DY Patil hospital. After the analysis and interpretation of the data obtain from the samples, the researcher found, there was a significant reduction in following a therapeutic massage given to post CABG patients.

In the present study, selected demographic variables are age, gender, education occupation, marital status.The findings in the study showed that , the age group ,the control group had maximum 7subject (46.6%) were from age between 45 -55 year and minimum 4 subject (26.6%)were between age of 56 -65 ; were as in the experimental group maximum of 6 subject (40.0%) were from age between 45-55 year and minimum 3 subject (20.0%) were between age group 66-75. In the Group group the control group had 9 males (60.0%) and 6 females (40.0%). In experimental group 12 males (80.0%) and 3 females (20.0%) .In Education group had maximum 6 subjects(40.0%) who had completed secondary education and minimum 0 subjects (0%0 who had illiterate .In the control group maximum 6 subjects (40.0%) completed secondary education and minimum 1 subject (6.66%0) who had illiterate . In the occupation group the experimental group had maximum 8 subjects (53.3%) who were service and minimum 3 subjects (20,0%) who was self employed In control group maximum 6 subjects (40.0%) and minimum 4 subjects (26.6%). who was unemployed . In the Pain score in the experimental group had maximum 8 subjects (53.3%) who had very severe pain and minimum 7 subjects (46.6%) who had moderate pain .

In A similar Study selected demographic variables age ,gender ,post operative day,habit.The findings shows that , the age group showed that maximum subjects 24[48%] belonged to older age group of 51-65 years, in education level most, of the Subjects 18[36%], the gender category , it was found that 100% of subjects Participated were male and in occupation, most of the subjects 11[22%] were daily Wage worker.

In the present study shown that In Control group Mean pain score of pre test and post test is 6.33 and 6.13 respectively, and Standard Deviation of pain score of pre test and post test is 1.397 and 0.99 respectively. T value above table is 1.382 and P value is 0.188 **.** In Experimental group Mean pain score of pre test and post test is 6.267 and 5.33 respectively, and Standard Deviation of pain score of pre test and post test is 1.66 and 1.75 respectively. T value above table is 0.021 and P value is 0.021

In Similar Study, The effectiveness of therapeutic back massage in reducing the pain in experimental group and control group. The pre-test mean of experimental group was 25.1 and in control group was 24.63 .The post test mean of experimental group was 10.4 and in control group was 24.7.

the study findings are also congruent with study conducted by Nerbas Baggio Flavia[2010] was conducted a randomized control study to assess the effects of massage therapy on sleep quality after CABG .participants included CABG patients who are randomized into a control group and a massage therapy group following discharge from ICU. The patients were evaluated by using visual analogue scale, The study results include 57 CABG patients enrolled in the study during the preoperative period. 17 of them were excluded due to post operative complications. the remaining 40 participants [male 67.5% ,age 61.9years ,BMI 27.2kg/m].the participants in the massage therapy group has fewer complaints of fatigue on day 1 [p=0.006]and day 2[p=0.028]in addition ,they reported more sleep effective during all three days [p=0.019]when compared with the control group. the study was concluded that massage therapy is an effective technique for improving patient recovery from CABG because it reduces fatigue and improves sleep.

Conclusion

The result of this study shows that the back massage is an effective non pharmacological measure in reducing pain among post CABG patient. As in result we seen Back massage is an highly effective as well as it is simple , non-invasive, and cost-effective method that can be used easily without any side effects or extra effort. A similar study can be conducted as a true experimental study

Recommendations

1)A similar study can be conducted in various settings in order to draw generalization of the findings.
2)A similar study can be conducted with simple random sampling methods in various settings in order to draw generalization of the findings .
3)A similar study can be done in other post surgery patient to reduce pain

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