

A Study to Assess the Effectiveness of Lumbar Support on Backache Among Post- Operative Patients Undergone Abdominal Surgery At Selected Tertiary Care Hospital, Coimbatore

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Abstract

Aims and Objectives : Backache is pain felt in the back. It may be acute, sub-acute or chronic depending on the duration. Lumbar support is cheap and effective method to reduce the backache

Method: Quasi experimental time series non-randomized pre-test post-test control group design was adopted in this study. 40 study participants were selected using purposive sampling technique. The level of backache was assessed by using Modified Oswestry Backache Assessment (OBA) Scale. Pre-test was conducted 4 hours after surgery and after that lumbar support was given for 1 hour for three days 0, 1st and 2nd POD to interventional group and after each intervention post-test was conducted among both interventional and routine care group.

Results and discussion: The study findings stated that, the interventional group pre-test mean and SD was 2.9 ± 0.4 , the calculated 't' value was 0 at the level of $p < 0.05$. On 1st post test mean and SD was 2.8 ± 0.5 the calculated 't' value was 1 at the level of $p < 0.05$. 2nd post test mean and SD was 1.9 ± 0.4 , the calculated 't' value was 9 at the level of $p < 0.05$ and 3rd posttest mean and SD was 1.1 ± 0.5 , the calculated 't' value was 17 at the level of $p < 0.05$. Clinical variable body mass index ($\chi^2 = 20.000$) found to be associated with level of backache.

Conclusion: Lumbar support was an effective method to reduce the level of backache among post-operative patients undergone abdominal surgery .

Keywords: backache, lumbar support, post-operative patient, abdominal surgery

INTRODUCTION

Pain is a complex, multidimensional experience. For many people, it is a major problem which causes suffering and reduces quality of life. It is one of the major reasons that prompt people to seek health care. Pain occurs in all clinical settings and among varied groups of patients. The widely used definition of The International Association for the Study of Pain states: "Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage." In medical diagnosis, pain is regarded as a symptom of an underlying condition.

Pain motivates the individual to withdraw from damaging situations, to protect a damaged body part while it heals, and to avoid similar experiences in the future. Most of the pain resolves once the noxious stimulus is removed and the body has been healed, but it may persist despite the removal of the stimulus and apparent healing of the body. Sometimes pain arises even in the absence of any detectable stimulus, damage or disease.

The term “lumbar” refers to the lower region of back. It consists of five vertebrae situated between the diaphragm and sacrum (which attached to pelvis). Lumbar support represents parts of man-made material or device that focuses on keeping the lumbar region of the back comfortable and reduces backache. Lumbar support is encouraging airflow and dissipating heat, lumbar supports prevent a build-up of heat in the back that could lead to discomfort and perspiration. It will reduce the discomfort and minimizing the chance to picking up injuries.

Statement of the problem

A study to evaluate the effectiveness of lumbar support on backache among postoperative patients undergone abdominal surgery at selected tertiary care hospital, Coimbatore

Objectives of the study

1. To assess the level of backache among post-operative patients who undergone abdominal surgery in interventional and routine care group.
2. To evaluate the effectiveness of lumbar support on backache among post-operative patients who undergone abdominal surgery in interventional and routine care group.
3. To associate the pre-test score with selected background variables among post-operative patients who undergone abdominal surgery in interventional and routine care group.

II Materials and Methods

A Quasi Experimental study to evaluate the effectiveness of lumbar support on backache among postoperative patients undergone abdominal surgery at selected tertiary care hospital, Coimbatore. The study was conducted among the post-operative patients those who were in Surgical Intensive Care Unit and General Surgery Ward at PSG Hospitals, Coimbatore. The population of the study comprises, post-operative patient's undergone abdominal surgery that fulfills the inclusion criteria. The study participants were selected by Purposive Sampling technique. Sample size (n) = 40 The tool consisted of two parts i.e.,

Section- A: Background Variables,

Section - B: Modified Oswestry Backache Assessment Scale, we are collect the data in three phases

Phase I – Screening: The study was conducted for a period of 6 weeks The investigator collected the demographic and clinical data through interview of patient and patient's family members and hospital records. Assessed the pre-test level of backache by using Modified Oswestry Backache Assessment scale on „0“ post-operative day after 4 hours of surgery in both interventional and routine care group.

Phase II -Treatment- Intervention: Placed the patient in comfortable position (supine or semi-fowlers position). Lumbar support device (i.e., a longitudinal roll measures 45cm length & 13cm width) was provided in lumbar region only to interventional group once a day for 1 hour for 3 days such 0 post-operative day, 1st post-operative day and 2nd post-operative day. For routine care group, hospital routine care was followed for 3 days and post-test was done.

Phase III – Post test assessment: The investigator assessed the level of backache immediately after the each intervention by using Modified Oswestry Backache Assessment Scale. On „0“ post-operative day lumbar support was given for 1 hour in the lumbar region and immediately 1st post-test was conducted. Likewise, on the „1st“ post-operative day lumbar support was given for 1 hour at the same time as the previous day and there after 2nd post-test was conducted immediately after the intervention. The same intervention repeated for same duration at the same time on 2nd post-operative day and 3rd post-test was conducted immediately after the intervention in intervention group.

Ethical consideration

The Institutional Human Ethics Committee, PSG Institute of Medical Science and Research reviewed the proposal and approved to conduct the study. The researcher has followed fundamental ethical principles like the right to freedom from harm and discomfort, respect for human dignity. The study was done according to the guidelines of the Institutional Human Ethics Committee. The investigator had informed about the purpose of the study to the study participants and family members and ensured them about confidentiality of the results. The freedom was given to the study participants to leave the study at his / her decision. Informed written consent was obtained from all study participants. The investigator has maintained the study participants privacy throughout study.

Statistical Analysis

The Data from the proforma were entered in Microsoft excel 2016 and analyzed using The data was analyzed and tested for their significants by SPSS version – 21. Descriptive statistical was used to describe the demographic variables. Mean $\pm$ SD were used to summarize the total modified AHPS score. The association was analyse by chi square rest with seelected demographic variable

Table 1 Frequency and percentage distribution of study participants based on demographic variables in interventional and routine care group.

N = 40

S.No	Demographic variables	interventional group (n=20)		routine care group (n=20)	
		f	%	f	%
1.	Age				
	18-30	9	45	9	45
	31-45	2	10	7	35
	46-55	8	40	2	10
	56-70				
2.	Gender	11	55	9	45
	Male	9	45	11	55
	Female				
3.	Education	6	30	0	20
	Primary	4	20	4	55
	High school	5	25	11	20
	Higher secondary	2	10	4	05
	Diploma	3	15	1	
	Graduate				
4.	Occupation	6	30	7	35
	Unemployed	8	40	7	35

	Employed	5	25	4	20
	Business	1	05	2	10
	Retired				
5.	Income level	4	20	2	10
	6000-10,000	13	65	15	75
	11,000-20,000	3	15	3	15
	21,000-30,000	0	-	0	-
	>30,000				
6.	Marital status	18	90	17	85
	Married	1	05	2	10
	Single	0	- 05	0	- 05
	Divorced	1		1	
	Widowed				

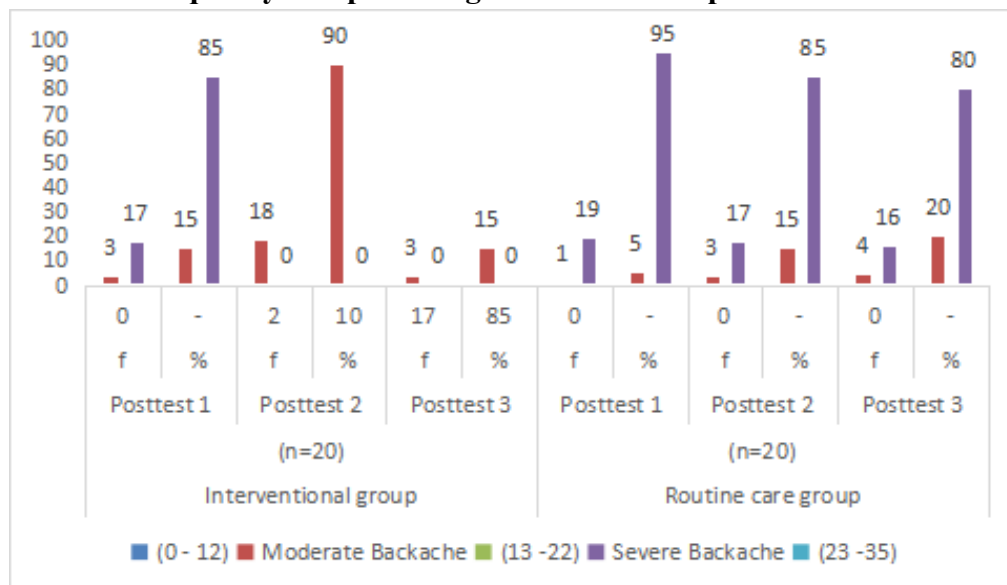
Table 2 Frequency and percentage distribution of study participants based on Clinical Variables in interventional and routine care group.

N = 40

S. No	Clinical variables	Interventional group (n=20)		Routine care group (n=20)	
		f	%	f	%
1.	Height				
	145-150	5	25	2	10
	151-155	2	10	0	- 25
	156-160	4	20	5	10
	161-165	0	- 15	2	15
	166-170	3	30	3	40
	> 170	6		8	
2.	Weight				
	51-65	8	40	8	40
	66-80	5	25	4	20
	81-95	6	30	8	40
	96-105	1	05	0	-
	106-110	0	-	0	-
3.	Body mass index				
	>40	0	-	1	05
	30-39.9	0	- 55	5	25
	25-29.9	11	45	5	25
	18.5-24.9	9	-	9	45
	<18.5	0		0	-
4.	Type of abdominal surgery				
	Open surgery	19	95	19	95
	Laparoscopic surgery	1	05	1	05

5.	Type of anaesthesia				
	General anaesthesia	6	30	11	55
	Spinal anaesthesia	9	45	6	30
	Mixed anaesthesia	5	25	3	15

FIGURE 1: Frequency and percentage distribution of post-test level of backache



IV Discussion

In this study, most of study participants 9 (45%) in both interventional and routine care group were between 31-45 years of age. In gender 11(55%) were male gender in interventional group and 11(55%) were female gender in routine care group.

- The interventional group pre -test mean and SD was 2.9 ± 0.4 and post-test 1 mean and standard deviation score was 2.8 ± 0.5 . In post-test 2 mean and standard deviation score was 1.9 ± 0.4 . In post-test 3 mean and standard deviation score was 1.1 ± 0.5 . the calculated „t“ value of post-test 1, post -test 2 and post -test 3 was 0,14.28 and 18.4 which is greater than the tabulated value 2.78 at the level of $p < 0.05$.
- Comparison of pre-test and post-test level of backache among interventional group and routine care group. During 1st post-test the mean and standard deviation among interventional group and routine care group were 2.8 ± 0.5 and 2.9 ± 0.2 respectively, the calculated t value was 1 at the level of $p < 0.05$ which lesser than table value which was not significant. During 2nd post-test the mean and standard deviation were 1.9 ± 0.4 and 2.8 ± 0.5 , the calculated t value was 9 at the level of $p < 0.05$ which greater than table value which was significant. During the 3rd post-test the mean and standard deviation among interventional and routine care group were 1.1 ± 0.5 and 2.8 ± 0.7 the calculated t value was 17 at the level of $p < 0.05$ which greater than table value which was significant. This showed that there was a significant improvement in the level of backache. Hence the research hypotheses(H_1) was retained.
- The study findings reveals that in routine care group there was an association found with body mass index ($\chi^2 = 20.00$) at the level of $p < 0.05$. Whereas no association found with other demographic and clinical variables such as Age, Gender, Education, Occupation, Monthly Income, Marital status,

Height, Weight, Type of Abdominal Surgery, Type of Anaesthesia. Hence the research hypothesis H₂ was retained.

Limitations

1. The study was limited to inpatients admitted in SICU and General Surgery Ward.
2. The study was limited to patients who are critically ill.

V Conclusion

The present study evaluated the effectiveness of lumbar support on backache among post-operative patients undergone abdominal surgery. The results of the study revealed that there was a significant independent „t” test and difference in the level of backache after administration of lumbar support. The investigator concluded that the Lumbar Support had improved the level of backache among post-operative patients undergone abdominal surgery, so the Lumbar Support was an effective method to bring the level of backache as well as behaviour. This can be practiced in all hospitals to fasten the recovery and improve the level of backache.

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