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A study to evaluate the effectiveness of schedule ambulation on functional ability, anxiety and quality of life among patient who had undergone abdominal surgery in selected hospital at Chennai

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Abstract
Background: Abdominal surgery is a common term applicable for surgeries conducted in any region in abdomen such as large intestine, small intestine, gallbladder, stomach, liver, appendix, pancreas, esophagus and spleen. Though there may be various reasons to conduct such surgical procedures which might include tumors, obstruction, infection or inflammatory bowel diseases, these are collectively called as abdominal surgery. Inguinal hernia surgery, appendectomy, abdominal explorations surgery and surgery for inflammatory bowel disease are some of the common abdominal surgeries performed with complete or partial removal of small or large intestine.
Objectives: 1. to assess the effectiveness of scheduled ambulation on functional ability of the patient who had undergo abdominal surgery in the study group and control group.
2. To find out the effectiveness of scheduled ambulation on anxiety among who had undergone abdominal surgery in the study and control group.
3. To evaluate the effectiveness of scheduled ambulation on quality of life among patient who had undergone abdominal surgery in the study group and control group.
4. To determine the difference between selected demographic variables functional ability, anxiety and quality of life in the study group and control group.
Materials and Methods: A quantitative research approach was adopted to assess the effectiveness of scheduled ambulation on functional ability, anxiety and quality of life among patient who had undergone abdominal surgery. A pre- experimental pretest, posttest research method was adopted to determine the effectiveness of scheduled ambulation on functional ability, anxiety and quality of life among patient who had undergone abdominal surgery. The samples were selected by using Computer assisted sampling technique was used to assign the patients randomly 75 patients were assigned to study group and 75 patients were assigned to control group. The setting of study in Sir Ivan Stedford Hospital and GJ Multispecialty hospital, Chennai.
Result: The result reveals that effectiveness of scheduled ambulation on functional ability, anxiety and quality of life among patient who had undergone abdominal surgery was related to the hypothesis of the study.

Keywords: ambulation, functional ability, anxiety, quality of life and abdominal surgery

Introduction

Abdominal surgery is a common term applicable for surgeries conducted in any region in abdomen such as large intestine, small intestine, gallbladder, stomach, liver, appendix, pancreas, esophagus and spleen. Though there may be various reasons to conduct such surgical procedures which might include tumors, obstruction, infection or inflammatory bowel diseases, these are collectively called as abdominal surgery. Inguinal hernia surgery, appendectomy, abdominal explorations surgery and surgery for inflammatory bowel disease are some of the common abdominal surgeries performed with complete or partial removal of small or large intestine. Alike any other surgical procedure, there are always side effects and complications present in abdominal surgeries too. In an abdominal surgery, the risks may include infection, damage to nearby organs and bleeding. The complications may also be because of anesthesia, medication reactions and breathing problems too.

According to the national survey in U.S. highlighted that one of the important frequent and difficult surgeries among surgeons are operations in digestive system (De Frances *et al.*, 2008). Because the region of digestive system is highly sensitive and moreover, prevalence of this surgery is high among the age group of 60 is 43.8 % (Nunoo-Mensah *et al.*, 2009). As a result, the patients who undergone abdominal surgery has significantly face the issues in their functional activities and psychological wellbeing. It is understood that the surgery in abdomen seems to be the more painful method among all other operations (Kalkman *et al*., 2013).

In India, though Inflammatory Bowel Disease (IBD) and Ulcerative Colitis (UC) are quite uncommon, its incidence is getting increased nowadays. A team was setup named 'Indian society of Gastroenterology (ISg) Task Force' with the aim of collating the information about the clinical spectrum of IBD which is presently reported in India. Through web portal and through proforma questionnaire published in Indian Journal of Gastroenterology, the ISG members were called and asked to fill their demographic

features, family history, risk factors, clinical manifestations and characteristics, course of disease, and pattern of treatment of IBD.

Out of 1,255 filled questionnaires received, 96 were rejected and 1,159 (92.3 %) were analyzed. This comprised data on 745 (64.3 %) patients with UC, 409 (35.3 %) with CD, and 5 with indeterminate colitis. The median duration of illness was longer in patients with CD (48 months) compared to those with UC (24 months) (p = 0.002). More than one half of patients (UC 51.6 %, CD 56.9 %) had one or more extra intestinal symptoms.

Problem statement

A Study to evaluate the effectiveness of schedule ambulation on functional ability, anxiety and quality of life among patient who had undergone abdominal surgery in selected hospital at Chennai.

Objectives

1. To assess the effectiveness of scheduled ambulation on functional ability of the patient who had undergo abdominal surgery in the study group and control group.
2. To find out the effectiveness of scheduled ambulation on anxiety among who had undergone abdominal surgery in the study and control group.
3. To evaluate the effectiveness of scheduled ambulation on quality of life among patient who had undergone abdominal surgery in the study group and control group.
4. To determine the difference between selected demographic variables functional ability, anxiety and quality of life in the study group and control group.

Materials and methods

Research Approach: Quantitative research approach was adopted for the study to assess the effectiveness of scheduled ambulation on functional ability, anxiety and quality of life among patient who had undergone abdominal surgery.

Research Design: A pre- experimental pretest, posttest research method was adopted to determine the effectiveness of scheduled ambulation on functional ability, anxiety and quality of life among patient who had undergone abdominal surgery.

Setting of the Study: The study was conducted in three Hospitals at Chennai i.e., Sir Ivan Stedford Hospital, GJ Multispecialty hospital and Grace Multispecialty Hospital.

Sampling technique: Computer assisted sampling technique was used to assign the patients randomly 75 patients were assigned to study group and 75 patients were assigned to control group.

Sample size: A total of 150 patients were selected, out of which 75 were adopted for study group and 75 were adopted for control group respectively. The below sample size formula was applied to select the sample.

$$\text{Sample size} = \frac{\frac{z^2 \times p\,(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p\,(1-p)}{e^2 N}\right)}$$

Result and conclusion

Table 1: Comparison of pretest and posttest on scheduled ambulation on functional ability in study group and control group

Domain	Study group n=75		Control group n = 75		z-value	p-value
	Mean	SD	Mean	SD		
Pre test	3.21	0.50	3.44	0.50	CV=2.82 TV=1.96	P=0.0048(S)
Post test	2.29	0.57	2.57	0.59	CV=2.96 TV=1.96	P=0.0031(S)

Table-1: It Shows Mean score, SD and 'z' value in the pretest and posttest were compared between the study group and control group regarding functional ability. In the study group, pretest mean and SD was 2(0). In Posttest mean and SD was 7.19 (0.37). In the control group, the pretest mean and SD was 2(0) and posttest was 4.71 (0.34). The obtained 'z' value was (CV=42.86, TV=1.96) p<0.05 significant.

Table 2: Comparison of pretest and posttest on scheduled ambulation on anxiety in study group and control group

Domain	Study group n=75		Control group n = 75		z-value	p-value
	Mean	SD	Mean	SD		
Pre test	3.21	0.50	3.44	0.50	CV=2.82 TV=1.96	P=0.0048(S)
Post test	2.29	0.57	2.57	0.59	CV=2.96 TV=1.96	P=0.0031(S)

Table no-2: It shows Mean score, SD, and 'z' value in the pretest and posttest were compared between the study group and control group regarding anxiety. In the study group the pretest mean and SD was 3.21(0.50) and posttest mean and SD was 2.29(0.57). The obtained z-value (CV=2.82, TV=1.96) p-value (0.0048) significant. In the control group, the pretest mean and SD was 3.44(0.50) and posttest mean and SD was 2.57(0.59). The obtained z-value (CV=2.96, TV=1.96) p-value (0.0031) significant.

Table 3: Comparison of pretest and posttest on scheduled ambulation on quality of life in study group and control group

Domain	Study group		Control group		z-value	p-value
	Mean	SD	Mean	SD		
Pretest	1.10	0.25	1.11	0.25	CV=0.24 TV=1.96	P=0.8065(NS)
Posttest	2.89	0.14	2.81	0.12	CV=3.76 TV=1.96	P=0.0002(S)

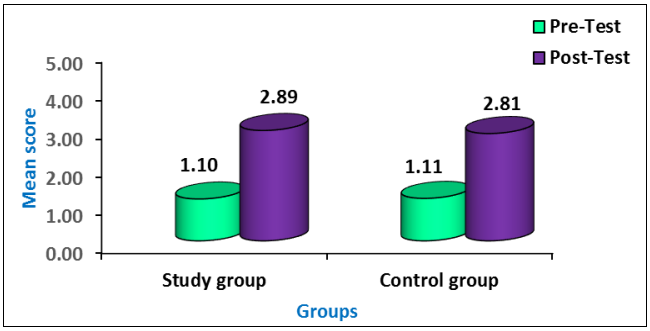

Fig 3: Comparison of pretest and posttest on scheduled ambulation on quality of life in study group and control group

The above figure shows mean score, SD, and 'z' value in the pretest and posttest were compared between the study group and control group regarding quality of life. In the study group the pretest mean and SD was1.10 (0.25) and posttest mean and SD was 2.89(0.14).In the control group, the pretest mean and SD was 1.11(0.25) and posttest mean and SD was 2.81(0.12).The obtained z-value in pretest was (CV=0.24, TV=1.96) p-value (0.8065) non-significant. The obtained z-value in posttest was (CV=3.76, TV=1.96) p-value (0.0002) significant.

Limitation of the study

The patients in the study group were selected using simple randomization sampling technique, where lottery method was applied to select the samples. The patients in the study group alone received intervention on ambulation whereas the patients in the control group did not received any intervention except getting informed consent and routine care from nursing Personnel. The study population was limited to certain areas alone. The study findings were limited only to the study group who had undergone abdominal surgeries. Intervention on scheduled ambulation was little harder during 8 am and 8 pm since it will be disturbing normal routine activities of the patients and nurses in the ward.

Major Findings of the Study

1. Findings on the effectiveness of modified early ambulation and functional activity of patient's undergone abdominal surgery in the study group and control group The posttest mean scores and SD of the experimental study group that is observed after the surgery at regular time interval of 24 hours are 10.880 (.9438), 10.613 (1.0384), 10.533 (1.0441), 10.480 (1.1314) and 10.147 (1.1234). In the same way, the mean and SD scores of control group 10.933 (.8436), 10.867 (.9492), 10.573 (1.1291), 10.467 (1.0946) and 10.347 (1.2247) individually. Among study group and control group obtained t-value of post-test are t = .390 ($p< 0.01$); 1.550 ($p< 0.01$), .225 ($p< 0.01$), - .080 ($p< 0.01$) and 1.064 ($p< 0.01$); all these values are not significant. Therefore, it is noticed that there is no significant difference between post-test activities and pretest in both the control and study group that relates to the modification of primary ambulation. However, it was understood that post-test mean score of functional activity of experimental or study group is comparatively lower than the control group.
2. Findings on the effectiveness of modified early ambulation and anxiety of patient's undergone abdominal surgery in the study group and control group The observed SD and mean scores of post-test are in the study group are 23.027 (1.8670), 21.987 (2.0500), 20.987 (2.2571), 20.160 (2.4826) and 19.120 (2.7409) are lesser than the pretest values. For control group, the scores are 24.160 (1.5338), 23.120 (1.8741), 22.120 (2.1051), 21.293 (2.3924) and 20.227 (2.6282) respectively. The t-value of control and study group was 4.837, 3.925, 3.658, 3.341 and 3.074 for five post-test with p-value as 0, .001 and .003 respectively. Based on these values, the hypothesis of research H2 was accepted and H02 null hypothesis was rejected. Based on the analysis, the mean scores of post-test of the study group have a higher value than the control group.
3. Findings on the effectiveness of modified early ambulation and quality of life of patient's undergone abdominal surgery in the study group and control group the observed SD scores of the experimental and control group are 4.1874 and 6.2358 and t-value is 43.597 and 17.536 respectively. The overall p-value of the experiment is 0. The mean score of the experimental study is higher than the control group.

Recommendation for future studies

1. The same study can be conducted in other post-operative surgical patients such as cardiac thoracic surgeries.
2. The similar study can be compared between government set up hospitals and private set up hospitals.
3. The similar study can be conducted using different alternative variables.

Conclusion

The study finding is favourable to the hypothesis-2 -i.e there is a major variation has been observed in the anxiety level amongst the patients gone through abdominal surgery especially in the study group who involved in intervention than who do not. It may be concluded that the variation disclosed in the posttest activities of anxiety gains among the control group and study Groupin association with the altered early ambulation intervention. Therefore, hypothesis 2 is approved. There is a major variation in the quality of life amongst the patients who have gone through abdominal surgery have made use of the intervention than who has not. It may be concluded that the variation disclosed in the posttest quality of life gains among the control group and study group in association with the altered early ambulation intervention. Therefore, hypothesis 2 is approved.

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