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A study to evaluate the effectiveness of structured teaching programme on knowledge regarding post operative exercises of clients undergoing abdominal surgeries in selected hospitals, Davangere

Mrs. Ann Mary Varghese

Assistant Professor , Medical Surgical Nursing
Sree Sudheendra college of nursing, Ambalamedu, Ernakulam, Kerala
Email - ancylove76.ab@gmail.com

Abstract: *Pre operative education is a common feature of the pre-operative preparation for many surgical procedures. It is anticipated that this education will result in beneficial outcomes for the patient. Exercises play an important role in relieving pain and preventing complications and thus facilitate recovery.*

Objectives :

- *Assess the knowledge regarding post operative exercises of clients who are undergoing abdominal surgeries.*
- *Evaluate the effectiveness of structured teaching as evident from gain in post-test knowledge score.*
- *Determine the association between pre-test knowledge score and socio demographic variables.*

Method :

A pre experimental approach was adopted for this study. A total of 45 clients undergoing abdominal surgeries were selected by purposive sampling method. Designs one group pre-test post-test. Data were collected by using structured questionnaire method. Impact knowledge to clients by using structured teaching programme.

Results :

The present study evaluate the knowledge of clients regarding post operative exercises and found that only 9 had good knowledge, 16 had average knowledge and 20 had poor knowledge in the pre-test. The overall mean percentage in the pre-test was 21.5 with standard deviation of 3.7 and in the post test was 32.5 with standard deviation 3.6 with a positive difference of 11 and 0.1 respectively.

Interpretation and conclusion :

Analysis data shows that post test knowledge score has significantly higher than the pre-test knowledge score at $p < 0.05$ level of significance i.e., mean difference is 11. There was a significant improvement in knowledge of clients regarding postoperative exercises. Thus investigator concluded that structured teaching programme was a good method of conveying information to clients and it is very effective in order to gain knowledge.

Key Words: *Abdominal surgeries; Exercises.*

1. INTRODUCTION:

Medical speciality that treats diseases, injuries or other physical conditions. SURGERY came from a Greek word cheirourgia, meaning 'hand work'. In India Sushrutha Samhita is also known as by the title 'Father of surgery'. Billroth is often referred to as "the father of abdominal surgery. 2Having surgery is a major event in any person's life. Total number of surgical procedures performed in US was 4.6 million in that total hysterectomy-5,69000,caesarian section-1.3 million. Good results of the surgery depend on careful pre operative evaluation, balancing the risks and benefits of the surgery , attention to pain management & avoidance of post operative complications.

A study report stated that approximately one half of the patients undergoing gastro enterological surgery had post operative complications, which resulted in a two fold increase in the hospital stay and costs of care. A study was conducted in Sweden to find out the effects of breathing exercises on breathing patter ns in obese and non-obese subjects. Chest physiotherapy in connection with abdominal surgery includes different deep -breathing exercises to prevent post-operative pulmonary complications. The aim of this study was therefore to describe and to analyse the breathing patterns in obese and non -obese subjects during three different breathing techniques frequently used in the treatment of post-operative patients. Twenty-one severely obese and 21 non -obese subjects were studied. The breathing techniques investigated were: deep breaths without any resistance (DB), positive expiratory pressure (PEP) with an airway resistance of during expiration, inspiratory resistance positive expiratory pressure (IR-PEP) during inspiration. They concluded that the functional residual capacity (FRC) was significantly lower during Deep breathing than during PEP and IR-PEP in the group of obese subjects.[2]

Pre operative nursing care includes psychological, physiological and physical preparation of the patient to achieve an optimum condition that favours satisfactory progress and minimizes possibility of complications.

Exercises play an important role in relieving pain &preventing complications. The application of therapeutic exercises to a patient is a process which demands an initial examination of patients needs and a constant reassessment of the situation in the light of progress.

Pre operative teaching is an important component in the clients operative experience. Teaching about post operative activities is implemented in the pre- operative phase. Pre operative teaching not only reduces patients anxiety but also creates an awareness about surgical events, how to perform and exercises necessary to decrease post operative complications and facilitate recovery.

2. NEED FOR THE STUDY:

Pre operative teaching is important to ensure a positive surgical experience for the client. Numerous research studies support the value of pre operative instructions in reducing both the incidence of post operative complications and length of stay in the hospital.[3] It has been found that the incidence of post operative complications among patients undergoing major surgery in developing countries is very high. But the incidence of the same in Western countries account for only a very small percentage. The clients undergoing abdominal surgeries are found to be at risk for developing post operative complications. Knowledge deficit regarding post operative exercises among the client is noticed. [8] Early ambulation is the most significant general nursing method to prevent post operative complications.[9]

Post operative pulmonary complication and contribute equally to morbidity, mortality and length of hospital stay. Use of appropriate lung expansion techniques and adequate pain management also helps to ameliorate the risk of pulmonary complications.[10] Considering the prevalence of pain after surgical operations & importance of rapid pain alleviation, physical exercises is a simple method for relieving pain.[11] Regarding general complications after abdominal surgeries, respiratory complications are common in post operative patients upto 40% of all patients develop atelectiasis.[8]

PIEPER AND KAGER is a careful study from Sweden, estimated a yearly incidence of 1.33 cases of appendicitis per 1000 of male population and 0.99/1000 of female population.25% of the patients were younger than 14 yrs and 75% younger than 33. More recently a population based study examined the outcome of all open cholecystectomies performed in 12 month period in 2 states in the US. In this 42,474 patients, representing approximately 8 % of all cholecystectomies performed annually in that morbidity rate of 14.7% includes all reported complications, including minor problems such as atelectasis, and other assorted difficulties. [12] Some of them have misconception that a change in position after abdominal surgery may worsen their health status. The same time it is fact that exercises and early ambulation reduces post operative complications. [8]

A study on knowledge retention from pre operative patient information. This review considered all studies that included adults in a hospital setting, either as inpatients or same day surgical patients, and who received some form of information and or instruction before an operative procedure. The findings of the study support the use of pamphlets to inform patients and to improve their skills. The data suggested that the instructional method, the act of educating a patient by delivering for actions is useful for improving patients knowledge of their treatment and ability to perform and comply with required exercises.[13]

A study on Preoperative Teaching and Hysterectomy Outcomes. This study used a theoretical model to determine whether an efficacy-enhancing teaching protocol was effective in improving immediate postoperative behaviors and selected short- and long-term health outcomes in women who underwent abdominal hysterectomies. The major finding was that participants in the efficacy-enhancing teaching group ambulated significantly longer than participants in the usual care group. This is an important finding because the most prevalent postoperative complications after hysterectomy are atelectasis, paralytic ileus, and deep vein thrombosis, and postoperative ambulation has been shown to decrease or prevent all of these complications.[14]

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In our hospital set up among the surgeries are conducting -abdominal surgeries are most common like appendectomy, cholecystectomy, hernia. Among these most of them need more than 6 days of hospitalization. Pre operative teaching allays anxiety & encourages clients to participate actively in their own care. Because of the above mentioned reasons the investigator identified the need for giving a structured teaching programme for clients who are posted for abdominal surgeries on post operative exercises will avoid post operative complications and to facilitate recovery.

3. MATERIALS AND METHODS:

One group pre test post test pre-experimental research design was adopted for this study. In this study structured teaching programme was given to the samples after pre test. Seven days after the structured teaching programme post test was done to assess the knowledge regarding post operative exercises .In this study a comparison between the pre test and post test score was done to find out the effectiveness of structured teaching programme. The samples were drawn from people. They were selected by purposive sampling technique. We met the candidates and established rapport with them and provided psychological support for the people .The procedure was explained to the people. The people who met the inclusion criteria were requested to participate in the study. Thus 45 samples were selected to participate in the study. After obtaining the signature in the consent form for willingness to participate in the study, a demographic data sheet was given to the candidates, followed by structured questionnaire to assess the knowledge on post-operative exercises. After this procedure people were participated in STP for duration of one hour. The post test was done on seventh day following intervention. The same tool used to assess the effectiveness of STP. The total duration spend with each participant for conducting Pre test and Post test is 2 hour.

4. RESULT:

The data was presented in the form of table and figures.

TABLE 1: FREQUENCY AND PERCENTAGE DISTRIBUTION OF SUBJECTS ACCORDING TO DEMOGRAPHIC AND OTHER DATA.

Sl. No.	Variable	No. of patients	Percentage
1.	**Age**		
	a) 21-30 yrs	13	28.9%
	b) 31-40 yrs	16	35.6%
	c) 41-50 yrs	7	15.5%
	d) 51 & above	9	20.0%
2.	**Gender**		
	a) Female	16	35.6%
	b) Male	29	64.4%
3.	**Residence**		
	a) Rural	33	73.3%
	b) Urban	12	26.7%
4.	**Religion**		
	a) Hindu	40	88.9%
	b) Muslim	4	8.9%
	c) Christian	1	2.2%
5.	**Marital status**		
	a) Unmarried	10	22.2%
	b) Married	35	77.8%
6.	**Monthly income**		
	a) < 3000	19	42.2%
	b) 3001-4000	23	51.1%
	c) 4001-5000	3	6.7%
7.	**Educational status**		
	a) Primary	20	444%
	b) Higher secondary	13	28.9%
	c) Collegiate education	7	15.6%
	d) Degree and above	5	11.1%
8.	**Occupation**		
	a) Labourer	19	42.2%
	b) House wife	15	33.3%
	c) Employee	8	17.8%
	d) Any other	3	6.7%
9.	**Previous surgery**		
	a) Yes	11	24.4%
	b) No	34	75.6%

10.	**Other diseases**		
	a) Yes	15	33.3%
	b) No	30	66.0%
11.	**No. of admissions**		
	a) once	1	2.2%
	b) Twice	4	8.9%
	c) More than two times	18	40.0%
	d) Never	22	48.9%
12.	**Sources of getting Information**		
	a) Medias	32	71.1%
	b) Magazines	6	13.3%
	d) Health care professionals	7	15.6%

5. MAJOR FINDINGS OF THE STUDY:

Sample characteristics.

According to age: Majority of subjects belongs to the age group of 31-40 years (16%) than the other age group like 21-30 years (28.9%), 51 and above (20%) and 41-50 years (15.5%).

According to sex and religion: Most of the subjects were 29 (64.4%) than female 16 (35.6%). the total respondents 33 (73.3%) were living in the rural community and 12 (26.7%) were living in the urban community.

According to marital status: majority of the subjects were married 35 (77.8%)

Regarding monthly income: Majority 23 (51.1%) of respondents family income were 3001-4000, 19 (42.2%) of respondents family income were less than 3000 and 3 (6.7%) respondents family income between 4001 -5000.

According to education: Majority 20 (44.4%) subjects had primary education, 13 (28.9%) had higher secondary education, 7 (15.6%) had collegiate education 5 (11.1%) had degree and above.

According to occupation: Majority 19 (42.2%) of subjects were labourer, 15 (33.3%)house wife, 8 (17.8%) employee and 3 (6.7%) any other

According to previous surgery and other diseases : Most of the subjects had no previous surgery 75.6% and 24.4% had previous surgery. 66.7% had no other diseases and 33.3 have other diseases.

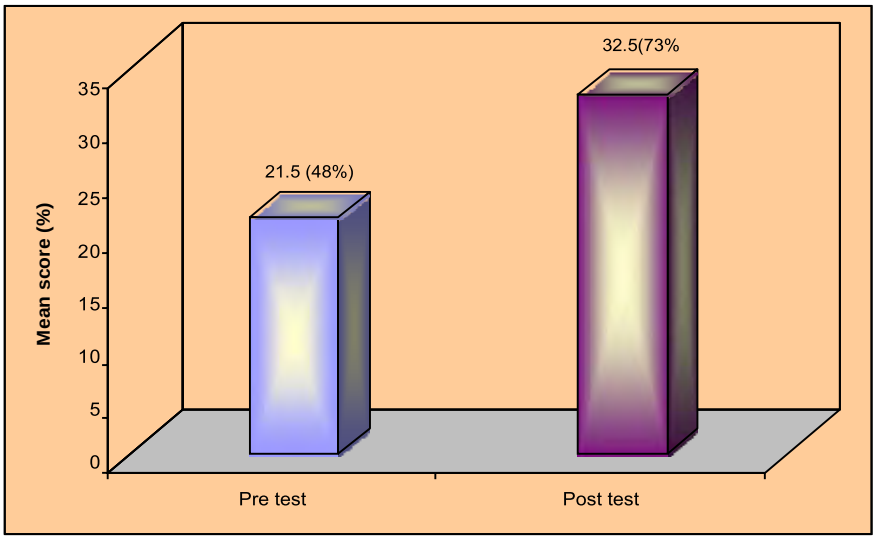
According to number of admissions: Majority of subjects 22 (48.9%) never got admitted in the hospital, where as 18 (40%) of subjects got admitted in the hospital twice and 1 (22%) subjects got admitted once only.

Regarding sources of information: majority 32 (71.1%) getting information from medias, 7 (15.6%) from health care professionals and 6 (13.3%) from magazines.

MEAN AND SD OF KNOWLEDGE ON POST OPERATIVE EXERCISES AMONG SUBJECTS IN PRETEST AND POST TEST

	Pre-test score (%)	**Post-test scores (%)**
Mean	21.5	32.5
SD	3.7	3.7

Data presented in above table showed that, mean difference of pretest and post test knowledge score on post operative exercises among the subjects was 11.0.



DATA DESCRIBING DIFFERENCE BETWEEN PRETEST AND POST TEST MEAN AND 'T' VALUE OF KNOWLEDGE SCORES

Sl. No.	Description	Mean	SD	df	t-value	Significance
1.	Pretest	21.5	3.7	44	41.14	< 0.05, S
2.	Post test	32.5	3.6			

p < 0.05, table value 1.96

The data shows in the table (7) reveals that there was a significant gain in the post test scores. The gain in knowledge score is significant (t = 41.14) since calculated value is higher than the table value (1.96) at 44 df, research hypothesis is accepted. Therefore findings revealed that STP on post operative exercises is effective.

ASSOCIATION BETWEEN EXISTING PRE- TEST LEVEL OF KNOWLEDGE AND DEMOGRAPHIC VARIABLES AND OTHER DATA

Sl. No.	Variable	No.	Pre-test Knowledge level			Chi-square (df)	p-value
			Good n (%)	Average n (%)	Poor n (%)		
1.	**Age**						
	a) 21-30 yrs	13	4 (30.8)	3 (23.1)	6 (46.2)	9.52 (6)	0.15, NS
	b) 31-40 yrs	16	10 (62.5)	1 (6.3)	5 (31.3)		
	c) 41-50 yrs	7	1 (14.3)	2 (28.6)	4 (57.1)		
	d) 51 & above	9	1 (11.1)	3 (33.3)	5 (55.6)		
2.	**Gender**						
	a) Female	16	6 (37.5)	1 (6.3)	9 (56.3)	10.58 (2)	< 0.05, S *
	b) Male	29	3 (10.3)	15 (51.7)	11 (37.9)		
3.	**Residence**						
	a) Rural	33	9 (27.3)	8 (24.2)	16(48.5)	3.96 (2)	0.14, NS
	b) Urban	12	7 (58.3)	1 (8.3)	4 (33.3)		
4.	**Religion**						
	a) Hindu	40	13 (32.5)	8(20.0)	19 (47.5)		

	b) Muslim	4	2 (50.0)	1 (25.0)	1 (25.0)	2.63 (2)	0.62, NS
	c) Christian	1	1 (100)	-	-		
5.	**Marital status**						
	a) Unmarried	10	4 (40.0)	1 (10.0)	5 (50.0)	0.80 (2)	0.67, NS
	b) Married	35	12 (34.3)	8(22.9)	15 (42.9)		
6.	**Monthly income**						
	a) < 3000	19	5 (26.3)	6 (31.6)	8 (42.1)	8.06 (4)	0.09, NS
	b) 3001-4000	23	8 (34.8)	3 (13.0)	12 (52.2)		
	c) 4001-5000	3	3 (100.0)	-	-		
7.	**Educational status**						
	a) Primary	20	-	5 (25.0)	15 (75.0)	27.5 (6)	< 0.05, S *
	b) Higher secondary	13	6 (46.2)	4 (30.8)	3 (23.1)		
	c) Collegiate education	7	5 (71.4)	-	2 (28.6)		
	d) Degree and above	5	5 (100.0)	-	-		
8.	**Occupation**						
	a) Labourer	19	6 (31.6)	2 (10.5)	11 (57.9)	19.50 (6)	< 0.05, S *
	b) House wife	15	1 (6.7)	6 (40.0)	8 (53.3)		
	c) Employee	8	6 (75.0)	1 (12.5)	1 (12.5)		
	d) Any other	3	3 (100)	-	-		
10.	**Other diseases**						
	a) Yes	15	2 (13.3)	5 (33.3)	8 (53.3)	5.53 (2)	0.06, NS
	b) No	30	14 (46.7)	4 (13.3)	12 (40.0)		
11.	**No. of admissions**						
	a) once	1	1 (100)	-	-	9.11 (6)	0.17, NS
	b) Twice	4	1 (25.0)	2 (50.0)	1 (25.0)		
	c) More than two times	18	3 (16.7)	4 (22.2)	11 (61.1)		
	d) Never	22	11 (50.0)	3 (13.6)	8(36.4)		
12.	**Sources of getting information**						
	a) Medias	32	9 (28.1)	6(18.8)	17 (53.1)	5.85	0.21, NS
	b) Magazines	6	2 (33.3)	2 (33.3)	2 (33.3)		
	c) Health care professionals	7	5 (71.4)	1 (14.3)	1 (14.3)		

H1 : The mean post test knowledge scores of the subjects on post operative exercises will be significantly higher than their mean pre-test knowledge scores as administered by the structured knowledge questionnaire at 0.05 level of significance.

H_2 : There will be significant association between selected demographic variables and the knowledge of pre-operative subjects.

Pre test Level of knowledge of people regarding post operative exercises

The present study assessed the knowledge of subjects regarding post operative exercises and found that only 9 had good knowledge, 16 had average knowledge and 20 had poor knowledge in the pre test..

Effectiveness of STP on knowledge regarding post operative exercises

The overall mean percentage in the pretest was 21.5 with standard deviation of and is the post test it was 32.5 with the standard deviation 3.6 with a positive difference of 11 and 0.1 respectively.

The association between level of pre test knowledge and selected demographic variables

The table describes the association between knowledge and selected demographic variables such as education, income and so on

The results of chi square analysis indicates that p>0.001 so there was significant association between knowledge and selected demographic variables such as gender, education and occupation.

6. RECOMMENDATIONS :

Based on the interpretation of data and conclusion of present study, the following recommendations are made.

- The study can be replicate on a large scale.
- The same study can be conducted by using different teaching method.
- The study can be conducted on the basis of assessing knowledge, attitude and practice.
- Comparative study can be done for both urban and rural subjects undergoing abdominal surgeries.

7. CONCLUSION:

This chapter enlightens importance of this research, reveals that there was significant lack in knowledge regarding post operative exercises among clients undergoing abdominal surgeries and structured teaching programme had a significant role in improving the knowledge. The study also reveals that there was a significant association between knowledge with age, gender and education.

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