

## ORIGINAL ARTICLE

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## EFFECTIVENESS OF PHYSIOTHERAPY MANAGEMENT OVER QUALITY OF LIFE IN POST OPERATIVE GYNAECOLOGICAL PATIENTS

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## ABSTRACT

**Background:** Gynaecological surgeries refer to surgery on the female reproductive system. Woman may undergo a Gynaecological surgery for different reasons, including; Uterine prolapse, Cancer of the uterus, cervix, or ovaries, Endometriosis, Bleeding, Adenomyosis etc. Gynaecological surgeries includes procedures such as hysterectomy, oophorectomy, salpingectomy, myomectomy, ovarin cystectomy, etc. The Physiotherapy referral is essential in such cases but most of time the patients are not referred for Physiotherapy. Hence the current study was undertaken. Thus the objective is to find out the Effectiveness of Physiotherapy management over quality of life in post-operative Gynaecological patients.

**Methods:** 32 females who underwent Gynecological surgery were taken into the study and divided conveniently into Group A and Group B consisting of 16 females each. Physiotherapy intervention given to Group A includes- Breathing exercises, Coughing techniques, Circulatory exercises, Knee rolling, log rolling, patient made to sit, Abdominal exercises, Pelvic tilting, Getting in and out of the bed, Pelvic floor exercises and mobilization inside the ward, outside the ward and stair climbing where as conventional treatment which includes Breathing exercises and Back care were given to Group B for a period of 5 days. Outcome measures used were VAS (Visual Analog Scale) and ASIS (Abdominal Surgery Impact Scale).

**Results:** There was a significant difference in post test score of VAS ( $p=0.0001$ ) and ASIS ( $p=0.0001$ ) in Group A as compared to Group B.

**Conclusion:** This study revealed that physiotherapy intervention performed immediately after Gynecological surgery improves quality of life of the patients and a scheduled exercise program benefits the patient more than conventional Physiotherapy management and it should be emphasized to all the post Gynecological surgery Patients.

**Keywords:** Gynaecological surgery, Physiotherapy, Post Operative, Quality of Life, Hysterectomy, Abdominal Surgery Impact Scale, Visual Analogue Scale.

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## INTRODUCTION

Gynaecological surgeries refer to surgery on the female reproductive system. Woman may undergo a Gynaecological surgery for different reasons including Uterine prolapse, Cancer of the uterus, cervix, or ovaries, Endometriosis, Bleeding, Adenomyosis etc. Gynaecological surgeries include procedures such as hysterectomy, oophorectomy, salpingectomy, myomectomy, ovarian cystectomy, etc. Gynaecological procedures can either be major or minor abdominal operations or laparoscopic procedures. Compared to a higher frequency of hysterectomy (10-20%) in other countries [1] a lower rate (4-6%) has been reported from India [2-5]. In a recent Cross-sectional study conducted in India concluded that out of a total of 619 women, approximately 32.5% underwent hysterectomy. Regarding the age studied 2 underwent hysterectomy below 25 years of age, 10 underwent hysterectomy at 26-35 years age; 24 at 36-45 years age; 19 at 46-55 years age and 3 at >56 years age. When the type of Hysterectomy is reviewed 72% underwent total abdominal hysterectomy, 15% laparoscopic hysterectomy and 12% vaginal hysterectomy. Common indications for Gynaecological Surgeries are fibroids (45%), menorrhagia (31%), prolapse (10%), endometrial hyperplasia (5%), cervical dysplasia (3%), and chronic pelvic inflammatory disease (5%). Following Abdominal surgeries post operative Complication rate was found to be 15% while 10% reported non-specific complaints[6]. Various Post operative complications that are likely to arise after Gynaecological surgeries are Chest infection, Danger of straining newly inserted suturing, Deep Vein Thrombosis, Wound infection, Urinary tract infection, Incontinence, Dyspareunia. The incidence of clinically significant Post-operative Pulmonary complications after open abdominal surgery has been shown to be as high as 53%[7]. The amount of Physiotherapy care required by such patients varies widely with the condition and age of the patient and with the severity of the surgery. The chief objective of the Post Operative Physiotherapy is that the patients recover as well as they possibly can in the shortest time and without preventable complications [8].

The research question that arises is Does the Physiotherapy Management has an effect on Quality of life of post operative gynaecological patients. Physiotherapy treatment for patients after open abdominal surgery consists of a variety of interventions intended to improve cardiopulmonary and/or physical function and reduce the incidence of Postoperative Pulmonary complications. The Physiotherapy referral is essential in such cases but most of time the patients are not referred for Physiotherapy. Thus the Aim and Objectives of the study is to find out the effectiveness of Physiotherapy management over Quality of Life (QoL) and Pain in Postoperative Gynaecological patients.

## METHODOLOGY

32 females who underwent Gynaecological surgery were taken into the study and divided conveniently into Group A and Group B consisting of 16 females each. It is a quasi experimental study. This study was conducted for a peri-

od of three months in SRM Medical College Hospital and Research Centre, Obstetrics and Gynaecological In-Patient Department. Patients who were included in the study underwent Total Abdominal Hysterectomy with or Without unilateral or bilateral salphingo-ophorectomy. Informed consent was taken from the patients before the Trial. Patients who underwent Vaginal Hysterectomy or Laparoscopic procedures were excluded from the study.

## PROCEDURE

32 females who underwent Gynaecological surgery were taken into the study and divided conveniently into Group A and Group B consisting of 16 females each. Group A (16 Females): Physical examination and Vitals were assessed. Physiotherapy intervention given to Group A includes-Breathing exercises, Coughing techniques, Circulatory exercises, Knee rolling, log rolling, patient made to sit, Abdominal exercises, Pelvic tilting, Getting in and out of the bed, Pelvic floor exercises and mobilization around the ward, outside the ward and stair climbing[9] (Table 1) All the exercises were performed 3 sessions per day with 15 repetitions of each exercise. Group B (16 Females): Physical examination and Vitals were assessed. Group B patients were advised with Breathing exercises-3 sessions per day, 15 repetitions and Back care was advised.

**Table 1:** SCHEDULED EXERCISE FOR GROUP A PATIENTS

S. no	Post Operative Day	Exercises	Duration	Frequency	Repetition
1.	POD 1	Diaphragmatic Breathing exercises Coughing techniques Circulatory exercises, Knee rolling, log rolling, Patient made to sit.	5 Minutes	Thrice a Day Twice a day Thrice a day Thrice a day Thrice a day	5 times 20 times 10 times 2 times
2.	POD 2	Transversus Abdominis exercises, Pelvic tilting, Getting in and out of the bed		Thrice a day Thrice a day Thrice a day	15 times 15 times
3.	POD 3	Pelvic floor exercises and Mobilization around the ward	5 Seconds Hold 5 minutes	Five times a day Four times a day	5 times
4.	POD 4	Mobilization outside the ward Stair Climbing	100 Meter 4 steps up and Down	Twice a day Twice a day	

The patients in the Group A & Group B were evaluated on the Post operative day one after surgery and on the sixth Postoperative day. The patients were asked to subjectively describe their pain using VAS. The patients were asked to make a mark on the line usually 10 cm long that has 'NO

PAIN' designated at one end and 'WORST PAIN' at the other end. A centimeter ruler is used to measure the number of centimeters. The patient mark lies from the '0' end of the scale. This number is Visual Analogue of pain scale number. Abdominal Surgery Impact Scale (ASIS) is an instrument specifically designed to measure health related Quality of Life after abdominal surgery. The instrument has six domains including physical limitations, functional impairment, pain, visceral function, sleep, and psychological function. Each domain has three items resulting in a total of 18 items. Each item is scored on a seven-point Likert scale ranging from 1 to 7. The possible total score may range from 18 to 126 with higher scores indicating improved quality of life. The reliable and valid ASIS (Abdominal Surgery Impact Scale) was previously tested in a Canadian population undergoing abdominal surgery [10]. The outcome measures were taken on Post operative day 1 and Post operative day 6.

**Data Analysis**

The details collected from the ASIS (Abdominal Surgery Impact Scale) and VAS (Visual Analog Scale) was entered in MS-excel spread sheet. SPSS-21 was used for statistical analysis, where descriptive tables were generated to demonstrate the findings. Paired t-test was used to compare the difference within the group and Independent t test was used to compare the difference between Group A and Group B.

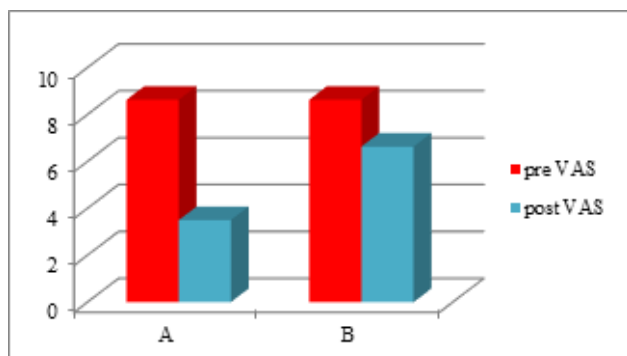
**RESULTS**

The two Groups presented similar levels of pain on the First postoperative day. The Group A presented a lower pain score on the sixth Post Operative day, mean of VAS 8.63 (standard error=0.13) was reduced to mean 3.50(standard error=0.18) (p=0.0001) following Physiotherapy Intervention. Group B patients also presented a lower pain score on Sixth Postoperative day, mean of VAS 8.63 (standard error=0.13) was reduced to mean 6.63(standard error= 0.20) (p=0.0001) (Table 2) .

**TABLE 2: COMPARISON OF PRE TEST AND POST TEST VAS IN GROUP A AND GROUP B**

Group	Pre test	Standard error	Post test	Standard error	P value
A	8.63	0.13	3.50	0.18	0.0001
B	8.63	0.13	6.63	0.20	

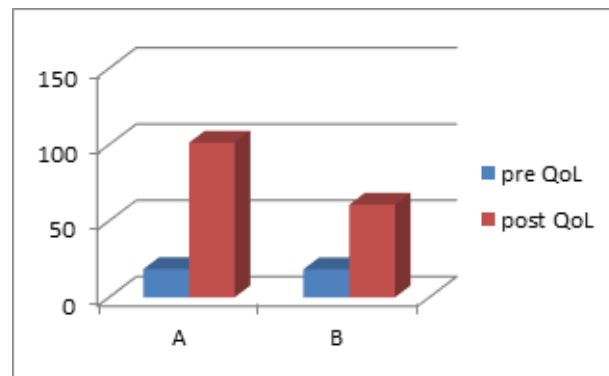
**FIGURE 1: COMPARISON OF PRE TEST AND POST TEST VAS IN GROUP A AND GROUP B**



**TABLE 3: COMPARISON OF PRE TEST AND POST TEST ASIS IN GROUP A AND GROUP B**

Group	Pre test	Standard error	Post test	Standard error	P value
A	18.56	0.13	101.31	1.26	0.0001
B	18.44	0.13	60.63	0.92	

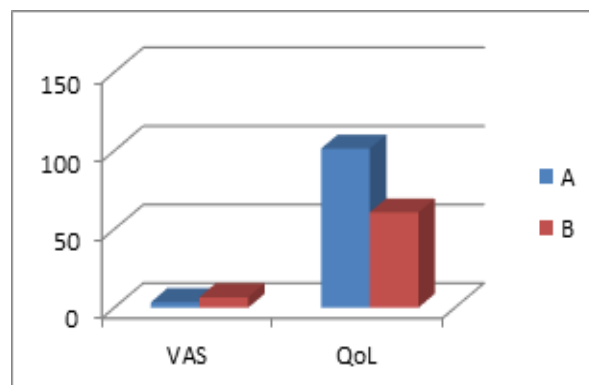
**FIGURE 2: COMPARISON OF PRE TEST AND POST TEST ASIS IN GROUP A AND GROUP**



**TABLE 4: COMPARISON OF POST TEST VALUES OF VAS AND ASIS BETWEEN GROUP A AND GROUP B**

	Group	Mean	Standard error	Independent t test
VAS	A	3.50	0.18	P=0.0001
	B	6.63	0.20	
QoL	A	101.31	1.26	P=0.0001
	B	60.63	0.92	

**FIGURE 3: COMPARISON OF POST TEST VALUES OF VAS AND ASIS BETWEEN GROUP A AND GROUP B**



The Abdominal Surgery Impact Scale found from postoperative measurements on First and Sixth Post operative day were different on First Post operative day for the both the groups, for the Group A mean of ASIS was 18.56 (standard error=0.13) which was improved to mean 101.31 (standard error=1.26) (p = 0.001) and Group B mean of ASIS was 18.44(standard error=0.13) which was improved to mean 60.63(standard error=0.92) (p = 0.0001) but both the Groups showed a improvement in Quality of Life on sixth postoperative day (Table 3).When Comparing both the groups, the mean difference in the reduction of VAS (p=0.0001, t=-11.49) and increase in ASIS(p=0.0001, t=26.10) is significantly higher among the Group A subjects than Group B. Therefore physiotherapy management

has effectiveness over quality of life in post operative gynaecological patients (Table 4).

## DISCUSSION

The present study shows that Physiotherapy Intervention performed immediately after Gynaecological surgery improves Quality of life. So far no studies in India have documented the effect of Physiotherapy in Post surgical Gynaecological Patients. Hysterectomy is a surgical procedure that significantly affects the quality in which the operated person views herself, lowers self-esteem and brings about changes in the quality of life [11, 12]. Physiotherapist must ensure that surgeons and nursing staff are fully aware of all that a physiotherapist is able to contribute to patient care only then will the patients' best interests be served. Still in Indian setup the awareness about physiotherapist role in Gynaecological care is limited to dealing with problems once they have arisen, and they fail to use a health promotion, 'whole person' approach either before or after the surgery[8]. Preventive role of Physiotherapy has to be encouraged more, over such patients. Prior to this current study, we took a survey and found most of the Post operative Gynaecological Patients were deprived of Physiotherapy management and if followed the majority of physiotherapists continue to prophylactically treat patients with Breathing Exercises. Whether this level of intervention is sufficient in this patient group is currently unknown. And further more there is no standard protocol for the post operative Gynaecological patients in India. So this study is done with the protocol designed based on the literature by R Sapsford(1998) in Women's Health, So far to our knowledge no study in India has been done to find the efficacy of a post operative physiotherapy protocol for patients who have undergone Gynaecological surgeries. Hence to emphasize the importance of Physiotherapy in Gynaecological practice and to format a standard physiotherapy protocol and its efficiency over Post Gynaecological surgery patients this study was done by us. The results of this study shows significant decrease in VAS of Group B subjects ( $p=0.0001$ ) who received only breathing exercises. This statement concurs with (2008) Roberta Munhoz Manzano, et al, who concluded that Chest physiotherapy during the immediate postoperative period following upper abdominal surgery was effective for improving oxygen-hemoglobin saturation without increased abdominal pain[13] There is significant decrease in VAS in Group A subjects ( $p=0.0001$ ) who received the complete physiotherapy protocol. However there is significant reduction in post-test values of VAS in Group A than Group B. The decrease in VAS can be attributed to endorphin because Exercise is known to cause the release of endorphins, substances produced by the brain that raise the pain threshold[14], These findings also contradict the reasoning that mobilization may aggravate pain Intensity. This study demonstrates that physiotherapy management has effectiveness in reducing pain in post operative Gynaecological patients and make them mobile early thus reducing the bed rest complications and improve recovery. Quality of life has been defined as

the "gap between persons' expectation and achievements", and this definition appropriately describes quality of life as a personal trait that differs among people [15]. Quality of life as assessed by ASIS has improved in Group A patients than Group B thereby, the main aim of the study is served. Clinically the patients when made to mobilize around the ward and taught stair climbing, become more confident and were able to lead a independent life in the ward. Training with this protocol effectively has made the patients move early and they are able to accomplish their personal needs earlier than the other group. The exercises promoted a positive body image on them and they are confident that they will be able to perform their household activities with ease. Thus this protocol has its own advantage as it concentrates on circulatory, respiratory and mobilization components, further more it emphasizes on pelvic floor muscles also thus promoting health status, life satisfaction and well being. Although the pain was significantly reduced ( $p=0.0001$ ) and Quality of Life ( $p=0.0001$ ) was improved in Group A patients, furthermore researches should be done on a long term follow up to find its efficacy. Sample size can be increased and patients from various hospitals can be enrolled to improve the effectiveness of the study. This is a recommended strategy for determining treatment effects differ across sub groups. Future research can be directed towards emphasisment of pre operative gynaecological care and usage of incentive spirometry as one of the outcome measure.

## CONCLUSION

This study proves the effectiveness of physiotherapy management over quality of life in post operative gynaecological patients, thus emphasizing the role of physiotherapist in post operative Gynaecological care.

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