

Effects of Physical Therapy on Quality of Life in Post Hysterectomy Patients

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ABSTRACT

Background: Hysterectomy is a surgical removal of the uterus. It is the second major surgical procedure in gynecology performed for variety of conditions. They include un-conditional postpartum hemorrhage malignant growths and a range of condition as dysfunctional uterine bleeding (DUB) fibroids, endometrioses, and prolapses.

Aim: To find the effectiveness of physical therapy exercises on quality of life in post hysterectomy patients.

Study design: RCT

Method: Sample size of 20 were taken between the age group of 35-50 years on the basis of inclusion and exclusion criteria which has been divided into 2 groups (A and B). Group A was the experimental group and Group B was the non-experimental group

Both groups A and B included 10 patients who underwent hysterectomy. Group A Patients were implemented with physical therapy exercises. Group B were under observation. They were assessed with SF-36 measuring tool.

Result: Current study a good internal consistency for SF-36 and its 9 domains were observed. From Domain 1 to Domain 7 there is significant difference in the average improvement of the patients It shows the improvement in patient's quality of life as the $p < 0.05$. The average improvement says that there is significant difference in improvements in both experimental and non-experimental groups but the average Improvement is higher in the experimental group.

Conclusion: Based on the result of the current study confirm that the SF-36 questionnaire is a reliable instrument to measure the QOL in post hysterectomy patients. It concluded that there is significant increase in quality of life in patient of group A who were given physical therapy from the next day of surgery to the 4th week than the group B the non-experimental group patient who were not given any physical therapy exercise and were only on observation. The average of this research study says that there was significant improvement in both the groups, but the experimental group average was significantly higher. The physical therapy has made beneficiary-effects on the post hysterectomy patients to prevent the postsurgical complication and help in improving their QOL.

Keywords: Hysterectomy, Quality of life, Physical therapy

INTRODUCTION

Hysterectomy is the most frequent performed major gynecologic surgical procedure, with millions of procedures performed annually throughout the world [1]. Approximately 90% of hysterectomies are

performed for benign conditions, such as fibroids causing abnormal uterine bleeding [2]. Hysterectomy can be performed by vaginal, abdominal or laparoscopic approach [3]. The maximum, not usual place benign conditions that contribute to

hysterectomy are myomas that purpose symptoms (51.4%), dysfunctional vaginal bleeding (41.7%), endometriosis (3%), and uterine prolapse (18.2%). Minor complications embody fever, bleeding and infection [4].

CLASSIFICATION

A hysterectomy can be classified by the amount of tissue resected:

- **Total hysterectomy** – removal of the uterus and cervix.
- **Sub-total hysterectomy** – removal of the body of the uterus only, leaving the cervix behind.
- **Total hysterectomy and bilateral salpingo-oophorectomy** – removal of the uterus, cervix, fallopian tubes and ovaries.
- **Radical hysterectomy** – removal of the uterus and cervix, the parametrium, a vaginal cuff and part of or the whole of the fallopian tubes.

INDICATIONS

A hysterectomy has a number possible-indications. The following are the most common, but this is not an exhaustive list-

- Heavy menstrual bleeding
- Pelvic pain
- Uterine prolapse
- Gynecological malignancy (usually ovarian, uterine, or cervical)

COMPLICATIONS

Damage to the bladder and the ureter, damage to the bowel, hemorrhage requiring blood transfusion, return to theatre because of bleeding/wound, dehiscence, and pelvic abscess [5].

Quality of Life

Health related quality of life[HRQOL] is a multi-dimensional concept that encompasses domains related to physical, mental, emotional and social aspect as related to diseases or its specific approach [6]. Quality of life is an important outcome variable especially in surgery for benign gynecology conditions, as medical

intervention can affect it in both positive and negative ways. Most women reported a reduction in physical symptoms and pain and an increase in the health perception after hysterectomy [7]. The questionnaire used in this study was SF-36. This questionnaire has eight scaled score; the scores are weighted sums of the questions in each section. Scores range from 0-100

Lower scores =more disability, Higher score =less disability

Sections:

- Vitality
- Physical functioning
- Bodily pain
- General health perception
- Physical role functioning
- Emotional role functioning
- Social role functioning
- Mental health [8]

PHYSIOTHERAPY

The main objective of the postoperative physiotherapy is that patients return to their normal function, or better, in an optimal time scale and without complications. Immediate objectives are to achieve good respiratory and vascular function and early mobilization [9].

Different length of recovery time may affect quality of life after hysterectomy.

Adequate help and support from friends, family and health care professional, could improve their quality of life after surgery [10]. This study aims to describe the relationships between physical exercises and the components of quality of life after hysterectomy.

METHODOLOGY

Research Design: RCT

Study Sample: 20 samples post hysterectomy women aged between 35-50 years.

Sample Method: Convenient sampling

Sample Size: 20 subjects where group A consists of 10 patients and group B consists 10 patients each

Setting: Patient from OBG department of Dr. B. R. Ambedkar Medical College and Hospital.

Inclusion criteria:

- Sex: Female.
- Age: 35-50 years post hysterectomy patient were considered.

Exclusion criteria:

- Age: Age above 55 years were not considered.
- Hysterectomy performed 1 month ago.

PROCEDURE

This was a randomized controlled study carried out at Dr. B.R Ambedkar Medical College and Hospital, Bangalore. The main objective was to assess the patient’s improvement in quality of life after Physical therapy for early recovery. The sample size of 20 were taken between the age group of 35 years -50 years on the basis of inclusion and exclusion criteria and further divided into A and B group. Both group A and B consisted of 10 patients each who underwent hysterectomy. All the patients were consented prior assessing. Later the interviewer guided questionnaire based on Standard Form-36^[3]. The questionnaire was assessed the next day to the surgery on group A patients

[experimental group] which consisted general, physical impacts, Psychological-impacts, social, and occupational impacts. The exercise procedure was divided for 3 consecutive days during the hospital stay. After the assessment on the first day the patient was given breathing exercises, ankle pump toe movements, splint age, huffing techniques. On the second days the patient was asked to perform active range of motion for upper limb, crook lying, knee rolling, half lying. On the third day the protocol included pelvic floor exercise, posture and back care, short walk and isometric exercises. Post discharge the patients were given home exercises which included continuation of all the exercises which were given during the hospital stay and addition of pelvic floor muscle strengthening exercises, pelvic bridging and shorts walks with gradual increase of distance and speed .This exercise was performed by the patients for 3 week post discharge at home .At the 4th week the patients were assessed by the interviewer guided questionnaire based on SF-36 .On the other hand group B[non-exercising group] were under observation during the hospital stay .During discharge these patients were not given any exercises or suggestions. At the 4th week these patients were assessed with SF-36 questionnaire.

Table 1

Exercise Protocol		
Day 1	Day 2	Day 3
Breathing exercise	Active Range of Motion for upper limb.	Pelvic floor exercise.
Ankle pump toe movements	Crook Lying.	Posture and Back care.
Splintage	Knee Rolling.	Short walks (walking around the bed, toilet activities).
Huffing techniques	Half Lying	Isometric exercise for back.



STATISTICAL ANALYSIS

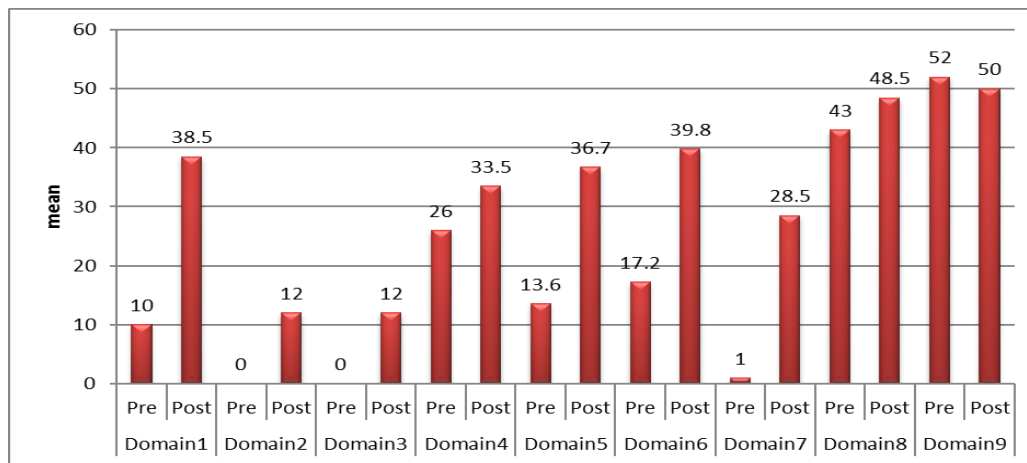
The investigator collected descriptive data from the hospital and calculated as percentages and presented by using the bar graph and tabulated table for the study were 20 individuals with post

hysterectomy involved as samples. Descriptive statistics is found using Mean, Standard Deviation and frequency percentage. Comparison between 2 groups [experimental and non-experimental] was done by

- The findings in this table shows that the domain 1, domain 2, domain 3, domain 5, domain 6 domain 7 shows significant changes in the quality of life as the test shows p value <0.05 except domain 4, domain 8 and domain 9.i.e p>0.05

Table 2: Pre-post comparison score in non-experimental group

		Mean	Std. Deviation	Z Value	P Value	Result
Domain1	Pre	10	7.07107	2.820	.005	P<0.05
	Post	38.5	7.09068			
Domain2	Pre	0	0	2.972	.003	P<0.05
	Post	12	4.21637			
Domain3	Pre	0	0	2.972	.003	P<0.05
	Post	12	4.21637			
Domain4	Pre	26	10.74968	1.691	.091	P>0.05
	Post	33.5	9.73253			
Domain5	Pre	13.6	8.4748	2.805	.005	P<0.05
	Post	36.7	7.49889			
Domain6	Pre	17.2	12.62977	2.805	.005	P<0.05
	Post	39.8	11.56431			
Domain7	Pre	1	3.16228	2.831	.005	P<0.05
	Post	28.5	5.03874			
Domain8	Pre	43	8.88194	1.445	.149	P>0.05
	Post	48.5	8.51469			
Domain9	Pre	52	21.36976	1.000	.317	P>0.05
	Post	50	22.48456			



Graph 1: Pre post comparison score in non-experimental group

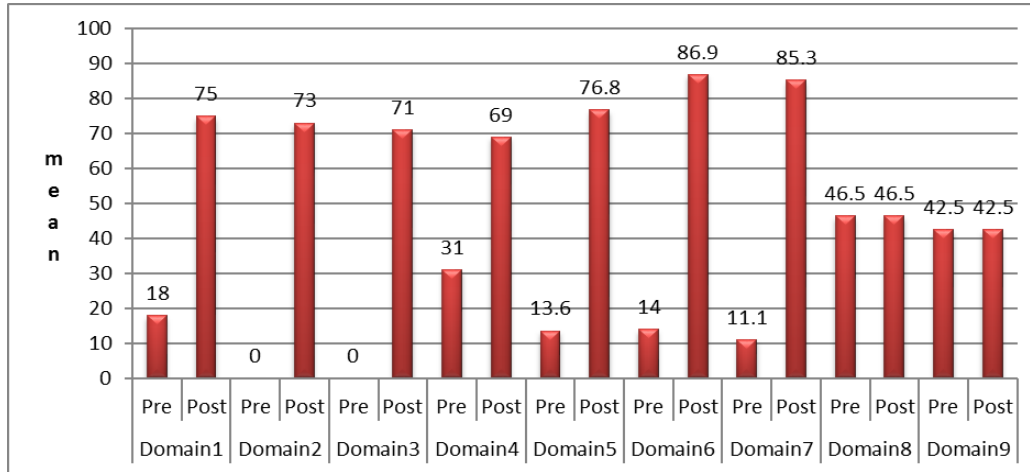
- Table 3 is the comparison of the pre post in experimental group where the domain 1-domain 7 shows a significant-changes in the patient’s life as the p value is <0.05

Table 3: Pre-post comparison in experimental group

		Mean	Std Deviation	Z Value	P Value	Result
Domain1	Pre	18	11.83	2.809	P<0.05	
	Post	75	12.69			.005
Domain2	Pre	0	0.00	-2.829	P<0.05	
	Post	73	13.37			.005
Domain3	Pre	0	0.00	2.850	P<0.05	
	Post	71	11.01			.004
Domain4	Pre	31	8.76	-2.810	P<0.05	
	Post	69	8.10			.005
Domain5	Pre	13.6	8.04	-2.807	P<0.05	
	Post	76.8	10.29			.005

Table no 3. Continued...

Domain6	Pre	14	3.89	2.823	P<0.05	
	Post	86.9	11.54			.005
Domain7	Pre	11.1	9.42	2.821	P<0.05	
	Post	85.3	12.95			.005
Domain8	Pre	46.5	12.70	.000	p>0.05	
	Post	46.5	12.70			1.000
Domain9	Pre	42.5	16.87	.000	p>0.05	
	Post	42.5	16.87			1.000

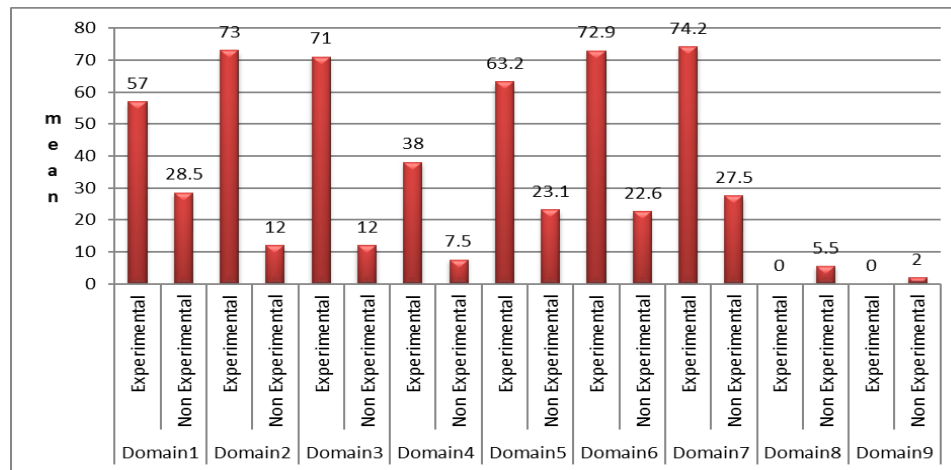


Graph 2: Pre-post comparison in experimental group

- This table shows the comparison between the experimental and non-experimental group.
- It also shows the average improvement of the domains in both the groups [experimental and non-experimental group].
- From Domain 1 to Domain 7 there is significant difference in the average improvement of the patients.
- The results signify the improvement in patients’ quality of life as the p<0.05
- The average improvement says that there is significant difference in improvements in the experimental and non-experimental groups and the average improvement is higher in the experimental group.
- The result shows the improvement in patient’s quality of life as the p<0.05. The average improvement says that there is significant difference in improvements in both experimental and non-experimental groups but the average improvement is higher in the experimental group.

Table 4: Comparison between experimental and non-experimental group

Domain	Group	Average Improvement	U Value	P Value	Results
Domain1	Experimental	57.000	10.000	.002	P<0.05
	Non-Experimental	28.500			
Domain2	Experimental	73.000	1.200	.000	P<0.05
	Non Experimental	12.000			
Domain3	Experimental	71.000	1.200	.000	P<0.05
	Non Experimental	12.000			
Domain4	Experimental	38.000	5.000	.001	P<0.05
	Non Experimental	7.5000			
Domain5	Experimental	63.200	.500	.000	P<0.05
	Non Experimental	23.100			
Domain6	Experimental	72.900	1.200	.000	P<0.05
	Non Experimental	22.600			
Domain7	Experimental	74.200	1.200	.000	P<0.05
	Non Experimental	27.500			
Domain8	Experimental	.0000	35.000	.183	P>0.05
	Non Experimental	5.5000			
Domain9	Experimental	.0000	45.000	.317	P>0.05
	Non Experimental	2.0000			



Graph 3: Comparison between experimental and non- experimental group

RESULT

The aim of the study was to identify the “Effects of physical therapy on Quality of life in post hysterectomy patients”.

Current study a good internal consistency for SF-36 and its 9 domains were observed. From Domain 1 to Domain 7 there is significant difference in the average improvement of the patients It shows the improvement in patient’s quality of life as the $p < 0.05$. The average improvement says that there is significant difference in improvements in both experimental and non-experimental groups but the average Improvement is higher in the experimental group.

DISCUSSION

The purpose of this study was to find out the effectiveness of physical therapy on quality of life in post hysterectomy patient. The study was conducted at Dr. B. R. Ambedkar Medical College and Hospital in OBG department. The post hysterectomy 20 patients were divided into two groups. Group A and Group B. The groups contained 10 patients each. Group A were given physical therapy exercise protocol mentioned at table 1 during the hospitalization and the patient were taught home programme exercises for further 4 weeks. Group B were under observation during the hospital stay and during the follow up. They were not given any physical therapy intervention. In this research all the

participants were evaluated with SF-36 health survey questionnaire. Pre and Post evaluation was assessed to check the significance of physiotherapy in post hysterectomy patients. The pre assessment was taken on the next day of surgery in the hospital IPD and the post assessment was taken after 4weeks of surgery in the OPD of Dr. B. R. Ambedkar medical college and hospital. Most of the women after hysterectomy were in fear of facing post-surgical complication which was related to hysterectomy like bowel obstruction, vaginal cuff dehiscence and prolapse of pelvic structures. The patients were also worried about the financial expenses for the surgery during this pandemic conditions. Most of the patients were worried about the covid 19 infection during the stay in the hospital. After the discharge there was a huge difference in the quality of life in patients when they were assessed in the OPD of Dr. B. R. Ambedkar

Medical college and hospital. The result of this shows the average improvement of the domains in both the groups [experimental and non-experimental group]

From Domain 1 to Domain 7 there is significant difference in the average improvement of the patients.

The result signifies the improvement in patients’ quality of life as the $p < 0.05$

The average improvement says that there is significant difference in improvements in

the experimental and non-experimental groups but the average improvement is higher in the experimental group.

CONCLUSION

Based on the result of the current study confirm that the SF-36 questionnaire is a reliable instrument to measure the QOL in post hysterectomy patients. it concluded that there is significant increase in quality of life in patients [group A] who were given physical therapy from the next day of surgery to the 4th week than the group B patient who were not given any physical therapy intervention and were on observation. The physical therapy has made beneficiary effects on the post hysterectomy patients to prevent the post-surgical complication and help in improving their QOL.

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Ethical Approval: Approved

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