

## EFFECTIVENESS OF SCHEDULED AMBULATION ON EARLY POSTOPERATIVE OUTCOME AMONG PATIENTS WHO HAVE UNDERGONE ABDOMINAL HYSTERECTOMY

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### ABSTRACT

#### BACKGROUND

Abdominal hysterectomy is one of the most frequently performed surgical procedures in women. The non-ambulatory post-operative period is a high risk period for the development of various complications like wound infection, venous stasis, lower respiratory infection, secondary haemorrhage, deep vein thrombosis, pulmonary embolism, paralytic ileus etc. Prolonged surgery, delayed ambulation and not feeding the patient within 48 hours of surgery are often associated with post-operative morbidity and mortality.

This study aims to assess the effectiveness of Scheduled Ambulation on early post-operative outcome among patients undergone abdominal hysterectomy by introduction of Scheduled Ambulation from second day of surgery.

#### MATERIALS AND METHODS

Method used is quantitative and quasi experimental post-test control method. Scheduled ambulation technique and pattern were taught pre operatively to 35 patients consecutively selected from general and post-operative ward who formed the experimental group. They were given scheduled ambulation from second to fifth post-operative days and results analysed. Another 35 patients taken as control were given the routine post-operative care.

Data Analysis- was performed using SPSS version 17.0. Between group comparisons, quantitative variables analysed by Chi-square test p value >0, 05 considered significant.

#### RESULTS

The indication of hysterectomy was fibroid uterus in 80% of the control group and 88, 6% of the experimental group. 51.4% of the hysterectomies were encountered in the age group 40-49 years. There was a statistically significant reduction in the severity of pain, fatigue, postural hypotension and risk for developing Deep vein thrombosis in the experimental group on practicing Scheduled Ambulation from second to fifth post-operative days.

#### CONCLUSION

Scheduled ambulation helped the abdominal hysterectomy patients to recover from fatigue, pain, postural hypotension and risk for Deep vein thrombosis and to resume the activities of daily living and thereby good sense of wellbeing.

#### KEYWORDS

Abdominal Hysterectomy, Pain, Fatigue, Postural Hypotension, Scheduled Ambulation, Fibroid Uterus, Deep Vein Thrombosis.

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#### BACKGROUND

Abdominal hysterectomy is a very common operative procedure. A national survey in the United States reported abdominal hysterectomy as one of the three most frequent surgical procedure.<sup>1</sup>

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Early ambulation helps the client to meet outcomes of the muscle mass strength and ability to independently move all the joints through complete range of movements. Early ambulation arise from the fact that tissue recovery as well as return of normal day to day function would depend on the movements that take place at the phase of post-operative recovery.

Overall rates of hysterectomy is highest among women aged 42-44 years and lowest among women aged 50-54 years. A retrospective and prospective study carried out at a tertiary care center in Spain to analyse the factors contributing to death after emergency surgery for uterine disorders showed mortality in elderly patients due to prolonged anaesthesia, delayed ambulation and not feeding the patient within 48 hours after abdominal surgery.<sup>2</sup>

A Study conducted in Kerala revealed that the common indication of hysterectomy was fibroid uterus with menorrhagia.<sup>3</sup> The non-ambulatory post-operative period is a high risk period for the development of thrombosis and venous stasis. Early ambulation helps to reduce the length of hospital stay and optimizing mobility prior discharge.<sup>4</sup> A Study Reported the common complication after hysterectomy are wound infection, chest infection (2.53%), hematoma (1.26%), secondary haemorrhage, bladder injury (0.62%) and intestinal damage.<sup>5</sup>

Through early ambulation it is possible to prevent pulmonary embolism.<sup>6</sup>

**Aim**

This study aims to assess the effectiveness of Scheduled Ambulation on early post-operative outcome among patients who had undergone abdominal hysterectomy.

**MATERIALS AND METHODS**

The research approach adopted for the study was qualitative and research design was quasi experimental-post-test control method. Samples were 35 patients consecutively selected from general and post-operative ward of obstetrics and gynaecology department in Sri Avittam Thirunal Hospital, Trivandrum

The dependent variables are early post-operative outcome which includes level of pain, fatigue, Activities of Daily Living, postural hypotension and deep vein thrombosis. The independent variable of this study is scheduled ambulation.

Patients of age group 30-60 years were included in the study. Patients who are having medical and surgical complications, those operated at emergency conditions, those advised strict bed rest and those requiring general anaesthesia excluded from the study. Data collected using interview direct observation, self-reporting and physical assessment. Sociodemographic data include age, place of residence, type of family, marital status and economic status. Clinical data included present medical history, obstetric history, menopause, duration of illness, indication for hysterectomy, and type of hysterectomy.

Assessment of level of pain was done using Visual Analogue Scale (range 0-10). Assessment of postural hypotension done. A drop in BP>20 mm of Hg, fall in diastolic BP>10 mm of Hg or experiencing light headedness or dizziness considered abnormal. Assessment of Activities of Daily Living by using modified Barthel Index (0-4 for total dependence and 18 for total independence). Assessment of

level of fatigue done using Lid Care Foundation’s Fatigue assessment scale .Scores of <22 considered to represent substantial fatigue. (maximum score is 50). Assessment of risk of developing Deep vein thrombosis done by using WELL’S Clinical Prediction Scale. It consists of 8 items to assess the risk for developing Deep vein thrombosis. Low probability is score <1, moderate probability is score between 1-2 and high probability is score 3 and above.

At first data was collected from 35 consecutive samples in the control group in order to avoid discrimination among the patients. Then study was conducted in 35 consecutive samples from the interventional group. Scheduled Ambulation Technique and pattern were taught pre operatively to the experimental group. In second and third post-operative days, range of motion exercises for 6 minutes which include shoulder cycle exercise, abduction and adduction of forearm, flexion and extension of elbow, fingers and thumb, flexion and extension of knees and toes, dorsal flexion and plantar flexion of ankle, inversion and eversion of foot. Each exercise performed for a period of 1 minute every fourth hourly. Slow walking on the floor for 3 minutes. In fourth and fifth post-operative days, range of motion exercises and slow walking for 6 minutes each. Instructed them to perform scheduled ambulation fourth hourly during daytime (8 am, 12 pm and 4 pm) the subject were kept under observation throughout the procedure and monitored for any discomfort and assessed at 10 am and 4 pm.

**Data analysis-** performed using SPSS version 17.0. Qualitative variables were described by percentage, quantitative variables described by mean, standard deviation. Between group comparisons quantitative variables analysed by Chi-square test, A p value of 0, 05 was taken as the level of significance.

**RESULTS**

54.3% of control group and 71.4% of the experimental group were in the age group of 41-50 years where maximum number of hysterectomies were done. Both the groups are comparable. Both the groups were comparable in terms of place of residence, marital status, economic status, present medical history (diabetes, hypertension, heart disease etc.), obstetric history, menopausal status and age of menopause. Duration of the illness also comparable in both groups-40% of both the control and experimental group had 1-2 years of illness.

Indication for Hysterectomy	Control		Experimental		x <sup>2</sup>	DF	P
	N	%	N	%			
Fibroid uterus	28	80	31	88.6	1.153	2	0.562
Dysfunctional bleeding	1	2.9	1	2.9			
Others	6	17.1	3	8.6			
<b>Total</b>	<b>35</b>	<b>100</b>	<b>35</b>	<b>100</b>			

**Table 1. Distribution of Participants according to Indication for Hysterectomy n=70**

Majority of the control (80%) and experimental group (88.6%) had fibroid uterus. Both group's comparable. 91.4% of the control and 100% of the experimental group had undergone total abdominal hysterectomy with bilateral salping oophorectomy—comparable.

Postural Hypotension	Control		Experimental		x <sup>2</sup>	df	P
	N	%	N	%			
Day 2	10	28.6	1	2.9	8.737	1	0.003
Day 3	10	28.6	1	2.9	8.737	1	0.003
Day 4	10	28.6	1	2.9	8.737	1	0.003
Day 5	10	28.6	1	2.9	8.737	1	0.003

**Table 2. Effectiveness of scheduled ambulation on postural hypotension n=70**

28.6% of the control group has postural hypotension and 2.99% of the experimental group had postural hypotension. And the difference is statistically significance

Day		Mild Pain		Moderate Pain		Severe Pain		Worst Pain		x <sup>2</sup>	df	P
		N	%	N	%	N	%	N	%			
		2	Control	0	0	0	0	13	37.1			
2	Experimental	0	0	28	80	6	17.1	1	2.9			
3	Control	0	0	2	5.7	25	71.4	8	22.9	48.707	3	<0.001
	3	Experimental	1	2.9	30	85.7	4	11.4	0			
4	Control	0	0	5	14.3	25	71.4	5	14.3	38.095	3	<0.001
	4	Experimental	14	40	16	45.7	5	14.3	0			
5	Control	0	0	16	45.7	17	48.6	2	5.7	22.545	3	<0.001
	5	Experimental	14	40	16	45.7	5	14.3	0			

**Table 3. Effectiveness of Scheduled Ambulation on Level of Pain (n=70)**

Day		Total Dependent		Severe Dependent		Moderate Dependent		Slight Dependent		Total Independent		x <sup>2</sup>	df	P
		N	%	N	%	N	%	N	%	N	%			
2	Control	28	8	7	2	0	0	0	0	0	0	47	3	<0.001
	2	Experimental	0	0	26	74	8	23	1	2.9	0			
3	Control	6	17	28	80	1	2.9	0	0	0	0	52	4	<0.001
	3	Experimental	0	0	4	11	12	34	12	34	7			
4	Control	0	0	10	29	18	51	4	1	3	8.6	53	3	<0.001
	4	Experimental	0	0	0	0	0	0	2	5.7	33			
5	Control	0	0	0	0	5	14	4	11	26	74	9	1	0.003
	5	Experimental	0	0	0	0	0	0	0	0	35			

**Table 4. Effectiveness of Scheduled Ambulation on Activities of Daily Living**

From the above table it is inferred that experimental group had a clinically significant decrease in the severity of pain compared to the control group

Fatigue	Control		Experimental		X <sup>2</sup>	Df	P
	N	%	N	%			
Day 2	33	94.3	4	11.4	48.215	1	<0.001
Day 3	32	91.4	1	2.9	55.094	1	<0.001
Day 4	21	60	0	0	30.000	1	<0.001
Day 5	11	31.4	0	0	13.051	1	<0.001

**Table 5. Effectiveness of scheduled ambulation on level of fatigue n=70**

From the above table it is inferred that experimental group had a clinically significant decrease in the level of fatigue compared to the control group.

On comparing the effectiveness of scheduled and ambulation of spinal head ache there was no significant reduction in spinal head ache among the experimental group after the implementation of scheduled ambulation.

Day	Risk for developing DVT	Control		Experimental		X <sup>2</sup>	df	P
		N	%	N	%			
2.	Moderate probability	31	88.6	35	100	4.242	1	0.039
	High probability	4	11.4	0	0			
3.	Moderate probability	31	88.6	35	100	4.242	1	0.039
	High probability	4	11.4	0	0			
4.	Moderate probability	31	88.6	35	100	4.242	1	0.039
	High probability	4	11.4	0	0			
5	Moderate probability	31	88.6	35	100	4.242	1	0.039
	High probability							

**Table 6. Effectiveness of scheduled ambulation on risk for developing deep vein thrombosis**

There was a significant reduction in the risk for developing Deep vein Thrombosis in the experimental group after intervention.

**DISCUSSION**

The present study revealed that the main indication for hysterectomy was fibroid uterus—80% of the control group and 88.6% of the experimental group had fibroid uterus. A descriptive study conducted to examine the indications and surgical morbidity of women who underwent hysterectomy verified the records of 1722 patients over 6 years, supports the findings of this study.

Majority of patients who had hysterectomy were in the age group of 41-50 years. A study was conducted about clinico-pathological correlation of 500 hysterectomy patients. Of this 51.4% cases were encountered in the age group of 40-49 years.<sup>7</sup> In a study conducted on aetiology and pathogenesis of uterine fibroid, it was found that uterine fibroids were more in women in their late reproductive years.<sup>8</sup>

The present study revealed that the experimental group had a clinically significant reduction in the severity of pain compared to the control group from second to fifth post-operative days. A quasi experimental study conducted on the incidence and magnitude of pain during second post-operative day after abdominal hysterectomy showed that early mobilized patients had less pain and early recovery as compared to immobilized patients.<sup>9</sup>

The present study revealed that 28.6% of control group and 2.9% of the experimental group had postural hypotension. It was found that there was significant reduction in postural hypotension among experimental group after the implementation of scheduled ambulation when compared with the control group. The observed finding was statistically significant.

The present study revealed that there was no significant reduction in spinal headache among experimental group after the implementation of scheduled ambulation from second to fifth post-operative days. Since the p value is >0.05. A study to determine the influence of early ambulation and other factors on spinal headache occurring after lumbar myelography showed that late ambulation is not effective in preventing spinal head ache after lumbar myelography.<sup>10</sup> This literature does not support the study findings.

In the present study experimental group have shifted from total dependency to total independency in doing activities of daily living compared to the control group. Two studies in post-operative patients support the findings of the study. A study concluded that the effectiveness of physiotherapy in the early post caesarean period is valuable for increasing the quality and productivity of the post-natal care there by improving well-being after child birth.<sup>11</sup>

The present study revealed that 88.6% of the control group had moderate probability and 11.4% of the control group had high probability for developing DVT while 100% of the experimental group had only moderate probability for developing DVT. It is interpreted that there was a significant reduction in the risk for developing DVT in the experimental group after intervention from second tom fifth post-operative days.

**CONCLUSION**

Based on the findings of this study the following conclusions are drawn. Abdominal hysterectomy was mainly done in the women aged 41-50 years. The main indication for hysterectomy was fibroid uterus. For the treatment of uterine fibroid, Total Abdominal Hysterectomy with Bilateral Salpingo oophorectomy was the commonly used procedure. Scheduled ambulation helps the abdominal hysterectomy patients toot recover from pain, fatigue, postural hypotension, risk for developing DVT and resume the activities of daily living and there by good sense of well-being. The main interest of this study is to make the abdominal hysterectomy patients aware about the benefits of doing scheduled ambulation by practicing themselves in the early post-operative days.

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