



PHYSIOTHERAPY IN OBESITY FOLLOWING HYSTERECTOMY – AN EVIDENCE BASED CASE STUDY

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ABSTRACT

Introduction: Post hysterectomy weight gain was recorded widely. Obesity restricting physical activity diminishes the quality of life; being a woman the ill effects on her, family and society were multipronged. **Aims and Objectives:** This original study aims at analysing the reduction of obesity following hysterectomy with exercises and evaluates quality of life with physiotherapy. **Materials and Methodology:** This study was carried during the period from January 2017 to march 2017. She was treated with specific exercises at an exercise intensity of 50%-70 % of maximal heart rate, with a weekly twice frequency. **Results:** Pre and post BMI, WC and QOL were analysed with statistical means of highly significant reduction in waist circumference and quality of life ($P < 0.01$). **Conclusion:** With a reduction in obesity and an improved QOL were more beneficial among the hysterectomy subject following specific physiotherapeutic means, the major outcome of this study can be extended to other surgically treated gynaecological patients.

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INTRODUCTION

Hysterectomy, a surgical removal of uterus is the most common gynaecological operation in the world (Osler *et al* 2010). A high BMI risk factor for a number of diseases leading to hysterectomy such as fibroids and abnormal uterine bleeding (Laughlin *et al* 2010) found that high BMI was a risk factor among subjects undergoing hysterectomy (La grem *et al* 2004)

Hysterectomy is common nowadays even in reproductive age group in India (Kalai Selvi and Brinda 2016), with rising obesity in Europe between 6 to 37% [Berghöfer *et al* 2008]. United states around 15% (Flegal *et al* 2012) are obese and TamilNadu with 25% of adults are obese (ICMR 2015) with increased unopposed oestrogen effect in hormonally responsive tissue, obesity can promote a number of gynaecological diseases, such as uterine bleeding & endometrial hyperplasia (Fader *et al* 2011). A rural Andhra Pradesh based have found hysterectomy (along with removal of ovaries) at an average age of 29 years in 59% cases (Kameshwari and Vinjamuri 2013). Incidence of hysterectomy was 7% above 15 years of age in Haryana (Sing and Arora 2008)² and Gujarat with 7-8% rural women and 5% urban women had undergone hysterectomy at an average age of 3.7 years (Desai *et al* 2011) complications following hysterectomy may range from 0.5 % to 43% (Keerthana *et al* 1984).

A Denmark based study from 2004-2008 (Osler *et al* 2011) have found benign complications post hysterectomy was high among subjects with high BMI. In UK 1 in 5 women undergoes hysterectomy by the age of 60 yrs (Thakar *et al* 2002) Canada between 2008 - 2009, 47 thousand (Laughlin *et al* 2000) and 6 lakhs in US in 2004 (Wu *et al*, 2007) underwent hysterectomy. Indian data for hysterectomy is 1.7 % to 9.8% of which may be due to lower level of medical care, lower status in the society, illiteracy and tolerance threshold was higher.

Urethral injury, infection, bleeding, thrombosis, osteoporosis, premature menopause, were the complications with hysterectomy (Iayakasai 2013). Weight gain was recorded in an Indian study (Nilangi, 2015) post hysterectomy. A Taiwan based research points that women who undergo only hysterectomy before 45 years of age are at risk of stroke (Yeh *et al* 2013) and also have been associated with urinary incontinence and problems with sexual function (Hoga *et al* 2012, Vander Var *et al* 2002, Iayakasai 2013). A prospective cohort study of 418 women having undergone hysterectomy for non- malignant conditions 91% have reported post operative fatigue was a big problem which continued up to 12 months (Carlson *et al* 1994), with a substantial adverse impact on patient well being and quality of life for nearly 2 years (De Chernez *et al* 2002). Maine women's health study, 35% of women reported moderate to severe fatigue 3 months post surgery and 23% have reported very often fatigue 12 months post hysterectomy. Women who undergo hysterectomy without removal of ovaries, is associated with early

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menopause compared with global median age at natural menopause of 51 years (Farquhar *et al* 2005). Also Evidence suggests long term effects of hysterectomy are associated with higher risk of Cardio Vascular disease (Flecher *et al* 2010). Psychological problems often decrease a women's capacity to cope with symptoms from hysterectomy, that would otherwise be tolerable, and are related to more subjective feelings of distress, which interference with treatment and delay recovery (Oates and Gath 1989) women with lower stress coping capacity have higher problems recovering after surgery than those with a higher stress coping capacity (Persson *et al* 2008). Post operative cognitive dysfunction with GA than SA as recorded by Rasmussen *et al* 2003).

Aims and Objectives

This original case report of a south Indian female who has undergone vaginal hysterectomy,

1. To analyse the impact of resisted exercises on obesity.
2. To evaluate the impact of physiotherapy on quality of life.

MATERIALS AND METHODOLOGY

[Back ground information of the subject] Female aged 46 years graduate mother of 2 children, vegetarian, house wife underwent vaginal hysterectomy on 07\9\2016 having BMI-39.5 kg/m², Waist circumference-108cm, C\O: low back ache, knee pain & had an increased weight gain by 4 kgs in 3 months post surgery. This study was conducted from Jan 2017 to March 2017

BMI, Waist Circumference, QOL Questionnaire of 5 items on physical, psychological, social, emotional and overall quality of life on a 3 point scale of subjective rating nature, She was treated with resisted exercises using physio ball, with a frequency of twice a week, Each session lasted for 25-30 minutes. A set of 12 exercises in supine, side, prone and sitting, at an intensity of 50-70% of maximum heart rate were given. Progression was based FITT principle [Cooper and Cooper, 1998].

TABLE OF RESULTS

Pre and post BMI, waist circumference and QOL were measured and tabulated as below:

TEST	BMI [Kg/m ²]	Waist circumference	Prognosis	QOL Quality of life	Prognosis
pre	39.5	108	By 15%	38	By 52%
Post	36.5	91		18	
SD	2.12	12		14.14	
SE	1.45	3.46		3.76	
T value	2.06	4.91		5.32	
P value	< 0.05 *	P< 0.01		< 0.01 **	

Foot note: - SD – standard deviation, SE- standard error, QOL – subjective rating scale on quality of life of 5 items on a 3 point scale, *- statistically significant, **- statistically highly significant

DISCUSSION

Few studies have found that women undergoing hysterectomy have improved quality of life because of their previous unpleasant symptoms have been relieved (Wright *et al* 1996) Mean age of onset of menopause in those who underwent hysterectomy is 37 years earlier than average, even when the ovaries are preserved (Farquhar *et al* 2005). Carlson *et al* have reported 88% of cases with improved quality of life. Evidence

demonstrates that vaginal hysterectomy is associated with better outcomes and fewer complications than laparoscopic or abdominal hysterectomy (ACObG 2015)

Adverse effects after gynaecologic surgery such as venous thromboembolism, wound complication and surgical site infection are ten times more likely with a BMI of 40-49 compared with normal weight (Farhan and Horward *et al*). 35% of American women are obese, 200,000 hysterectomies are performed annually for obese women (Flegal *et al* 2012).

Variations in hysterectomy rates by socioeconomic status, ethnicity and education in higher income settings such as Italy, New Zealand, and US (Bower *et al* 2009, Erekson *et al* 2009) suggesting that hysterectomy is a product of both social and biological process (Brotherton and Ngugen 2013). In India higher rates of hysterectomy among lower income women are viewed as a permanent solution to their future earning capacity (Patel *et al* 2006; Black and Fraser 2012)

CONCLUSION

Apart from antenatal, post natal exercises physiotherapeutic role to combat obesity, incontinence & musculoskeletal ailments and improve her QOL among post gynaecological surgeries requires more emphasis and have a definite role to play.

Limitations

Limitations of this original research was only obesity which was taken into account along with its reduction on quality of life of the study subject following hysterectomy for 3 months period

Recommendations

Further studies with larger sample size, longer duration follow up and including other variable subjects who have undergone vaginal hysterectomy and laparoscopic hysterectomy also to be included to validate the findings of the study.

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