

Epidemiology of Hysterectomy - A Cross Sectional Study among Pilgrims of Tirumala

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Abstract:

Objective: To find out the epidemiology of hysterectomy in women of different states of India by a cross-sectional study among the pilgrims of Tirupati.

Study subjects and method: women pilgrims at Alipiri (more than 15years age) who were willing to answer the preformed survey questionnaire during a period of 6 hours on 8th and 9th march 2015 were interviewed.

Results: Out of a total of 619 pilgrims who visited Alipiri during the study period, approximately 178 women answered the questionnaire and 58 (32.5%) underwent hysterectomy. 40 women were from Andhra Pradesh and 18 from other states. 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. 42(72%) underwent total abdominal hysterectomy, 9(15%) laparoscopic hysterectomy and 7(12%) vaginal hysterectomy. Common indications are fibroids(45%), menorrhagia (31%), prolapse (10%), endometrial hyperplasia(5%), cervical dysplasia(3%), chronic pelvic inflammatory disease(5%). Overall Complication rate was found to be 15% while 10% reported non-specific complaints.

Conclusion: This study shows higher rates of hysterectomies 32.5% among pilgrims of Tirumala. The overall complication rate was 15% . Hence, further studies need to be conducted related to hysterectomies in south India to prevent unnecessary hysterectomies.

Key words: Hysterectomy, Indications, Complications, women pilgrims of Tirumala

I. Introduction

Hysterectomy is a common major surgical procedure and is associated with a risk of complications, the indication should be carefully evaluated. As the prevalence of hysterectomy is said to be increasing nowadays, this study is conducted to know the pattern of hysterectomy rates among pilgrims who are representative of general population.

Hysterectomy is the second most common major surgical procedure performed on women all over the world next to caesarean section¹. A study conducted in a northern state of India (Haryana) states that incidence of hysterectomy was 7% among married women above 15 years of age². Another study from a western state (Gujarat) pointed out that 7-8% of rural women and 5% of urban women had already undergone hysterectomy at an average age of 37 years.³

Indications of hysterectomy vary from benign condition to malignancies of genital tract. Hysterectomy can be supracervical hysterectomy or hysterectomy with salpingo-oophorectomy or a part of staging laparotomy or radical hysterectomy.

Hysterectomy can be performed abdominally, vaginally or through abdominal ports with help of a laparoscope. Approach depends on surgeon's preference, indication for surgery, nature of disease, and patient characteristics.

As any other surgery, hysterectomy is also associated with intra operative and postoperative complications. Rates of various complications with hysterectomy have been reported in the range from 0.5% to 43%⁴.

Incidence of complications in hysterectomy is low but there are several immediate and long-term complications associated with this procedure resulting in mild to severe morbidity and even rarely mortality. Ureteral injuries, bowel injuries, bladder injuries, hemorrhage(1-3%) are some of the intraoperative complications.⁵ Infection is a common post operative complication. Infection rate after abdominal hysterectomy have ranged from 1.7 to 11%,⁶ while SSI rates reported in individual studies after vaginal hysterectomy (i.e., vaginal cuff cellulitis) ranged from 3.1 to 4.8%.⁷

Emergence of effective medical and conservative treatment for benign conditions in the uterus is now posing a question mark regarding the justification of hysterectomy. Psychological effects that may manifest following hysterectomy differ from individual to individual. While some studies have shown that women experience new feelings of depression, anxiety, decreased libido, or social disruption due to the lengthy post procedural recovery, other studies have found that women undergoing hysterectomy have improved quality of life because their previous unpleasant symptoms have been relieved.⁸ It is important for patients and their physicians to communicate regularly after the hysterectomy. Patients who experience ongoing depression after surgery should speak with a health care provider to determine the need for counselling or the use of antidepressant medications. and increased incidence of vaginal prolapse due to deficiency of supporting ligaments. It has also been hypothesized that ovarian endocrinal function weans off more rapidly due to decreased blood supply after removal of their target organ. Mean age of onset of menopause in those who underwent hysterectomy is 3.7 years earlier than average, even when the ovaries are preserved.⁹

II. Subjects and methods

This study involved all the female pilgrims more than 15 years age at Alipiri, Tirupati over a period of 6 hours on 8th and 9th March 2015. A questionnaire was prepared and the female pilgrims were informed about the study. Those willing to answer the questionnaire were included into the study, those who are below 15 years and menopausal women were excluded.

All elective as well as emergency hysterectomies (including obstetric hysterectomies) were analyzed. Abdominal hysterectomies included supracervical hysterectomy, total hysterectomy (TAH), and hysterectomy with unilateral (TAH with USO) or bilateral salpingo-oophorectomy (TAH with BSO). Vaginal hysterectomy included vaginal hysterectomy with pelvic floor repair (VH with PFR) for uterovaginal prolapse and also non-descent vaginal hysterectomy (NDVH) for indications other than uterovaginal prolapse. Laparoscopic hysterectomy group had both laparoscopic assisted vaginal hysterectomy (LAVH) and total laparoscopic hysterectomy (TLH).

Incidence of hysterectomy among the pilgrims from different states was analyzed. Various indications were reviewed. Age of the patient at the time of surgery was also calculated based on present age and time elapsed since surgery.

The route of hysterectomy and any immediate or long term complications were enquired and analyzed for the incidence of complications.

III. Results

A total of 619 pilgrims visited alipiri during the study period. Out of them, there were only 178 (28.5%) female pilgrims. Among these, 58 (32.5%) women had undergone hysterectomy. Out of the 58, 40 were from Andhra Pradesh and 18 from other states. But the total number of pilgrims from different states respectively could not be estimated. Hence the comparison between the prevalence of hysterectomy in different states could not be made out.

Table - 1

Place	No. Of women undergone hysterectomy	% out of total hysterectomies
Andhra Pradesh	40	69
Other states	18	31

Incidence of hysterectomy increased after 35 years age and was found to be maximum (24 women i.e 41.3 %) between 35-45 years age. Apart from this, there were 19women (32.7%) who underwent hysterectomy between 46-55 years age. 2 women underwent hysterectomy between 15-25 years age and 10 between 26-35 years age. 3 women underwent hysterectomy above 56 years of age.

Table - 2

Age (years)	Hysterectomy done		% out of total 58 women undergone hysterectomy	Chi-square Test	p-value
15-20	0	2	3.4%	17.50	0.0253
21-25	2				
26-30	3	10	17.2%		
31-35	7				
36-40	12	24	41.3%		
41-45	12				
46-50	12	19	32.7%		
51-55	7				
>55	3	3	5.1%		

Abdominal hysterectomy was done in 42 women(72%), vaginal hysterectomy in 7 women(12%), laparoscopic hysterectomy in 9 women (32%).

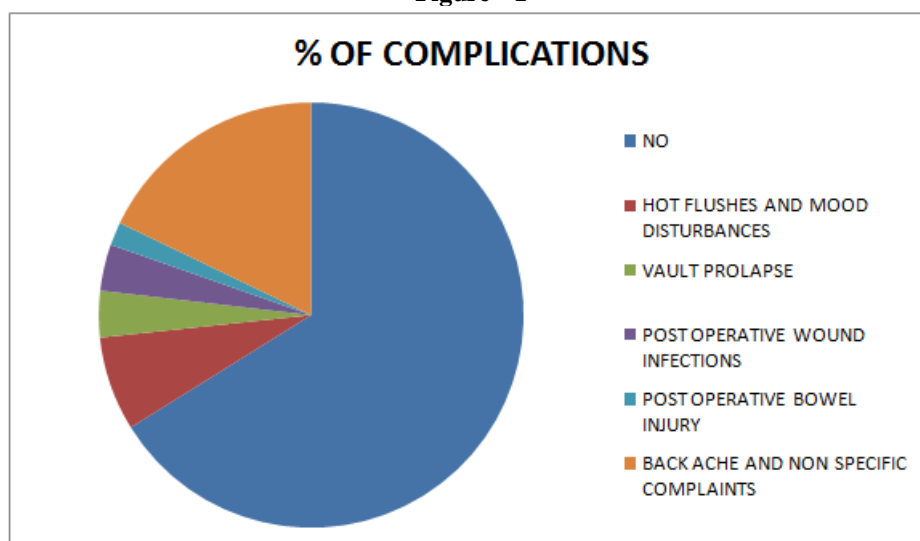
Most common indication for hysterectomy was found to be fibroid i.e in 26 women(45%), followed by menorrhagia from other causes i.e in 18 women (31%). Other indications were prolapsed (10.3%), chronic PID (5.1%), endometrial dysplasia (5.1%) and cervical dysplasia (3.4%).

Table - 3

INDICATION	TAH	VH	LAP	TOTAL	%
Fibroid	22 (84.6%)	0	4 (15.3%)	26	44.8
Menorrhagia	13 (72.2%)	2 (11.1%)	3 (16.6%)	18	31
Prolapse	1 (16.6%)	5 (83.3%)	0	6	10.3
Chronic PID	3	0	0	3	5.2
Endometrial dysplasia	3 (75%)	0	1 (25%)	4	6.9
Cervical dyplasia	0	0	1	1	1.8

Out of the total 58 study group, 37 women reported to have no complications after hysterectomy while 19 women reported to have one or more complaints after hysterectomy. 9 women out of the 58 study group (i.e15.5%) reported immediate and long term complications of hysterectomy. Out of these 4 women complained of hot flushes and mood disturbances and panic attacks. Two had vault prolapse for which they were again operated. 2 women had post operative wound infection and one post operative bowel injury. 10 women reported to have non-specific complaints like back ache, body pains, osteoarthritis which may be attributed to hysterectomy or to their current age.

Figure - 1



IV. Discussion

Compared to previous studies in other parts of India where hysterectomy rates have shown to be lower i.e 7%, this study shows higher rates i.e 32.5% among pilgrims of Tirumala. Most common age group that underwent hysterectomy is between 36 to 45 years and the most common indication is fibroid uterus. TAH is the most common approach. These findings are on par with almost the same observations come from Pakistan the most common reason for hysterectomy was fibroid (33%) followed by uterovaginal prolapse (19%) and DUB in 18 (12%)¹⁰. In a recent study from Africa too uterine fibroids were the most common reason of performing hysterectomy (23%); however there it was followed by DUB (14.9%)¹¹. Overall complication rate was 8.5%. Abdominal approach had a complication rate of 10.9%, as compared to 2.1% in vaginal approach. In Hong Kong the incidence of complications for vaginal hysterectomy (17.0%) was lower than that for both abdominal (26.4%) and laparoscopic hysterectomy (23.9%).¹² Hence, further studies need to be conducted related to hysterectomies in south India to prevent unnecessary hysterectomies.

Surgery of any kind especially hysterectomy, is a major event in our lives, particularly for women. For women in India family responsibilities take precedence over their own health concerns and hence they delay in taking treatment until they have fulfilled their family desires.¹³⁻¹⁸ Hysterectomy is surgical removal of uterus done in later phase of women's life for indications such as fibroids, endometriosis, cancers, prolapsed uterus. It is only second line of management after less invasive treatment options.

Our study revealed that prevalence of hysterectomy is significantly more among the pilgrims at Alipiri (32%) than the studies previously conducted in other parts of India (5-7%).

Prevalence of hysterectomy is maximum between 35-45 years. Wilcox et al also reported that hysterectomy was uncommon before 25 yrs age and 35-44 years being the most common age group.¹⁹

In India there is a longer treatment lag which may be because of higher tolerance threshold for women, their low status in society, the culture of silence among them for reproductive health problems and their poverty. Fear of operation might be another reason for the delay.

Prevalence of complications was 15.5 % in our study. But the remaining 84.5% reported no complications and also had improvement in their quality of life post operatively. Carlson et al also reported that post-operative quality of life after hysterectomy was better in 88% cases. They reported that sex life was adversely affected in 15-20% cases. In our study, none had reported such problem which may be because of hesitancy by the women in talking about their sex life.

The degree of discomfort faced by women due to excessive menstrual bleeding or other symptoms that led to their opting for hysterectomy can be judged by extent of relief reported by women after operation.

Hysterectomy rates in western countries is significantly higher(20% in UK¹⁴, 10% in Thailand) than in India (5-7%).¹¹ lower rate of hysterectomy in India may be due to various reasons viz. considerably lower level of medicalisation, lower status in the society, poverty, illiteracy and the fact that their tolerance threshold was higher.

In western countries, uterine fibroids and bleeding are the common indications. In our study, fibroids are the most common indication while menorrhagia is the second most common indication.

Medium and long-term side effects of hysterectomy can include infections, the physical and emotional effects of hormonal imbalance associated with menopause, loss of interest in sexual activity and illnesses that result from an overall weakened body.

Infections may be prevented by pre and post-operative antibiotics. Women may experience early onset menopausal symptoms including hot flushes, night sweats, vaginal dryness, anxiety, irritability, depression, and loss of libido. North American menopause society first recommends lifestyle and behavioural changes, such as regular exercise, yoga, avoid hot flash triggers like spicy food, caffeine etc., relaxation techniques. If these don't work, hormonal and non-hormonal drug therapy may be used.

Many conditions are amenable to non-invasive, less expensive treatment options if women are accessed early. For example, hormonal treatment for heavy menstrual bleeding, removal of abnormal cervical lesions if detected at an early stage, and stitching for prolapsed uterus. Hence, more research is required the availability of such treatment options and if they were indeed tried first and the effectiveness of such first line treatments in this population of women.

Limitations of the study are small sample size and limited period of study which may give biased results. There was no private room for the interview and the women may not be able to express their problems freely. Pilgrims might be in a hurry to travel, hence even if they answer, they might be answering hastily and not accurately.

V. Conclusion

High prevalence of hysterectomy in the pilgrims of Tirupati may be representative of general population. But this may not be reliable due to small sample size and limited time factors. Hence further studies must be conducted to confirm the results of the study. If such high prevalence is true, the cause for such high prevalence must be investigated and cross-checked if they are really indicated. Unnecessary hysterectomies must be avoided by proper diagnosis and opting for non-invasive treatments in early stages. Most common age group(35-45yrs) and the common indication (fibroids and menorrhagia) are similar to the results obtained in previous studies. Complication rate is also comparable to previous studies.

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