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Original Article

Frequency of Diseases Requiring Hysterectomy: A Cross Sectional Study at Tertiary Care Hospitals in Peshawar

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ABSTRACT

Hysterectomy, after cesarean section is the most common performed major surgical procedures all over the world. In the united states, 5.5/1000 women underwent hysterectomy in the years 2001 to 2005. **Objective:** To estimate the frequencies of different diseases that needs hysterectomy at Peshawar Medical College and its affiliate hospitals. **Methods:** This cross-sectional study was carried out from 3rd Oct, 2020 to 3rd Oct, 2021 at the Department of Obstetrics and Gynecology, Peshawar Medical College and its affiliate hospitals. Consecutive sampling was done and a sample size of 104 patients was obtained. Those patients who recently underwent abdominal or vaginal hysterectomies aged 25-60 years with history of any parity were included. Patients with co-morbid conditions such ischemic heart disease, chronic kidney disease, malignancies and other obstetric complications such as emergency cesarean hysterectomies were excluded. **Results:** Mean age with standard deviation was 48.55 ± 8.53. Mean and standard deviation for weight was 73.20 ± 6.103. Of total patients, 44 (42.3%) patients had symptomatic fibroid uterus, 29 (27.9%) patients had uterovaginal prolapse while 31 (29.8%) patients had abnormal uterine bleeding as indication for hysterectomy. Among these patients, 66 (63.5%) were subjected to abdominal hysterectomy while 38 (36.5%) went through vaginal hysterectomy. **Conclusions:** The most common disease that needs hysterectomy in our study was symptomatic leiomyomas of uterus followed by abnormal uterine bleeding due to other causes and uterovaginal prolapse.

INTRODUCTION

Hysterectomy is one of the most common major surgical procedure performed worldwide. In US, approximately 600,000 hysterectomies are performed each year [1]. The data is limited to departmental audits from different institutes and no national registry about hysterectomies exist in pakistan. A study comprising 148 patients who underwent abdominal hysterectomies reported that the most common disease requiring hysterectomy was heavy and irregular bleeding (54.73%) followed by pelvic masses (29.05%) which were mostly fibroids. The same study reported that mostly woman undergoing surgery were parity 6 and in the age group 41 to 50. Anemia, hypertension and diabetes were the most common pre-operative risks while hemorrhage and infection were the most common postoperative complications [2]. Other studies have reported leiomyomas as the most frequent cause for performing hysterectomies followed by a dysfunctional uterine bleeding and genital or uterine prolapse. During the study period (2011-2012), most hysterectomies were performed abdominally (54.4%). Abdominal hysterectomy has a significantly higher complication rate as compared to vaginal and laparoscopic hysterectomy (p value= 0.001)[3].

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Leiomyomas of the uterus account for 1/3rd of the diseases requiring hysterectomies and is a leading cause of gynecological visits in USA requiring an annual budget of $1.2 billion [4, 5]. About 1/5th of hysterectomies are performed for endometriosis.6 Genital and uterine prolapse in multiple gravida patients due to week pelvic floor muscles and ligaments contribute considerably to the indications for hysterectomy (15%) [7]. Various diseases have been described in the literature that requires hysterectomy including uterine cancer, ovarian cancer, some cases of cervical cancer, and various benign uterine conditions like fibroids, endometriosis, uterine prolapse and adenomyosis [8]. In our country, there are controversies that hysterectomies are being performed for without an absolute indication and holds true especially in our province, Khyber Pakhtunkhwa. Certain alternative approaches exist to treat benign diseases and hysterectomy can be avoided as it carries surgical risks as well as long-term effects, and also render the patient unable to bear children. This is an effort to know the exact indications for such hysterectomies and results of this study shared with local obstetricians, it helped minimize the frequency of hysterectomies for especially for non-malignant indications in our local population of Khyber Pakhtunkhwa due to availability of good alternatives in many cases.

METHODS

This cross-sectional study was carried out from 3rd Oct, 2020 to 3rd Oct, 2021 at the Department of Obstetrics and Gynecology, Peshawar Medical College and its Affiliate Hospitals. Consecutive sampling was done and a sample size of 104 patients was obtained considering 16.3% utero-vaginal prolapse as an indication for hysterectomy with confidence interval 95%, margin of error 7.1% and using WHO sample size calculator. Those patients who recently underwent abdominal or vaginal hysterectomies aged 25-60 years with history of any parity were included. Patients with co-morbid conditions such ischemic heart disease, chronic kidney disease, and other obstetric complications such as emergency cesarean hysterectomies confirmed on clinical history of the patient were excluded. Prior to the conduct of the study, written informed consent form was obtained from all patients. SPSS version 23.0 was used as statistical tool.

RESULTS

Mean and SDs of age was 48.55 years ± 8.53. Mean and SDs of height was 5.508 feet ± 0.0832. Mean and SDs of weight was 73.20 ± 6.103. Mean and SDs of BMI was 26.58 ± 2.17 (Table 1).

Table 1: Mean and Standard deviations of Age, Weight, Height and BMI

Variables	Mean ± SD
Age (years)	48.55 ± 8.53
Height (feet)	5.50 ± 0.08
Weight (kg)	73.20 ± 6.10
BMI	26.58 ± 2.17

Thirty-eight (36.5%) patients were in 25-45 years age group while 66 (63.5%) patients were in 46-60 years age group. Sixty-six (63.5%) patients were subjected to abdominal hysterectomy while 38 (36.5%) went through vaginal hysterectomy. Urban and rural population was 71.2% and 28.8% respectively. Sixty-eight (65.4%) patients had diabetes mellitus, 53 (51.0%) patients were from poor families, and 18 (17.3%) patients were from middle class families while 33 (31.7%) patients were from rich families. As per frequencies and percentages for indications of hysterectomies, 44 (42.3%) patients had symptomatic fibroid uterus, 29 (27.9%) patients had utero-vaginal prolapse while 31 (29.8%) patients had abnormal uterine bleeding. The frequency of diseases in different age groups is shown in Table 2.

Table 2: Stratification of Indications of Hysterectomies with respect to Age Groups (n=104)

Indications of Hysterectomies	Age Groups		Total
	25-45 Years	46-60 Years	
Symptomatic Fibroid Uterus	15(39.5)	29(43.9)	44(42.3)
Uterovaginal Prolapse	11(28.9)	18(27.3)	29(27.9)
Abnormal Uterine Bleeding	12(31.6)	19(28.8)	31(29.8)
Total	38(36.5)	66(63.4)	104(100)

DISCUSSION

Mean and SDs of weight and BMI were consistent to the findings of Anbreen *et al.*, [9]. In our study, patient was classified into two groups presumably premenopausal i.e. <45 years and post-menopausal i.e. with 38 patients falling in the age group 25 to 45 years and 66 patients aged 46 to 60 years, which was consistent with the findings of Baral *et al.*, [10]. In this study, 66 (63.5%) patients were subjected to abdominal hysterectomy while 38 (36.5%) went through vaginal hysterectomy. Moreover, 42.3% patients had symptomatic fibroid uterus, 27.9% patients had utero-vaginal prolapse while 29.8% patients had abnormal uterine bleeding which was consistent with the findings by Mahnert *et al.*, and Lonky *et al.*, who reviewed 10,274 women undergoing hysterectomy for benign disease. They reported that one out of eleven women undergoing hysterectomy for benign disease present to the emergency department for pain (29.5%), GI symptoms (12.8%), and genitourinary problems (10.7%). They concluded that educating the patients pre-operatively and improved communication with the high-risk patients can

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significantly reduce these visits [8, 11]. In another study by Johns most common indication for hysterectomy was symptomatic leiomyomas of the uterus followed by genital and uterine prolapse, 39.9% and 16.3% respectively [12]. A study conducted in Finland showed a decreasing incidence rate of hysterectomies with a changing trend of indication after 2010, where uterine fibroids was replaced by genital prolapse and incontinence as the most common cause for hysterectomy. Our study reflects a pattern not necessarily a change of trend as reported by Hakkarainen *et al.*, Cervical and uterine malignancies are treated with hysterectomy [13]. In a cohort of 1247 patient, Tchartchian *et al.*, reported that 0.4% of the patients had uterine cancer and 0.16% had fallopian tube cancer [14]. Similarly, Elliott *et al.*, reported the unexpected malignancy in a uterine specimen after hysterectomy to be 1.8% [15]. Interestingly, none of our patient had hysterectomy performed for malignant disease. These findings are consistent with Manandhar *et al.*, who reviewd 1912 patients undergoing hysterectomy and reported that leiomyomas (35.10%) was the most common clinical indication for hysterectomy, followed by uterovaginal prolapse in 22.46% patients, adnexal mass in 18.56% of the patients, and abnormal uterine bleeding in 10.34% of the patients [16]. This finding may be due to the availability of more specialized centers for cancers in the locality and the patient preferences to get treated there. Various routes of hysterectomy are employed including total abdominal, total laparoscopic, trans-vaginal, lap assisted trans-vaginal and robotic natural orifice vaginal hysterectomy. Our practice significantly differs from the standard of care adopted by most center where minimal invasive routes are preferred for benign diseases requiring hysterectomy. Madhvani *et al.*, shared the changing practice in NHS hospitals from 2011 through 2017 and reported that the proportion of total laparoscopic hysterectomy (TLH) increased from 20.2% to 47.2%. The total abdominal hysterectomies (TAH) decreased from 70.4% to 46.5% and the vaginal hysterectomy decreased from 7.8% to 3.5% [17]. A retrospective study from Australian tertiary hospitals reported that 51.7% hysterectomy were performed laparoscopically, 44% abdominally and 13% vaginally [18]. Infection, bleeding, injury to the colon or urinary tract, vesicovaginal fistula and bowl obstructions are some of the complications inherent to the hysterectomy. Settnes *et al.*, reported the Clavien–Dindo modified complications of hysterectomy and showed that 7.0% patients had major (grade 3-5) and 9.4% had minor (grade 1-2) complications [19]. In a large retrospective review from china, it was reported that the complications rate of laparoscopic hysterectomy was greater as compared to abdominal hysterectomy [20]. This signifies the importance of patient education regarding the variety of options to approach a disease that require hysterectomy, the different routes and the complications associated with each.

CONCLUSIONS

Symptomatic fibroid uterus is the major indication for hysterectomy in women aged 25 years and above followed by abnormal uterine bleeding and utero-vaginal prolapse. Indication in an individual patient should be carefully evaluated, and alternative treatments sought to prevent untoward events.

Authors Contribution

Conceptualization: HB
Methodology: A, QK, HS
Formal analysis: HS
Writing-review and editing: HB, AA

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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