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An Analysis of Hysterectomy in A Tertiary Care Centre

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Abstract: ***Background:*** Hysterectomy is one of the most common surgical procedures performed in gynecology, typically indicated for various benign and malignant conditions. This study aims to explore the distribution of hysterectomies based on patient characteristics, indications, types of hysterectomy, and histopathological findings, providing insights into surgical decision-making and postoperative outcomes. ***Methods:*** The study was conducted as a retrospective analysis of hysterectomies performed in the Department of Obstetrics and Gynecology at a tertiary care center from January 2022 to January 2023. The sample (N=103) consisted of women who underwent hysterectomies for both benign and malignant gynecological conditions. Data were systematically reviewed and categorized based on the type of hysterectomy, including abdominal, vaginal, and laparoscopic hysterectomy. Statistical analysis was performed using SPSS version 26, with descriptive statistics. ***Result:*** The majority of women aged 40-49 years (49.5%). Most women (40.8%) had 2-3 children, and abnormal uterine bleeding (AUB) was the most common complaint (19.4%). The most common indications for hysterectomy were fibroid (35.9%) and adenomyosis (35.0%), followed by abnormal uterine bleeding (23.3%) and postmenopausal bleeding (8.7%). Histopathologically, adenomyosis (63.1%) and leiomyoma (54.4%) were the most prevalent findings, with chronic cervicitis (38.8%) and atrophic endometrium (8.7%) also commonly observed. Total Abdominal Hysterectomy with Bilateral Salpingo-Oophorectomy (TAH-BSO) was the most common procedure (71.8%). ***Conclusion:*** The study found fibroids and adenomyosis as the leading indications for hysterectomy, with AUB and PMB also common. Histopathology confirmed adenomyosis and leiomyoma as the most frequent findings. Most patients underwent Total Abdominal Hysterectomy with Bilateral Salpingo-Oophorectomy (TAH-BSO).

Keywords: Hysterectomy, Salpingo-Oophorectomy, Abnormal uterine bleeding, Fibroids.

Original Research Article

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Article at a glance:

Study Purpose: *The purpose of this study is to analyze the clinical profile, indications, types, and outcomes of hysterectomy procedures performed at a tertiary care center.*

Key findings: *Uterine fibroids, abnormal uterine bleeding (AUB), adenomyosis, pelvic inflammatory disease (PID), and prolapse were leading causes.*

Newer findings: *Increasing use of laparoscopic and robotic-assisted hysterectomies, offering faster recovery and fewer complications.*

Abbreviations: *TAH: Total Abdominal Hysterectomy.*

INTRODUCTION

Hysterectomy, the surgical removal of the uterus, is one of the most frequently performed gynecological surgeries worldwide. It is often the definitive treatment for a variety of benign and malignant gynecological conditions that affect women's health and quality of life.[1] Common indications for hysterectomy include uterine fibroids, abnormal uterine bleeding (AUB), endometriosis, adenomyosis, pelvic organ prolapse, and malignancies such as endometrial and

ovarian cancers.[2, 3] Despite its frequency, the choice of surgical approach—whether abdominal, vaginal, or laparoscopic—depends on several factors, including the patient's condition, surgeon expertise, and the availability of resources.[4] The total abdominal hysterectomy (TAH) remains the most widely practiced technique due to its versatility in addressing various pathologies, particularly when concurrent procedures like salpingo-oophorectomy are necessary.[5] However, vaginal hysterectomy (VH) is often preferred in cases of pelvic organ prolapse due to its shorter recovery time and lower complication rates.[6] Laparoscopic-assisted vaginal hysterectomy (LAVH) and total laparoscopic hysterectomy (TLH) have gained popularity due to their minimally invasive nature, associated with reduced postoperative pain and quicker recovery times.[7] Several studies have examined the trends and outcomes of hysterectomy procedures. The prevalence of benign conditions, particularly uterine fibroids, as the primary indication for hysterectomy, remains high across different populations.[8] In addition, the role of histopathological evaluation in confirming preoperative diagnoses is critical for ensuring appropriate postoperative management, particularly in identifying unexpected malignancies. For example, sarcomas and ovarian tumors, though rare, can present with nonspecific symptoms, making histopathological confirmation vital .[9] The decision to perform a hysterectomy is multifaceted, often involving patient preferences, medical history, and the nature of the gynecological condition. Furthermore, the surgical approach, whether it is abdominal, vaginal, or laparoscopic, plays a crucial role in determining patient recovery and outcomes.[7] Understanding the patterns and outcomes associated with different types of hysterectomy is vital for improving surgical practices and optimizing patient care. This study was designed as a retrospective analysis of hysterectomies performed at a tertiary care center and aims to explore the distribution of hysterectomies based on patient characteristics, indications, types of hysterectomy, and histopathological findings, providing insights into surgical decision-making and postoperative outcomes.

METHODS

The study was conducted as a retrospective analysis of hysterectomies performed in the Department of Obstetrics and Gynecology at a tertiary care center from January 2022 to January 2023. Data were collected from patient records, including demographic details, clinical indications, surgical techniques, and postoperative outcomes. The sample (N=103) consisted of women who underwent hysterectomies for both benign and malignant gynecological conditions. Data were systematically reviewed and categorized based on the type of hysterectomy, including abdominal, vaginal, and laparoscopic hysterectomy. Statistical analysis was performed using SPSS version 26, with descriptive statistics.

Inclusion Criteria

Women aged 30 years and above.
Women who underwent hysterectomy for benign gynecological conditions.
Women who underwent hysterectomy for malignant gynecological conditions.
Hysterectomies performed at the tertiary care center during the study period.

Exclusion Criteria

Patients who underwent hysterectomy for obstetric emergencies.
Patients who had incomplete medical records.

RESULTS

Table 1: Distribution of study population based on basic characteristics (N=103)

Basic Characteristics	n	%
Age (years)		
<30	1	1.0
30-39	16	15.5
40-49	51	49.5
50-59	25	24.3
>60	10	9.7
Para		
0	3	2.9
1	18	17.5
2-3	42	40.8
>3	37	35.9

Table 1 presents the distribution of the study population based on their basic characteristics. The majority of the patients (49.5%) were between the ages of 40 and 49 years, followed by 24.3% in the 50–59 age group, 15.5% between 30 and 39 years, and only 1.0% were younger than 30 years. Regarding parity, 40.8% of the women had 2–3 children, 35.9% had more than 3 children, and 2.9% were nulliparous.

Table 2: Distribution of study population based on chief complaints (N=103)

Chief Complaints	n	%
Menorrhagia	60	58.2
Dysmenorrhoea + Menorrhagia	44	42.7
AUB	15	14.5
Dysmenorrhoea	09	8.7
Post-Menopausal Bleeding	09	8.7
Something Coming out through the Vagina	08	7.7
Post-Menopausal Bleeding with Cystic Hyperplasia	05	4.8
Dyspareunia	05	4.8
Diagnosed case of fibroid	02	1.9
Diagnosed case of ovarian Cyst	02	1.9
Diagnosed Case of Dermoid	01	1.0

The most common complaint was menorrhagia, reported by 58.2% of participants, followed by dysmenorrhoea with menorrhagia (42.7%). Other significant complaints included abnormal uterine bleeding (14.5%), dysmenorrhoea (8.7%), and post-menopausal bleeding (8.7%). Less frequent issues were vaginal prolapse symptoms (7.7%), post-menopausal bleeding with cystic hyperplasia (4.8%), and dyspareunia (4.8%). Diagnosed cases of fibroids, ovarian cysts, and dermoids were relatively rare, comprising 1.9%, 1.9%, and 1.0% of cases, respectively.

Table 3: Distribution of study population based on indication of hysterectomy (N=103)

Indication of Hysterectomy	n	%
Fibroid	37	35.9
Adenomyosis	36	35.0
AUB	24	23.3
Endometriotic cyst	08	7.8
Uterovaginal prolapse	08	7.8
Adnexal cyst	07	6.8
PMB (Postmenopausal Bleeding)	09	8.7
Thickened endometrium	01	1.0
Endometrial carcinoma/sarcoma	01	1.0

This study shows the distribution of the study population based on indications for hysterectomy, with fibroid (35.9%) and adenomyosis (35.0%) being the most common causes, followed by abnormal uterine bleeding (AUB) (23.3%). Less frequent indications included postmenopausal bleeding (PMB) (8.7%), endometriotic cyst, and uterovaginal prolapse (both 7.8%), and adnexal cyst (6.8%). Rare indications such as thickened endometrium and endometrial carcinoma/sarcoma accounted for 1.0% each.

Table 4: Distribution of study population based on type of hysterectomy (N=103)

Type of Hysterectomy	n	%
TAH-BSO (TAH with Bilateral Salpingo-Oophorectomy)	47	45.6
TAH with bilateral salpingectomy	20	19.4
Total abdominal hysterectomy	19	18.4
VH (Vaginal Hysterectomy)	08	7.7
TAH with unilateral salpingo-oophorectomy	07	6.8
Laparoscopic-Assisted Vaginal Hysterectomy	02	1.9

The most common procedure was TAH-BSO (Total Abdominal Hysterectomy with Bilateral Salpingo-Oophorectomy), accounting for 45.6% of cases. TAH with bilateral salpingectomy (19.4%) and total abdominal hysterectomy (18.4%) were also frequently performed. Less common procedures included vaginal hysterectomy (7.7%), TAH with unilateral salpingo-oophorectomy (6.8%), and laparoscopic-assisted vaginal hysterectomy (1.9%).

Table 5: Distribution of study population based on histopathology findings (N=103)

Histopathology Findings	n	%
Adenomyosis	65	63.1
Leiomyoma	56	54.4
Chronic Cervicitis	40	38.8
Atrophic endometrium	09	8.7

Endometrial polyp	05	4.9
Simple cyst	05	4.9
Endometriosis	03	2.9
Endometrial cyst	03	2.9
Serous cystadenoma	02	1.9
Mucous cystadenoma	02	1.9
Mature cystic teratoma	02	1.9
Serous cystadeno-fibroma	02	1.9
Endometrioid adenocarcinoma	02	1.9
Thickened endometrium	01	1.0
Endometrial hyperplasia	01	1.0
Carcino-sarcoma	01	1.0
Smooth muscle tumor with uncertain malignant potential	01	1.0

Regarding histopathology, adenomyosis (63.1%) and leiomyoma (54.4%) being the most prevalent findings, followed by chronic cervicitis (38.8%) and atrophic endometrium (8.7%). Other findings included endometrial polyp and simple cyst (4.9% each), and less common conditions such as endometriosis, endometrial cyst (2.9% each), and various ovarian and uterine pathologies like serous cystadenoma, mucous cystadenoma, and endometrioid adenocarcinoma (1.9% each). Rare findings included thickened endometrium, endometrial hyperplasia, and carcino-sarcoma (1.0% each). ho had incomplete medical records.

DISCUSSION

The present study provides insight into the characteristics, surgical indications, and outcomes of patients undergoing hysterectomy. In this study, the most common age group undergoing hysterectomy was 40-49 years (49.5%), which aligns with other studies reporting that hysterectomy rates peak in the perimenopausal period as women in this age group are more likely to experience uterine pathologies such as fibroids, abnormal uterine bleeding (AUB), and adenomyosis.[4] This is corroborated by Farquhar et al., who found a similar age distribution, noting the prevalence of hysterectomy for benign conditions in women over 40 years old.[10] Regarding parity, most of the patients had two or more children (76.7%), which is in line with previous studies indicating that multiparity is often associated with a higher incidence of conditions such as uterine prolapse, fibroids, and AUB (4). Studies by Van Den et al. also indicate a higher rate of hysterectomies in multiparous women compared to nulliparous women.[11] The findings of this study demonstrate that fibroid (35.9%) and adenomyosis (35.0%) are the leading indications for hysterectomy, highlighting the significant burden of benign uterine pathologies. These results are consistent with prior studies that have identified fibroids as the most frequent cause of hysterectomy, often due to symptoms such as heavy menstrual bleeding, pain, and pressure effects.[12] Abnormal uterine bleeding (AUB), accounting for 23.3% of cases, was also a major indication. This aligns with evidence suggesting that AUB remains a prevalent reason for hysterectomy, particularly when medical management fails or when it is associated with structural abnormalities such as leiomyomas or endometrial hyperplasia.[13] the most common type of hysterectomy in this study was TAH-BSO (Total Abdominal Hysterectomy with Bilateral Salpingo-Oophorectomy), accounting for 45.6% of the cases. This preference is consistent with its widespread use in managing conditions such as uterine fibroids, endometriosis, and suspected malignancies, where removal of the adnexa is necessary for comprehensive treatment and reducing cancer risk.[14] The histopathological findings in this study demonstrate that adenomyosis (63.1%) and leiomyoma (54.4%) were the most prevalent diagnoses among hysterectomy specimens. These results align with previous literature, which highlights adenomyosis and leiomyoma as the leading causes of benign uterine pathology in women undergoing hysterectomy.[15, 16] Chronic cervicitis (38.8%) was another frequent finding, reflecting its high prevalence in women undergoing hysterectomy.[17-26] Chronic cervicitis is often incidental and typically secondary to persistent infections or irritative stimuli, as reported in prior studies highlighting its association with benign gynecological conditions. The results emphasize the need for increased awareness and adoption of minimally invasive procedures like laparoscopic hysterectomy, which offer shorter recovery times and lower complication rates. This study's findings are consistent with global trends in hysterectomy practices, particularly regarding the common indications, age distribution, and surgical approaches. The predominance of abdominal hysterectomy and the high prevalence of fibroids and AUB as indications highlight ongoing challenges in adopting minimally invasive techniques and early diagnosis. Future efforts should focus on increasing the availability of minimally invasive procedures and improving preoperative diagnosis to optimize patient outcomes.

Limitations of The Study

The study was conducted in a single hospital with a small sample size. So, the results may not represent the whole community.

CONCLUSION

The study reveals that fibroid and adenomyosis were the most common indications for performing

hysterectomy, with abnormal uterine bleeding (AUB) and postmenopausal bleeding (PMB) both affecting in higher number of patients. Histopathological findings showed that adenomyosis and leiomyoma were the most prevalent, followed by chronic cervicitis and atrophic endometrium. The majority of patients underwent Total Abdominal Hysterectomy with Bilateral Salpingo-Oophorectomy (TAH-BSO), emphasizing its role in the treatment of these conditions.

Recommendation

To improve outcomes, it is recommended to promote early detection and routine screening for gynecological conditions to facilitate timely interventions. Increasing access to minimally invasive surgical options, such as laparoscopic and vaginal hysterectomies, can reduce complications and recovery times. Enhancing patient education about symptoms and treatment options is essential, as is strengthening follow-up care post-surgery, particularly for patients with comorbidities.

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Authors' Contributions

RH, AR: Concept and design, data acquisition, interpretation and drafting. MA, FI and AS: Data acquisition, interpretation, drafting, final approval and agree to be accountable for all aspects of the work.

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