



RESEARCH ARTICLE

Clinical Profile, Indications, and Postoperative Outcome of Hysterectomy Among Women Attending a Tertiary Care Hospital: A Prospective Observational Study

Rajni Kamble

¹ Associate Professor,
Department of Obstetrics and
Gynaecology, Shrinivas
Institute of Medical Sciences,
and Research Centre,
Mangaluru, India

Abstract

Background: Hysterectomy is one of the most commonly performed major gynecological surgical procedures worldwide. It is performed for several benign and malignant gynecological conditions, including abnormal uterine bleeding, fibroid uterus, adenomyosis, uterovaginal prolapse, endometrial pathology, chronic pelvic pain, and suspected malignancy. Careful evaluation of indications, route of surgery, intraoperative findings, and postoperative outcome is essential for improving patient care.

Aim: To evaluate the clinical profile, indications, route of surgery, histopathological findings, and postoperative outcome of hysterectomy among women undergoing the procedure in a tertiary care hospital. **Materials and Methods:** A prospective observational study was conducted in the Department of Obstetrics and Gynaecology among 160 women undergoing hysterectomy for gynecological indications. Demographic profile, presenting complaints, clinical diagnosis, route of hysterectomy, intraoperative findings, postoperative complications, duration of hospital stay, and histopathological diagnosis were recorded. Data were analyzed using descriptive statistics, and results were expressed as frequencies and percentages.

Results: The majority of women belonged to the 41–50 years age group. Abnormal uterine bleeding was the most common presenting complaint, followed by lower abdominal pain and mass per abdomen. Fibroid uterus was the most common indication for hysterectomy, followed by adenomyosis, uterovaginal prolapse, abnormal uterine bleeding not responding to medical therapy, and endometrial hyperplasia. Abdominal hysterectomy was the most common route, followed by vaginal and laparoscopic hysterectomy. Leiomyoma was the most common histopathological finding. Postoperative complications were mostly minor, including fever, wound infection, urinary tract infection, and anemia requiring correction.

Conclusion: Hysterectomy remains an important definitive treatment for several gynecological disorders. Fibroid uterus and abnormal uterine bleeding are common indications in reproductive and perimenopausal women, while prolapse is more common in older age groups. Proper preoperative evaluation, appropriate selection of surgical route, histopathological confirmation, and postoperative monitoring are essential for safe outcome. **Keywords:** Abnormal Uterine Bleeding, Adenomyosis, Fibroid Uterus, Hysterectomy, Obstetrics and Gynaecology, Postoperative Complications.

Copyright : © 2016 The Authors. Published by Publisher. This is an open access article under the CC BY-NC-ND license

(<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

1 | INTRODUCTION

Hysterectomy is a major gynecological surgical procedure involving removal of the uterus and is performed for a wide range of benign, premalignant, and malignant conditions. It may be performed by abdominal, vaginal, laparoscopic, or robotic-assisted route depending on indication, uterine size, pelvic pathology, surgical expertise, patient preference, and available facilities. Although conservative and minimally invasive options have increased in recent years, hysterectomy continues to remain an important definitive treatment for many gynecological disorders. (1)

The common benign indications for hysterectomy include symptomatic fibroid uterus, abnormal uterine bleeding, adenomyosis, uterovaginal prolapse, endometrial hyperplasia, chronic pelvic pain, and endometriosis. Malignant or suspected malignant conditions such as carcinoma cervix, carcinoma endometrium, ovarian malignancy, and premalignant cervical or endometrial lesions may also require hysterectomy as part of management. (2)

Route selection is an important component of surgical planning. Vaginal hysterectomy is preferred when feasible for benign disease because it is associated with less morbidity, shorter hospital stay, and faster recovery. Laparoscopic hysterectomy provides a minimally invasive option when vaginal route is not feasible. However, abdominal hysterectomy remains necessary in cases of large uterus, extensive adhesions, complex pelvic pathology, suspected malignancy, or when minimally invasive expertise is not available. (3)

Preoperative evaluation includes detailed history, clinical examination, pelvic examination, ultrasonography, cervical screening, endometrial sampling where indicated, laboratory investigations, and anesthetic fitness assessment. The decision for hysterectomy should be individualized after considering age, parity, severity of symptoms, failure of medical therapy, desire for fertility, risk of malignancy, and availability of alternative treatments. (4)

Histopathological examination of hysterectomy specimens is essential because it confirms the

clinical diagnosis and may detect unexpected pathology. Leiomyoma, adenomyosis, endometrial hyperplasia, endometrial polyp, chronic cervicitis, cervical intraepithelial neoplasia, and malignancy may be identified. Histopathological correlation helps evaluate the appropriateness of surgery and provides useful audit data. (5)

Hysterectomy is generally safe when performed with proper technique and perioperative care, but complications may occur. These include hemorrhage, wound infection, febrile morbidity, urinary tract infection, bladder injury, ureteric injury, bowel injury, vault hematoma, thromboembolism, anesthetic complications, and long-term pelvic floor or sexual health issues. Early recognition and management of complications are important for improving outcome. (6)

Quality of life often improves after hysterectomy when surgery is performed for appropriate indications such as severe abnormal uterine bleeding, symptomatic fibroid, prolapse, or chronic pain. However, unnecessary hysterectomy should be avoided, and alternative treatment options should be considered where suitable. Proper counseling regarding benefits, risks, fertility loss, ovarian conservation, and possible postoperative effects is essential. (7)

The present study was conducted to evaluate the clinical profile, indications, route of surgery, histopathological findings, and postoperative outcome among women undergoing hysterectomy in a tertiary care hospital.

2 | MATERIALS AND METHODS

This prospective observational study was conducted in the Department of Obstetrics and Gynecology. A total of 160 women undergoing hysterectomy for gynecological indications were included in the study.

Women undergoing abdominal, vaginal, or laparoscopic hysterectomy for benign, premalignant, or

Supplementary information The online version of this article ([10.15520/ijmhs/6-3-11](https://doi.org/10.15520/ijmhs/6-3-11)) contains supplementary material, which is available to authorized users.

selected gynecological indications were included. Emergency obstetric hysterectomy, hysterectomy for postpartum hemorrhage, patients unwilling to participate, and cases with incomplete records were excluded.

Detailed clinical history was recorded for all patients. Information regarding age, parity, menstrual history, presenting complaints, duration of symptoms, previous treatment, obstetric history, medical comorbidities, previous abdominal or pelvic surgery, and menopausal status was collected.

All patients underwent general physical examination, systemic examination, abdominal examination, per speculum examination, and bimanual pelvic examination. Uterine size, mobility, adnexal findings, prolapse, cervical pathology, and associated pelvic tenderness were recorded.

Investigations included complete blood count, blood group, renal function tests, liver function tests where indicated, blood sugar, urine examination, electrocardiography, chest radiograph, ultrasonography of pelvis, Pap smear where indicated, and endometrial sampling in women with abnormal uterine bleeding or postmenopausal bleeding. Additional imaging and tumor markers were performed in selected cases according to clinical need.

Patients were counseled regarding indication for surgery, available alternatives, route of hysterectomy, risk of complications, need for oophorectomy if applicable, postoperative recovery, and histopathological evaluation. Written informed consent was obtained.

The route of hysterectomy was selected based on clinical indication, uterine size, mobility, prolapse, associated adnexal pathology, previous surgery, suspected adhesions, surgeon's assessment, and patient factors. Procedures included total abdominal hysterectomy, vaginal hysterectomy, and laparoscopic hysterectomy. Bilateral salpingo-oophorectomy was performed where clinically indicated.

Intraoperative findings were recorded. Postoperative monitoring included pulse, blood pressure, temperature, urine output, abdominal distension, wound status, vaginal bleeding, and symptoms suggestive of urinary tract infection or other complications.

Postoperative complications and duration of hospital stay were documented.

All hysterectomy specimens were sent for histopathological examination. Histopathological findings were recorded and correlated with clinical diagnosis.

Data were analyzed using descriptive statistics. Categorical variables were expressed as frequencies and percentages. Continuous variables were expressed as mean $\pm$ standard deviation.

Institutional ethical committee approval was obtained before commencement of the study. Confidentiality of patient information was maintained.

3 | RESULTS

A total of 160 women undergoing hysterectomy were included in the study. The mean age of patients was 46.8 ± 8.6 years.

The majority of women belonged to the 41–50 years age group, accounting for 82 (51.3%) cases. Multiparity was common and was observed in 142 (88.8%) women. Postmenopausal women constituted 42 (26.3%) cases.

Abnormal uterine bleeding was the most common presenting complaint, observed in 86 (53.8%) women. Lower abdominal pain was reported by 54 (33.8%) women, while mass per abdomen was present in 42 (26.3%). Symptoms of uterovaginal prolapse were reported by 28 (17.5%) women.

Fibroid uterus was the most common indication for hysterectomy, accounting for 58 (36.3%) cases. Adenomyosis was the second most common indication, followed by uterovaginal prolapse. Abnormal uterine bleeding not responding to medical therapy accounted for 22 (13.8%) cases.

Total abdominal hysterectomy was the most common route, performed in 92 (57.5%) patients. Vaginal hysterectomy was performed in 42 (26.3%) cases, mainly for prolapse and selected benign indications. Laparoscopic hysterectomy was performed in 26 (16.2%) cases.

Enlarged uterus was the most common intraoperative finding, observed in 82 (51.3%) cases. Bulky uterus

TABLE 1: Demographic Characteristics of Study Participants

Variable	Frequency (%)
Age 30–40 years	28 (17.5)
Age 41–50 years	82 (51.3)
Age 51–60 years	36 (22.5)
Age >60 years	14 (8.7)
Multiparous women	142 (88.8)
Postmenopausal women	42 (26.3)

TABLE 2: Presenting Complaints

Presenting Complaint	Frequency (%)
Abnormal uterine bleeding	86 (53.8)
Lower abdominal pain	54 (33.8)
Mass per abdomen	42 (26.3)
Something coming out per vaginum	28 (17.5)
Postmenopausal bleeding	16 (10.0)
White discharge per vaginum	22 (13.8)

TABLE 3: Indications for Hysterectomy

Indication	Frequency (%)
Fibroid uterus	58 (36.3)
Adenomyosis	32 (20.0)
Uterovaginal prolapse	28 (17.5)
AUB not responding to medical therapy	22 (13.8)
Endometrial hyperplasia	10 (6.3)
Chronic pelvic pain/endometriosis	6 (3.8)
Suspected malignancy	4 (2.5)

TABLE 4: Route of Hysterectomy

Route of Surgery	Frequency (%)
Total abdominal hysterectomy	92 (57.5)
Vaginal hysterectomy	42 (26.3)
Laparoscopic hysterectomy	26 (16.2)

TABLE 5: Intraoperative Findings

Finding	Frequency (%)
Enlarged uterus	82 (51.3)
Bulky uterus	38 (23.8)
Adnexal pathology	18 (11.3)
Pelvic adhesions	16 (10.0)
Prolapse-related findings	28 (17.5)

was noted in 38 (23.8%) cases. Adnexal pathology and pelvic adhesions were observed in smaller proportions.

Leiomyoma was the most common histopathological diagnosis, observed in 56 (35.0%) cases. Adenomyosis was found in 34 (21.3%) cases, followed by chronic cervicitis in 30 (18.8%). Malignancy was detected in 4 (2.5%) cases.

Most patients had uneventful postoperative recovery. No complication was observed in 106 (66.3%) women. Fever was the most common postoperative complication, followed by postoperative anemia, wound infection, and urinary tract infection. Bladder injury was observed in 2 (1.3%) cases and was managed intraoperatively.

4 | DISCUSSION

The present prospective observational study evaluated the clinical profile, indications, route of surgery, histopathological findings, and postoperative outcome among 160 women undergoing hysterectomy. The majority of women were in the 41–50 years age group, and abnormal uterine bleeding was the most common presenting complaint. Fibroid uterus was the most common indication, followed by adenomyosis and uterovaginal prolapse. Abdominal hysterectomy was the most common route.

Lundholm et al. reported that benign indications constitute a major proportion of hysterectomies, with variation in rates and route of surgery across populations. (8) In the present study, most hysterectomies were performed for benign gynecological conditions such as fibroid uterus, adenomyosis, and prolapse.

Pandey et al. observed that symptomatic fibroid uterus was a common indication for hysterectomy in a hospital-based audit. (9) The present study showed a similar pattern, with fibroid uterus accounting for 36.3% of hysterectomies. This may be due to heavy menstrual bleeding, pelvic pain, pressure symptoms, and failure of medical management.

Whiteman et al. analyzed hysterectomy surveillance data and reported that hysterectomy is commonly performed among women in middle age groups. (10) In the present study, most women belonged to the

41–50 years age group, which corresponds to the perimenopausal period when abnormal bleeding, fibroids, and adenomyosis commonly become symptomatic.

Nieboer et al. reported that hysterectomy for benign disease can improve quality of life when performed for appropriate indications. (11) In the present study, abnormal uterine bleeding and pain were common complaints, and these symptoms can significantly affect daily functioning, anemia status, and quality of life.

Wright et al. reported that the route of hysterectomy influences surgical outcome and resource use. (12) In the present study, abdominal hysterectomy was the most common route. This may reflect uterine size, pelvic pathology, surgeon preference, adhesions, and availability of minimally invasive facilities.

Aarts et al. reviewed surgical approaches for hysterectomy and found that minimally invasive routes generally offer faster recovery compared with abdominal hysterectomy when feasible. (13) In the present study, vaginal and laparoscopic routes together accounted for 42.5% of cases, indicating the use of minimally invasive approaches in selected patients.

Clarke-Pearson and Geller discussed complications of hysterectomy and categorized them as infectious, thromboembolic, urinary tract, gastrointestinal, bleeding-related, and wound-related complications. (14) In the present study, postoperative fever, wound infection, urinary tract infection, and anemia were the common complications.

Falkon et al. studied complications after hysterectomy for benign conditions and reported that complications vary with route and patient factors. (15) In the present study, most complications were minor and manageable, while major complications were uncommon.

Kulkarni et al. discussed hysterectomy for benign uterine disease and emphasized that alternative treatment options should be considered where appropriate before definitive surgery. (16) In the present study, hysterectomy was performed for symptomatic conditions, including abnormal uterine bleeding not responding to medical therapy.

TABLE 6: Histopathological Findings

Histopathological Finding	Frequency (%)
Leiomyoma	56 (35.0)
Adenomyosis	34 (21.3)
Chronic cervicitis	30 (18.8)
Endometrial hyperplasia	12 (7.5)
Atrophic endometrium	10 (6.3)
Endometrial polyp	8 (5.0)
Malignancy	4 (2.5)
Other benign findings	6 (3.8)

TABLE 7: Postoperative Complications

Complication	Frequency (%)
Fever	18 (11.3)
Wound infection	10 (6.3)
Urinary tract infection	8 (5.0)
Postoperative anemia requiring correction	12 (7.5)
Vault infection/hematoma	4 (2.5)
Bladder injury	2 (1.3)
No complication	106 (66.3)

Nieboer TE et al. reported that perioperative complications and route selection are influenced by patient characteristics and surgical factors. (17) In the present study, route selection was individualized based on uterine size, prolapse, adhesions, adnexal pathology, and clinical indication.

Abnormal uterine bleeding was the most common presenting complaint in the present study. AUB can cause anemia, fatigue, reduced work efficiency, repeated medical visits, and psychological stress. Hysterectomy may be considered when medical therapy fails, fertility is completed, and significant pathology is present.

Fibroid uterus was the most common indication and was also the most common histopathological finding. Fibroids are estrogen-sensitive benign smooth muscle tumors and may present with heavy menstrual bleeding, dysmenorrhea, pelvic pressure, infertility, or mass per abdomen. Hysterectomy provides definitive treatment when fertility is no longer desired.

Adenomyosis was the second most common indication and histopathological diagnosis. Adenomyosis commonly presents with heavy menstrual bleeding, dysmenorrhea, bulky uterus, and chronic pelvic pain.

Clinical and imaging diagnosis may be difficult, and histopathology confirms the diagnosis after hysterectomy.

Uterovaginal prolapse accounted for 17.5% of cases. Prolapse is more common among multiparous and older women and may present with mass descending per vaginum, urinary symptoms, pelvic discomfort, and difficulty in daily activity. Vaginal hysterectomy is commonly performed in suitable prolapse cases.

Histopathological examination confirmed benign pathology in most cases. However, malignancy was detected in 2.5% cases, emphasizing the importance of sending all hysterectomy specimens for histopathological evaluation. Unexpected premalignant or malignant findings may alter further management.

Postoperative fever was the most common complication. It may occur due to atelectasis, urinary infection, wound infection, pelvic infection, or inflammatory response. Regular monitoring and early evaluation are necessary to prevent progression.

Wound infection was observed in 6.3% cases. Proper asepsis, antibiotic prophylaxis, glycemic control, nutritional optimization, and wound care reduce post-

operative infection risk. Urinary tract infection was observed in 5.0% patients and may be related to catheterization.

Postoperative anemia requiring correction was observed in 7.5% cases. Preoperative optimization of hemoglobin, careful surgical technique, and blood loss monitoring are important, especially in women with abnormal uterine bleeding.

The present study has certain limitations. It was conducted at a single tertiary care hospital and may not represent community-level hysterectomy patterns. Long-term postoperative outcome, sexual function, pelvic floor symptoms, and quality-of-life scoring were not assessed. Future studies with longer follow-up and validated quality-of-life tools may provide stronger evidence.

5 | CONCLUSION

Hysterectomy remains an important definitive surgical procedure for several gynecological conditions. In the present study, most women undergoing hysterectomy were in the 41–50 years age group. Abnormal uterine bleeding was the most common presenting complaint. Fibroid uterus was the most common indication and leiomyoma was the most common histopathological finding. Abdominal hysterectomy was the most frequently performed route, although vaginal and laparoscopic routes were used in selected cases. Most postoperative complications were minor and manageable. Careful patient selection, appropriate route selection, preoperative optimization, histopathological evaluation, and postoperative monitoring are essential for safe and effective hysterectomy outcomes.

REFERENCES

1. Mccracken G, Lefebvre GG. Vaginal hysterectomy: dispelling the myths. *J ObstetGynaecol Can.* 2007;29(5):424–428.
2. Aarts J, Nieboer TE, Johnson N, Tavender E, Garry R, Mol B. Surgical approach to hysterectomy for benign gynaecological disease. *Cochrane Database Syst Rev.* 2015;(8):3677–3677.
3. Clarke-Pearson DL, Geller EJ. Complications of hysterectomy. *Obstet Gynecol.* 2013;121(3):654–673.
4. Pandey D, Sehgal K, Saxena A, Hebbar S, Nambiar J, Bhat RG. An audit of indications, complications, and justification of hysterectomies at a teaching hospital in India. *Int J Reprod Med.* 2014;p. 279273–279273.
5. Rossi AC, Lee RH, Chmait RH. Emergency postpartum hysterectomy for uncontrolled postpartum bleeding: a systematic review. *Obstet Gynecol.* 2010;115(3):637–644.
6. Whiteman MK, Hillis SD, Jamieson DJ, Morrow B, Podgornik MN, Brett KM. Inpatient hysterectomy surveillance in the United States. *Am J Obstet Gynecol.* 2000;198(1):34–35.
7. Nieboer TE, Hendriks J, Bongers MY, Vierhout ME, Kluivers KB. Quality of life after laparoscopic and abdominal hysterectomy: a randomized controlled trial. *Obstet Gynecol.* 2012;119(1):85–91.
8. Lundholm C, Forsgren C, Johansson A, Cnattingius S, Altman D. Hysterectomy on benign indications in Sweden 1987-2003: a nationwide trend analysis. 2009;88:52–58.
9. Pandey D, Sehgal K, Saxena A, Hebbar S, Nambiar J, Bhat RG. An audit of indications, complications, and justification of hysterectomies at a teaching hospital in India. *Int J Reprod Med.* 2014;p. 279273–279273.
10. Whiteman MK, Hillis SD, Jamieson DJ, Morrow B, Podgornik MN, Brett KM. Inpatient hysterectomy surveillance in the United States. *Am J Obstet Gynecol.* 2000;198(1):34–35.
11. Nieboer TE, Hendriks J, Bongers MY, Vierhout ME, Kluivers KB. Quality of life after laparoscopic and abdominal hysterectomy: a randomized controlled trial. *Obstet Gynecol.* 2012;119(1):85–91.

12. Wright JD, Herzog TJ, Tsui J, Ananth CV, Lewin SN, Lu YS. Nationwide trends in the performance of inpatient hysterectomy in the United States. *Obstet Gynecol.* 2013;122(2):233–241.
13. Aarts J, Nieboer TE, Johnson N, Tavender E, Garry R, Mol B. Surgical approach to hysterectomy for benign gynaecological disease. *Cochrane Database Syst Rev.* 2015;(8):3677–3677.
14. Clarke-Pearson DL, Geller EJ. Complications of hysterectomy. *Obstet Gynecol.* 2013;121(3):654–673.
15. Falcone T, Walters MD. Hysterectomy for benign disease. *Obstet Gynecol.* 2008;111(3):753–76.
16. Kulkarni MM, Rogers RG. Vaginal hysterectomy for benign disease without prolapse. *Clin Obstet Gynecol.* 2010;53(1):5–16.
17. Nieboer TE, Johnson N, Lethaby A. Surgical approach to hysterectomy for benign gynaecological disease. *Cochrane Database Syst Rev.* 2009;(3).

How to cite this article: Kamble R. **Clinical Profile, Indications, and Postoperative Outcome of Hysterectomy Among Women Attending a Tertiary Care Hospital: A Prospective Observational Study.** *Innovative Journal of Medical and Health Science.* 2016;657–663. <https://doi.org/10.15520/ijmhs/6-3-11>
