

# Elective abdominal hysterectomy: Appraisal of indications and complications at Aminu Kano Teaching Hospital - An 8-year review

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## ABSTRACT

**Background:** Hysterectomy is a safe and a major gynecological operation. It could be performed using abdominal, vaginal, or laparoscopic approach. It is performed for different indications such as dysfunctional uterine bleeding, endometriosis, fibroids, or prolapse. This procedure is however not without complications especially in resource-poor countries. An overview of the outcome of the procedure is essential in facilities like ours that is located in resource-poor countries.

**Objectives:** To determine the rate, indications, and complications of elective abdominal hysterectomy at Aminu Kano Teaching Hospital (AKTH), Kano, Nigeria.

**Methodology:** This was a retrospective study of all cases of elective abdominal hysterectomies performed over an 8-year period (January 2009 to December 2016) at AKTH, Kano. Outcome measures were demographic characteristics, indication for surgery, type of hysterectomy, and postoperative complications.

**Results:** During the period of study, there were 7632 major gynecological operations, among them were 251 cases of elective abdominal hysterectomy, giving a rate of 3.3%. The most common indication was uterine fibroid (51.8%). Total abdominal hysterectomy (TAH) was more commonly performed (93.0%) compared to subtotal hysterectomy (7.0%). Postoperative pyrexia (45.9%) was the most common complication, while ureteric injury (2.4%) was the least. Duration of hospital stay was 6–10 days in 89.2% of cases, and there was no mortality recorded.

**Conclusion:** Elective abdominal hysterectomy is a fairly common and safe procedure in AKTH. Uterine fibroid and postoperative pyrexia was the most common indication and complication, respectively. TAH was commonly performed compared to subtotal hysterectomy.

**Key words:** Abdominal hysterectomy; complications; indications; Kano.

## Introduction

Hysterectomy is a major gynecological operation for the removal of the uterus with or without adnexal structures for therapeutic purpose.<sup>[1,2]</sup> History of hysterectomy is long and varied. Although significant advances in the techniques of hysterectomy did not occur until the 19<sup>th</sup> century, earlier attempts are known. Some references to hysterectomy

date back to 5<sup>th</sup> century BC, in the time of Hippocrates. In 1600, Schenck of Grabenberg cataloged 26 cases of vaginal hysterectomy in Europe.<sup>[2]</sup>

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Globally, over 100,000 hysterectomies are performed annually in England and 600,000 in the United States.<sup>[3,4]</sup> Hysterectomies are commonly performed in many tertiary health institutions in Nigeria. It accounts for 28%<sup>[5]</sup> of all major gynecological operations at the University College Hospital, Ibadan, coming after salpingectomy for ectopic pregnancy while at University of Ilorin Teaching Hospital, the rate of total abdominal hysterectomy (TAH) was 10.0%.<sup>[6]</sup> In developed countries, hysterectomy is accepted readily due to increased awareness of the procedure and longevity; the case is however very different in developing countries like ours, where there is a strong aversion to hysterectomy for reasons of fear of surgery, loss of femininity, loss of sex drive, and sexual rejection by their spouses.<sup>[7,8]</sup> Other reasons include cultural beliefs or religious attachment to preservation of menstruation, childbearing, and reincarnating without uterus.<sup>[7-9]</sup>

There are different routes to access the uterus. These include abdominal, vaginal, laparoscopic, and a combination of vaginal and laparoscopic (laparoscopically assisted vaginal hysterectomy).<sup>[2,4]</sup>

The most common indication for hysterectomy in our environment remains uterine fibroid.<sup>[9-12]</sup> Other indications for hysterectomy irrespective of the environment include, but not limited to, benign, premalignant, malignant gynecological conditions, and obstetric complications.<sup>[7]</sup> Abdominal hysterectomy is the removal of the uterus through an abdominal incision. It can be total in which case the uterus and cervix are removed, or subtotal (supracervical), when the cervix is preserved.<sup>[2]</sup>

All large-scale surveys of hysterectomies show that 70%–80% hysterectomies are performed by abdominal approach except in uterovaginal prolapse for which vaginal route is normally used and accounts for 10% of all cases of hysterectomies.<sup>[3,13]</sup>

Vaginal hysterectomy is the removal of the uterus and cervix through the vagina. It offers great potential in terms of access to the uterus and fulfills all criteria for minimally invasive surgery;<sup>[14]</sup> it employs a natural orifice thereby avoiding an abdominal scar.<sup>[15,16]</sup> The procedure is associated with less postoperative pain, blood loss, less risk for trauma to adjoining structures, less hospital stay, and early return to normal activities. However, the greatest challenge is where the uterine size is >12 weeks.<sup>[2-5,17]</sup>

More recently, the laparoscopic procedures, laparoscopic hysterectomy, and laparoscopically assisted vaginal hysterectomy were introduced and are gaining grounds in developed

countries.<sup>[18]</sup> In laparoscopic hysterectomy, the uterine vessels are ligated, coagulated, or stapled through the laparoscope, and the uterus is morcellated or brought out through a colpotomy while in laparoscopically assisted vaginal hysterectomy, the uterine vessels are ligated vaginally.<sup>[2,17,19]</sup> Scientific evidence favors vaginal and laparoscopic hysterectomies when compared to abdominal hysterectomy. This is not unconnected to the lower complication rates, less postoperative pain, and a rapid return to normal activities, following vaginal or laparoscopically assisted hysterectomies, thereby resulting in a better quality of life.<sup>[16]</sup>

Absolute and relative contraindications have been proposed for each type of hysterectomy. Each route has its own merits and demerits. The route chosen should be individualized taking into consideration, the surgeon's technical expertise, the indication for the surgery, general health condition of the patients, and facilities available.<sup>[18,20,21]</sup> The preponderance of preoperative details such as prophylactic antibiotics and prevention of thromboembolic conditions are important to assure a good surgical outcome.<sup>[22,23]</sup>

Early hysterectomies were associated with morbidities and mortalities mainly from hemorrhage and infections. However, improvement in blood bank services, use of potent antibiotics, and safe anesthetic techniques have dramatically reduced the morbidity and mortality associated with hysterectomy.<sup>[6,11,24]</sup> Majority of women have relief of their symptoms after hysterectomy with associated high level of satisfaction after the procedure; however, hysterectomy is not without complications.<sup>[3,25]</sup> Recognized complications include immediate complications such as anesthetic complications, injuries to adjoining structures such as urinary bladder, bowel, ureters, and hemorrhage.<sup>[1,2]</sup> These complications could lead to severe morbidity and even death. These complications are more frequently encountered in abdominal hysterectomy when compared with vaginal and laparoscopic hysterectomies.<sup>[2,4,6]</sup>

### Aims and objectives

To determine the rate, indications, and complications of elective abdominal hysterectomy at Aminu Kano Teaching Hospital (AKTH), Kano.

### Methodology

This was a retrospective descriptive study of all the elective abdominal hysterectomies that were performed from January 1, 2009, to December 31, 2016, at AKTH, Kano. The operation theater records were reviewed, and the case files of these patients were retrieved from the Medical Records Department. Information extracted included age, parity,

level of education, occupation, total number and type of hysterectomy, indications, postoperative morbidity and mortality, and length of postoperative hospital stay. The information retrieved was recorded on pro forma for the study. The data collected were recorded in tabular form and presented as frequencies and percentages using computer software SPSS version 16.0 (SPSS Inc., IL, USA).

## Results

During the study period (from January 1, 2009, to December 31, 2016), there were 7632 major gynecological operations; among them were 251 cases of elective abdominal hysterectomy, giving a rate of 3.3% of all major gynecological operations for elective abdominal hysterectomy. Two hundred and fifty-one cases of hysterectomy were performed during the study period. Only 158 case notes were retrieved from the medical records for analysis, giving a retrieval rate of 62.9%.

The sociodemographic characteristics of the patients are shown in Table 1. The highest frequency of elective abdominal hysterectomy was found among 40–49 years of age group (48.7%) and those that are primipara/multipara (58.9%). The rate of elective abdominal hysterectomy was 39.9% and 53.8% among those with primary school education and homemakers, respectively.

The most common indication for elective abdominal hysterectomy in this study was uterine fibroid (51.8%) while the least was chronic pelvic pain (0.6%) [Table 2].

TAH accounted for 93.0% of cases, while subtotal hysterectomy for 7.0% [Table 3].

Postoperative pyrexia (45.9%) was the most common complication, followed by wound infection (18.9%) and intraoperative hemorrhage (12.9%). Ureteric injuries (2.4%) were the least [Table 4].

Length of hospital stay was 6–10 days in 89.2% of cases, 7.6% stayed 11–15 days, and 1.3% stayed for more than 16 days [Table 5]. There was no mortality recorded during the period under review.

## Discussion

The rate of elective abdominal hysterectomy in this study was 3.3% which was lower than the 10.0% reported by Omokanye *et al.* in Ilorin,<sup>[6]</sup> and 18.2% reported by Anzaku and Musa in Jos.<sup>[26]</sup> This is partly attributed to the general aversion to hysterectomy in the northern part of Nigeria, especially in Kano.<sup>[8]</sup> Poor understanding of its benefits especially in the

**Table 1: Sociodemographic variables of patients who had hysterectomy (n=158)**

Variables	Frequency (%)
Age	
<30	0
30-39	21 (13.3)
40-49	77 (48.7)
50-59	47 (29.7)
60-69	11 (7.0)
≥70	2 (1.3)
Parity	
0	4 (2.5)
1-4	93 (58.9)
≥5	61 (38.6)
Educational status	
None	22 (13.9)
Primary	63 (39.9)
Secondary	25 (15.8)
Tertiary	24 (15.2)
Quranic	24 (15.2)
Occupational status	
Civil servant	24 (15.2)
Trading	33 (20.9)
Homemaker	85 (53.8)
Others	16 (10.1)

**Table 2: Indications for abdominal hysterectomy (n=158)**

Indications	Frequency (%)
Symptomatic uterine fibroid	82 (51.8)
Ovarian malignancy	24 (15.2)
High-grade CIN	18 (11.4)
Endometrial hyperplasia	11 (7.0)
Uterine malignancy	6 (3.8)
Carcinoma of the cervix	5 (3.2)
Adenomyosis	6 (3.8)
Uterine prolapse	5 (3.2)
Chronic pelvic pain	1 (0.6)

CIN - Cervical intraepithelial neoplasia

**Table 3: Types of abdominal hysterectomy (n=158)**

Types	Frequency (%)
TAH	147 (93.0)
STAH	11 (7.0)

TAH - Total abdominal hysterectomy; STAH - Subtotal abdominal hysterectomy

**Table 4: Postoperative complications among patients who had abdominal hysterectomy (n=85)**

Complication	Frequency (%)
Postoperative pyrexia	39 (45.9)
Wound infection	16 (18.9)
Intraoperative hemorrhage	11 (12.9)
Postoperative anemia	12 (14.0)
Bladder injury	5 (5.9)
Ureteric injury	2 (2.4)

**Table 5: Length of hospital stay of patients who had elective abdominal hysterectomy (n=158)**

Number of days	Frequency (%)
≤5	3 (1.9)
6-10	141 (89.2)
11-15	12 (7.6)
>16	2 (1.3)

prevention of cervical cancer and the recurrence of uterine fibroids might have contributed to the low rate.

Elective abdominal hysterectomy is the most common among 40–49 years age group, and this is similar to the experience from other centers.<sup>[3,5,6]</sup> This group of women (40-49 years) are more likely multiparous and have completed their family size, hence the need for elective abdominal hysterectomy. Majority of the women were of parity 1–4; 93 (58.9%) grand multiparous constituted 38.6%. This could be attributed to the fact that women that had children will likely give consent to removal of their uterus while nulliparous women will likely want to retain their uterus even in the face of advanced pathology with the hope of bearing children in the future.

The most common indication for elective abdominal hysterectomy in this study was symptomatic uterine fibroid. This was the finding in similar studies from other centers.<sup>[3,5,6]</sup> This may probably be because uterine fibroid is the most common benign genital tract tumor among women of African and Caribbean origin.<sup>[8]</sup> The indications for hysterectomy in nulliparous women in this study were mainly uncontrollable hemorrhage during attempt at myomectomy and endometrial hyperplasia.

TAH was the most frequently performed operation. This is in keeping with findings from other centers.<sup>[3,10]</sup> This is because subtotal hysterectomy is not favored except at cesarean hysterectomy, and also, it is unpopular in our environment because of the risk of cancer of the cervical stump. However, subtotal hysterectomy was done for 11 patients (7.0%). This was due to uncontrollable hemorrhage during myomectomy or dense adhesions in the pelvis.

Majority of the elective abdominal hysterectomy was performed by consultants probably because all the cases were elective.

Postoperative pyrexia was the most common morbidity in this study; this is consistent with findings from other centers.<sup>[15,17]</sup> Wound infection was probably due to poor aseptic conditions that prevail in developing countries.<sup>[8]</sup> In this review, there were two cases (2.4%) of ureteric injuries. Although these cases were managed successfully, it is recommended that

ureters are properly delineated, and in difficult cases, stenting by the urologist before surgery. There was no mortality associated with hysterectomy during the years under review.

Length of stay in the hospital was 6–10 days in majority of the patients, which agrees with the findings of Omokanye *et al.*<sup>[6]</sup> The 1.3% of cases who stayed beyond 16 days was as a result of complications related to surgery or the initial pathology they had.

## Conclusion

Elective abdominal hysterectomy is a fairly common and safe procedure in AKTH. Uterine fibroid was the most common indication for the procedure while postoperative pyrexia was the most frequent complication of the procedure. TAH was commonly performed compared to subtotal hysterectomy.

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## Conflicts of interest

There are no conflicts of interest.

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