

# Laparoscopy and hysteroscopy in a Tertiary Hospital: A 4 year review

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## ABSTRACT

**Objective:** To determine various indications for laparoscopy and hysteroscopy in Aminu Kano Teaching, hospital (AKTH), Kano.

**Materials and Methods:** This is a descriptive study conducted at the (AKTH, which involved all the patients who had laparoscopy and or hysteroscopy from January 2011 to December 2014 (4 year). Records of patients who had laparoscopy or hysteroscopy in AKTH within the study period were retrieved from the operation record book; their case files were retrieved, studied and recorded in a proforma. Data were analyzed using the Statistical Package for Social Sciences.

**Results:** The total number of patients who had diagnostic laparoscopy within the 4-year study period was 221, but only 197 files were retrieved, giving a retrieval rate of 89.1%. The total number of patients who had diagnostic hysteroscopy was 28, but only 23 case files were retrieved, giving a retrieval rate of 82.1%. Five patients underwent both laparoscopy and hysteroscopy. The mean age and standard deviation of patients who had laparoscopy was  $28.7 \pm 5.8$  years. The mean age and standard deviation of patients who had hysteroscopy was  $32.3 \pm 5.9$  years. The most frequent indication for laparoscopy was for primary infertility 89 (45.2%), followed by secondary infertility 78 (39.6%). Asherman's syndrome was the most common indication for hysteroscopy accounting for 52.1% of the procedure.

**Conclusion:** Infertility is the most common indication for laparoscopy in this centre whereas Asherman's syndrome is the leading indication for hysteroscopy. Nearly all the procedures were diagnostic endoscopy.

**Key words:** Anaesthesia; hysteroscopy; laparoscopy.

## Introduction

Laparoscopy and hysteroscopy are important tools in the evaluation of the female reproductive organs, and in some cases may be used for therapeutic purposes. Diagnostic laparoscopy is a minimally invasive procedure performed for the diagnosis of intra-abdominal and pelvic diseases. Laparoscopy enables direct inspection of intra-abdominal and pelvic organs and documentation in order to detect pathology, facilitating access to tissues and organs for biopsy, aspiration and culture.<sup>[1]</sup> Hysteroscopy involves the passage of a small diameter telescope, either flexible or

rigid, through the cervix to directly inspect the uterine cavity. These endoscopic procedures are traditionally performed in the operating theatre under general anaesthesia;<sup>[2]</sup> however, local anaesthesia with sedation may also be used for office laparoscopy.<sup>[3]</sup>

The frequency of laparoscopy varies widely worldwide, especially between developed and developing countries.

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In the USA, approximately 350000 tubal ligations and 200000 laparoscopically-assisted vaginal hysterectomies are done annually,<sup>[1]</sup> whereas in the UK,<sup>[4]</sup> approximately 250,000 gynaecologic laparoscopic surgeries are performed annually. In developing countries, particularly sub-Saharan Africa, gynaecologic laparoscopy was introduced in the 1970s through collaboration with donor agencies. It is still evolving and is mainly diagnostic for now.<sup>[4]</sup> A study conducted in our centre showed that a total of 182 gynaecologic laparoscopies were performed over the 5 years, constituting 1.4% of all surgeries in the hospital, 3.4% of all surgeries in the department of Obstetrics and Gynaecology and 12% of all gynaecologic procedures. All except one were diagnostic.<sup>[5]</sup>

There are various indications for diagnostic laparoscopy and hysteroscopy. One of the major indications for these procedures in gynaecological practice is in the evaluation of infertility. Laparoscopy has become one of the most important investigative tools for the evaluation of tubal disease in developed countries.<sup>[6]</sup> Diagnostic laparoscopy is indicated in all cases of bilateral tubal anomalies on hysterosalpingography (HSG) because exclusion of bilateral anatomical tubal pathology by diagnostic laparoscopy could avoid *in vitro* fertilization treatment in these cases.<sup>[7]</sup> It has also been shown to be of benefit in patients with unexplained infertility even in the presence of a normal HSG result.<sup>[8]</sup> Diagnostic hysteroscopy has been found to be an excellent additional instrument for evaluating uterine characteristics in infertile women.<sup>[9]</sup> Other indications for diagnostic endoscopy in gynaecology include chronic pelvic pain, amenorrhoea and Asherman's syndrome.<sup>[5,10,11]</sup>

In general, there have been changes in the rate and indication of these procedures over time. Some indications such as infertility and chronic pelvic pain have remained stable over time, whereas there has been a decline in other indications such as amenorrhoea and ovarian sterility.<sup>[12]</sup> This is due to reliance on biochemical methods of diagnosis, making laparoscopy less necessary in such cases. The aim of this study was to determine the common indications for laparoscopy and hysteroscopy in our centre. This study will serve as a baseline data for references and further research.

### Aim and objective

To determine various indication for laparoscopy and hysteroscopy in Aminu Kano Teaching, hospital Kano.

### Materials and Methods

This is a retrospective descriptive study, conducted at Aminu Kano Teaching Hospital, which involved all the patients who had hysteroscopy from January 2011 to December 2014

### Method

Records of patients who had laparoscopy or hysteroscopy in Aminu Kano Teaching Hospital within the study period were retrieved from the operation record book; their case files were retrieved, studied and recorded in a preformed.

### Statistical analysis used

Data were analyzed using the Statistical Package for Social Sciences (ver. 16.0; SPSS Inc., Chicago, USA).

### Results

Total number of diagnostic laparoscopy and hysteroscopy done within the 4 years was 244.

Although the number of laparoscopies was 221, only 197 files were retrieved, giving a retrieval rate of 89.1%. The total number of patients who had diagnostic hysteroscopy was 28, but only 23 case files were retrieved, giving a retrieval rate of 82.1%. Five patients underwent both laparoscopy and hysteroscopy. The mean age and standard deviation of patients who had laparoscopy was  $28.7 \pm 5.8$  years. While the mean age and standard deviation of those who had hysteroscopy was  $32.3 \pm 5.9$  years [Table 1]. The most frequent indication for laparoscopy was for primary infertility 89 (45.2%), followed by secondary infertility 78 (39.6%) [Table 2]. Asherman's syndrome was the most common indication for hysteroscopy accounting for 52.1% of the procedures performed.

### Discussion

The age range of the patients who had laparoscopy was 17–45 years, whereas the age range of the patients who had hysteroscopy was 22–44 years. The mean ages for patients who had laparoscopy and hysteroscopy were  $28.7 \pm 5.84$  years and  $32.3 \pm 5.9$  years, respectively. In addition, most of the patients who had laparoscopy (31.0%) were in the 26–30 years age group, whereas most of the patients who had hysteroscopy (30.4%) were slightly older in the 31–35 years age group. This is similar to the findings in Sokoto<sup>[13]</sup> and Pakistan.<sup>[14]</sup> An earlier study in our centre

**Table 1: Age distribution of patients who had endoscopy**

Age group (years)	Number (%)	
	Laparoscopy	Hysteroscopy
16-20	16 (8.1%)	0 (0.0%)
21-25	53 (26.9%)	4 (17.4%)
26-30	61 (31.0%)	6 (26.1%)
31-35	41 (20.8%)	7 (30.4%)
36-40	21 (10.7%)	5 (21.7%)
41-45	5 (2.5%)	1 (4.4%)
Total	197 (100.0%)	23 (100.0%)

**Table 2: Indications for the procedures**

Indication	Number (%)
<b>Laparoscopy</b>	
Primary infertility	89 (45.2%)
Secondary infertility	78 (39.6%)
Chronic pelvic pain	7 (3.6%)
Hydrosalpinges	1 (0.5%)
Mullerian dysgenesis	3 (1.5%)
Mullerian agenesis	4 (2.0%)
Polycystic ovarian syndrome	3 (1.5%)
Missing intrauterine contraceptive device	8 (4.1%)
Amenorrhoea	4 (2.0%)
Total	197 (100.0%)
<b>Hysteroscopy</b>	
Asherman's syndrome	12 (52.1%)
Missing intrauterine contraceptive device	3 (13.0%)
Dysfunctional uterine bleeding	1 (4.4%)
Endometrial polyp	1 (4.4%)
Failed IVF	1 (4.4%)
Primary infertility	2 (8.7%)
Secondary infertility	3 (13.0%)
Total	23 (100.0%)

showed that most of the patients who had laparoscopy during that study period were slightly older in the 35–39 years age group (32.2%).<sup>[5]</sup> This is probably because patients are now more enlightened, and may thus present earlier for evaluation. Most of the procedures were performed for infertility, which is why most of the patients were within the reproductive age group.

The main indication for laparoscopy was infertility, accounting for 84.8% of all the indications. Primary infertility was a more common indication than secondary infertility (45.2% and 39.6%, respectively). This finding was similar to that reported by Ikechebelu in Nnewi<sup>[15]</sup> and Nasir in Sokoto,<sup>[13]</sup> and also similar to the findings from an earlier study in our centre in Kano.<sup>[5]</sup> However, in contrast to the findings in this study, the studies in Sokoto and Kano both found secondary infertility to be more common than primary infertility.<sup>[5,13]</sup> The second leading indication for laparoscopy in this study was missing intrauterine copper T device (IUCD), accounting for 4.1% of the indications. Others were chronic pelvic pain (3.6%), Mullerian anomalies (3.5%) and amenorrhoea (2.0%). This is also similar to the experience of other authors.<sup>[13,15]</sup> In contrast to the earlier study done in our centre where missing IUCD was found to be the indication for laparoscopy in only 2.1%, we found missing IUCD to be the second leading indication for laparoscopy (4.1%). This probably reflects an increase in the choice of IUCD as a contraceptive method over time, resulting in an increase in cases of missing IUCD, although further studies are

needed to confirm this. It may also be due to increasing awareness of the use of laparoscopy to locate and retrieve missing IUCD. Further, amenorrhoea was the indication in 7.5% of the cases in the previous study, but we found it to account for only 2.0% of cases in our study. This is probably because of the advances in the evaluation of amenorrhoea using biochemical investigations and HSG, making laparoscopy less necessary.<sup>[12]</sup>

The main indication for hysteroscopy found in this study was Asherman's syndrome (51.2%). This is similar to the finding in an earlier study done in the same centre where majority of hysteroscopy performed was due to Asherman's syndrome.<sup>[16]</sup> Another study of hysteroscopy among infertile Nigerian women found intrauterine adhesions to be the most common hysteroscopic finding in the studied population.<sup>[17]</sup> The patients were within the reproductive age group. This is in contrast with the findings from a study in Italy, where the main indication for hysteroscopy was abnormal uterine bleeding (56.0%), of which most (57.2%) were carried out in postmenopausal patients.<sup>[18]</sup> This may reflect the differences in the prevalence of various intrauterine pathologies between developed and developing countries. Infertility was the indication in 21.7% of cases.

A review of hysteroscopy conducted in a private hospital (fertility centre) in Nigeria showed that the most common indication for the procedure was infertility (97.7%) and the most common pathology found was intrauterine adhesions (64.2%).<sup>[19]</sup> This is expected because the study was carried out in a fertility centre.

## Conclusion

Infertility still remains the most common indication for laparoscopy in this centre, with primary infertility a more common indication than secondary infertility. Asherman's syndrome is the most common indication for hysteroscopy. Nearly all the procedures were diagnostic endoscopy.

## Recommendation

There is a need to advance toward operative endoscopic surgery to accommodate more surgical indications in the near future.

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## Conflicts of interest

There are no conflicts of interest.

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