



## An Audit on Gynecological Surgeries in AL-Zahraa University Hospital during the period of (2018-2019)

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**Abstract: Background:** Surgical audit is an important strategy in maintaining standards in surgical care at the clinical level. Surgical audit is a systematic, critical analysis of the quality of surgical care that is reviewed by peers against explicit criteria or recognized standards, and then used to further inform and improve surgical practice with the ultimate goal of improving the quality of care for patients. **Objective:** This study is aimed to determine the rate of all gynecological procedures performed in Al Zahraa University Hospital during the period from the beginning of January 2018 to the end of December 2019, common gynecological procedures, and their indications, cadre of surgeons and complications of these procedures. **Patients and Methods:** This is a retrospective study of all gynecological surgeries performed in the department of Obstetrics and Gynecology in Al-Zahraa University Hospital in 2018-2019. This study was conducted in the Department of obstetrics and gynecology in Al-Zahraa University Hospital in span of two years (from 1 January,2018, to 31 December, 2019). Records from history sheets and files of the patients admitted for gynecological operations were collected. 472 Medical records were enrolled in the study. Information was gathered regarding age, parity, clinical features (presenting complaints), and preoperative diagnosis / indications of operations, type of operations, qualification of surgeon and assistant, intra and postoperative complications. There were no exclusion criteria. **Results:** Hysterectomy was the commonest gynecological surgery performed during the period of the study (26.9%,29.2%) in 2018 & 2019 respectively followed by D & C (19.7%,15.5%), genital prolapsed surgeries (5.8%,9.5%), Laparoscopy (14.4%, 17.0%), vulvar operations (6.7%,4.2%), ovarian operations (7.2%,3.8%), myomectomy (3.4%,3.4%), removal of missed IUCD (4.3%, 2.7%), combined diagnostic laparoscopy & hysteroscopy (3.4%,3.8%) hysteroscopic D & C (2.4%,3.4%). Least common surgeries performed in our audit include vaginal operations (0.5%, 2.3%), Hymenotomy (1.4%,1.1%), salpingectomy (0.5%,1.9%), secondary suturing of a wound (1.4%,1.5%), exploration (1.4%,0.4%) and finally intrauterine cauterization (0.5%,0.4%). **Conclusion:** This study recorded the rate of all gynaecological operations reported at El Zahraa University Hospital during the period from the beginning of January 2018 To the end of December 2019, their indications, complications and cadre of surgeons performing them.

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### 1. Introduction

Surgical audit is an important strategy in maintaining standards in surgical care at the clinical level.

Surgical audit is a systematic, critical analysis of the quality of surgical care that is reviewed by peers against explicit criteria or recognized standards, and then used to further inform and improve surgical practice with the ultimate goal of improving the quality of care for patients.

The institute of internal auditor (IIA) defines operational audit as a systemic process of evaluating an organization's effectiveness, efficiency of operations under management's control and reporting to appropriate persons the results of evaluation for improvement. (Jackson, R. A. 2013).

Gynecological operations including hysterectomy, D & C biopsy genital prolapse surgeries, laparoscopy and myomectomy are the commonest procedures in medical practice.

Gynecological procedures are performed on the female reproductive system in nonpregnant women. They are performed for emergency or elective purposes. Emergency procedures are indicated Bartholin's abscesses and defloration injuries amongst others, while elective ones can be performed for genital prolapse, obstetric fistulae, or even cancerous conditions (Nwagha et al, 2015).

The outcome of gynecological procedures is usually good and the prognosis is fair. Sometimes, however, the outcome may be related to the proficiency of the surgeon carrying out the procedure. Certain levels of competence are often attributed to the various cadres of surgeons and this has been reported to have a direct relationship with the types of gynecological surgeries they perform.

An audit is important for planning purposes, to direct resource allocation, and can serve to improve clinical response and outcomes. It will serve to improve the quality of services delivered by all theater users. The quality of life of those undergoing such procedures is also improved in the long run (Nwagha et al,2015).

#### Aim of The Work

This study was aimed to determine the rate of all gynecological procedures performed in Al Zahraa University Hospital during the period from the beginning of January 2018 To the end of December 2019, common gynecological procedures, and their indications, cadre of surgeons and complications of these procedures.

## 2. Patients and Methods

This is a retrospective study of all gynecological surgeries performed in the department of Obstetrics and Gynecology in Al-Zahraa University Hospital in 2018-2019.

The Department of Obstetrics and Gynecology in the hospital runs its clinical services in 3 units, each of which consists of professors, assistant professors, lecturers, assistant lecturers and residents.

Approval has been obtained from research and ethics committee of the hospital.

#### The following data were collected about all studied gynecological surgeries:

- 1- Type of the operation
  - 2- Collection of available data about the patient history, examination, and investigations which might be found in registration file.
  - 3- Indications of the operation.
  - 4- Intra-operative and post-operative complications.
  - 5- Cadre of surgeons performing the operation.
- The study has included 472 patient files.

#### Statistical analysis:

Recorded data were analyzed using the statistical package for social sciences, version 20.0 (SPSS Inc., Chicago, Illinois, USA). Quantitative data were expressed as mean± standard deviation (SD). Qualitative data were expressed as frequency and percentage. So, the p-value was considered significant as the following: P-value <0.05 was considered significant, P-value <0.001 was considered as highly significant, P-value >0.05 was considered insignificant.

## 3. Results

A total of 472 gynecological operations were performed in the study period. Out of these 208 were performed during the period from the beginning of January 2018 To the end of December 2018, and 264 were performed during the period from the beginning of January 2019 To the end of December 2019. The mean age was 40 and 41 years (Range 11-64) and (11-73). The mean parity was 2 and Rang (0-9) and (0-10) in both years respectively.

**Table (1):** Distribution and Comparison of Gynecological Surgeries in Al-Zahraa University Hospital (2018 and 2019 ) according to the type of operation.

Type of operation	Years at 2018 (n=208)		Years at 2019 (n=264)		Chi-square test	
	No.	%	No.	%	x <sup>2</sup>	p-value
Hysterectomy	56	26.9%	77	29.2%	15.369	0.425
D & C	41	19.7%	41	15.5%		
Genital Prolapse surgeries	12	5.8%	25	9.5%		
Laparoscopy	30	14.4%	45	17.0%		
Vulvar operations	14	6.7%	11	4.2%		
Ovarian operations	15	7.2%	10	3.8%		
Vaginal Operations	1	0.5%	6	2.3%		
Myomectomy	7	3.4%	9	3.4%		
Hymenotomy	3	1.4%	3	1.1%		
Salpingectomy	1	0.5%	5	1.9%		
Hystroscopic D & C	5	2.4%	9	3.4%		
Removal of missed IUCD under GA	9	4.3%	7	2.7%		
Secondary suturing of a wound	3	1.4%	4	1.5%		
Exploration	3	1.4%	1	0.4%		
Intrauterine catherization	1	0.5%	1	0.4%		
Combined diagnostic laparoscopy and hysteroscopy	7	3.4%	10	3.8%		

This table shows types of operations that were done during 2018 and 2019 with hysterectomy was the most common operation which constitutes 26.9% at 2018 and 29.2% at 2019, and vaginal operation was the less common in 2018 which represent 0.5%, while

exploration, intrauterine catheterization were the less common operation at 2019 which represent ( 0.4%). This table also illustrate that there is no significant difference between results of 2018 and 2019 regarding the type of operation.

**Table (2):** Indications and types of hysterectomy in Al-Zahraa University Hospital at year (2018-2019).

Hysterectomy	2018		2019	
	No.	%	No.	%
Postmenopausal Bleeding	21	37.5%	23	29.9%
Perimenopausal Bleeding	10	17.9%	16	20.8%
Menorrhagia	8	14.3%	20	26%
Metrorrhagia	5	8.9%	3	3.9%
Menometrorrhagia	4	7.1%	2	2.6%
Myoma	3	5.4%	7	9.1%
Second degree Uterine Prolapse	3	5.4%	2	2.6%
3rd Degree Uterine Prolapse	1	1.8%	2	2.6%
Pelvic-abdominal. Mass	1	1.8%	0	0.0%
Ovarian cyst	0	0.0%	2	2.6%
<b>Hysterectomy degree</b>				
<b>Total abdominal</b>	47	84%	67	86.9%
BSO	46	82.2%	62	80.5%
With preservation of Ovary	1	1.8%	5	6.4%
<b>Sub-total abdominal</b>	3	5.4%	7	9%
BSO	2	3.6%	4	5.1%
With preservation of Ovary	1	1.8%	3	3.9%
<b>Vaginal</b>	5	8.9%	3	3.9%
<b>Failed Vaginal followed by abdominal</b>	1	1.8%	0	0.0%
<b>Total</b>	56	100.0%	77	100.0%

As shown in this table postmenopausal bleeding was the most common indication for hysterectomy representing (37.5%) and (29.9%) at 2018 and 2019 respectively, regarding the subtypes of hysterectomy;

abdominal hysterectomy with bilateral salpingo-oophorectomy was more common than vaginal hysterectomy at both years.

**Table (3):** Indications and types of D & C in Al-Zahraa University Hospital at years (2018-2019).

D & C	(2018)		(2019)	
	No.	%	No.	%
<b>Indication</b>				
Postmenopausal Bleeding	12	29.3%	12	29.2%
Perimenopausal Bleeding	10	24.4%	8	19.5%
Menometrorrhagia	6	14.6%	7	17.1%
Menorrhagia	5	12.2%	0	0.0%
Metrorrhagia	5	12.2%	7	14.6%
Myoma	1	2.4%	2	4.9%
Missed IUD	1	2.4%	1	2.4%
Endometrial Polyp	1	2.4%	1	2.4%
<b>D &amp; C subtypes</b>				
D & C biopsy	31	75.6%	34	82.9%
D & C	9	22.0%	2	4.8%
D & C Polypectomy	1	2.4%	4	9.7%
D & C removal of IUCD	0	0.0%	1	2.4%
<b>Total</b>	41	100.0%	41	100.0%

This table shows that postmenopausal bleeding was the most common indication for D & C; and D & C biopsy was the most common subtype at both years,

and D & C polypectomy was the least common one at 2018 and D & C removal of IUCD was the least common type at 2019.

**Table (4):** Indications and types of Genital prolapse surgeries in Al-Zahraa University Hospital at years (2018-2019)

Genital prolapse surgeries	2018		2019	
	No.	%	No.	%
Cystocele	7	58.3%	17	68.0%
Cystocele	3	25.0%	1	4.0%
2nd Degree Uterine Prolapse	2	16.7%	3	12.0%
Rectocele	0	0.0%	2	0.8%
Ist degree uterine prolapsed vault prolapse	0	0.0%	1	4.0%
0	0.0%	1	4.0%	
<b>Genital Prolapse surgeries</b>				
Classical repair	9	75.1%	13	52.0%
Anterior repair	1	8.3%	1	4.0%
Sacropexy	1	8.3%	8	32.0%
Fothergill (manchester)	1	8.3%	1	4.0%
Posterior repair	0	0.0%	2	8.0%
Total	12	100.0%	25	100.0%

This table shows that cystocele was the most common indication for genital prolapse surgeries with classical repair was considered the most common

type at both years, and posterior repair was considered the least common at 2018 while and Fothergill (Manchester) was the least common subtype at 2019.

**Table (5):** Indications and types of laparoscopy surgeries in Al-Zahraa University Hospital at years (2018-2019)

Laparoscopy	2018		2019	
	No.	%	No.	%
Infertility	22	73.3%	29	64.4%
Ovarian Cyst	4	13.3%	5	11.1%
Adenxial Cyst	2	6.6%	0	0.0%
Missed IUD	2	6.7%	3	6.6%
Myoma	0	0.0%	2	4.4%
Pelvic abdominal mass	0	0.0%	2	4.4%
Menometrorrhagia	0	0.0%	2	4.4%
<b>Laparoscopy</b>				
<b>Diagnostic</b>	18	60.0%	20	44.4%
<b>Therapeutic</b>				
Drilling	6	20.0%	12	26.7%
Ovarian Cystectomy	4	13.3%	9	20.0%
Adhesiolysis	2	6.6%	4	8.9%
Total	30	100.0%	45	100.0%

As shown in this table infertility was the most common indication for laparoscopy. Regarding the subtype of laparoscopy diagnostic was the most

common subtype at both years, and therapeutic adhesiolysis was the least common at both years.

**Table (6):** Indications and types of vulvar surgeries in Al-Zahraa University Hospital at years (2018-2019).

<b>Vulvar operations</b>	<b>2018</b>		<b>2019</b>	
<b>Indication</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Clitoral Cyst	9	64.3%	4	36.4%
Bartholin Abscess	5	35.7%	7	50.0%
<b>Vulvar Operations</b>				
Clitoral Cystectomy	9	64.3%	4	36.4%
Mersupilization of bartholin abscess	4	28.5	5	45.5%
Drainage of bartholin abscess	1	7.1%	2	18.2%
Total	14	100.0%	11	100.0%

This table shows that clitoral cyst was the common indication of vulvar operations with clitoral cystectomy was the most common, and drainage of bartholin abscess was the least common one at both

years Regarding the types of vulvar operations; Mersupilization of bartholin abscess was the most common one, and drainage of bartholin abscess was the least common one.

**Table (7):** Indications and types of ovarian surgeries in Al-Zahraa University Hospital at years (2018-2019).

<b>Ovarian operations</b>	<b>2018</b>		<b>2019</b>	
<b>Indication</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Ovarian Cyst	14	93.3%	8	80.0%
Tubo- ovarian mass	1	6.7%	2	20.0%
<b>Ovarian operations</b>				
Ovarian Cystectomy	14	93.3%	8	80.0%
Oophrectomy	1	6.7%	2	20.0%
Total	15	100.0%	10	100.0%

This table illustrates that ovarian cyst was the most common indication for ovarian operations, with ovarian cystectomy was considered the most common

ovarian operation, and oophrectomy was the least common one at both years.

**Table (8):** Indications and types of vaginal surgeries in Al-Zahraa University Hospital at years (2018-2019).

<b>Vaginal Operations</b>	<b>2018</b>		<b>2019</b>	
<b>Indication</b>	<b>No</b>	<b>%</b>	<b>No</b>	<b>%</b>
Infertility	1	100.0%	0	0.0%
Defloration Injury	0	0.0%	1	16.7%
Rectocele with deficient perineum	0	0.0%	3	50.0%
Didelphys Uterus	0	0.0%	1	16.7%
Vaginal tear	0	0.0%	1	16.7%
<b>Vaginal Operations</b>				
Removal of vaginal Septum	1	100.0%	1	11.1%
Repair of tear at labia majora (Defloration Injury)	0	0.0%	1	11.1%
Perineorrhaphy	0	0.0%	3	66.7%
Repair of vaginal tear	0	0.0%	1	11.1%
Total	1	100.0%	6	100.0%

As shows in this table infertility was the most common indication of vaginal operations, with removal of vaginal septum was the most common type

at 2018, and rectocele with deficient perineum was the most common indication for vaginal operations at

2019 and perinorrhaphy was considered the most common type.

#### 4. Discussion

The purpose of clinical audit is to improve the quality of patient care and outcomes through systematic evaluation of care against explicit criteria (setting a standard of care and measuring practice against this standard) and the implementation of change (improvement where possible) (**Knight et al,2017**)

The present study was conducted to appraise the effectiveness and efficiency of gynecological surgeries performed in AL-Zahraa University Hospital during the period of (2018-2019).

In this study it was found that hysterectomy was the major surgical procedure performed within the period under review 2018 & 2019 accounting for 26.9% & 29.2% respectively and this agrees with the result of the study done by (**Anbreen et al, 2015**) showed that the most common gynecological surgery was hysterectomy (66%) of total gynecological surgeries included in their study.

The gynecologists performed hysterectomy through different routes like abdominally or vaginally. Selection of route depends on surgeon's choice, indication of operation, type of disease and patient desire.

It was concluded in our study that TAH was the most common representing 84% in 2018 & 86.9% in 2019. STAH was 5.4% in 2018 and 9% in 2019 while vaginal hysterectomy represent 8.9% and 3.9% in 2018 and 2019 respectively. our study agrees with the study done by **Salma Bhat et al.,2017** that showed that TAH percentage was (76.6%) of total hysterectomies operations included in the their study while STAH percentage was (4%).

This study also showed that the most common indication of hysterectomy in 2018 & 2019 was the postmenopausal bleeding accounting for 37.5% & 29.9% respectively. Our study is coinciding with the result of study from Canada that done by (**A. Toma et al., 2004**) showed that the most common indication of hysterectomy was DUB (24.4%). Our study result is in disagreement with study done by (**Anbreen et al, 2015**) that showed the most common indication in abdominal approach was fibroid uterus (32%); and also disagrees with the study from India done by **Pandey et al., 2014** which stated that most common indication for hysterectomy was symptomatic fibroid uterus [39.9%].

The present study showed that D & C operations constitute 19.7 % and 15.5 % in 2018 and 2019 respectively. Our study is in concordance with the result of the study done by **Chambers et al,2009** that showed D & C was done in 23% of woman had

surgical management. It also showed the most common indications of D & C in 2018 & 2019 is post-menopausal bleeding which represents 29.3% & 29.2% respectively. This is in disagreement with the study done by **Penney et al., 1997** which showed that most commonly documented indication was menorrhagia was recorded 28% and post-menopausal bleeding 21%.

It was concluded in our study that the classical repair was the most common operation of genital prolapse surgeries which represent 75.1% & 52%, followed by anterior repair which represent 8.3%,4.0%, posterior repair which represent 0.0%,8.0% in 2018 and 2019 respectively. Our study is not in line with study result that was done in Nigeria by **Yakubu et al., 2017** that showed Anterior colporrhaphy seen in 7.7%, posterior colpoperineorrhaphy 6.6%, and combined anterior colporrhaphy and posterior colpoperineorrhaphy 5.5%.

The present study showed that cystocele was the most common indications which represent 58.3% & 68.0% in 2018 & 2019 respectively and this disagrees with **Yakubu et al., 2017** study which showed that many of the women 48.3% had the 2<sup>nd</sup>-degree uterovaginal prolapse. Isolated cases of cystocele were reported in 12.1% of women and rectocele in 6.6% and prolapse of anterior and posterior wall in 5.5%. Also our study is in disagreement with result of the study done by **Okeke et al., 2013** that stated second degree prolapse seen in 48%, cystocele was seen in 64% and rectocele in 16%.

Our study concluded that laparoscopy was performed in 14.4 % & 17 % in 2018 and 2019 respectively and this in disagreement with the results of the study done by **A. Adesiyun et al.,2012** which showed that (28.9%) of total gynecological surgeries included in their study was laparoscopy surgeries.

This study showed that the most common indication of laparoscopic surgeries was infertility which represent 73.3% & 64.4% in 2018 & 2019. Our study result is in agreement with study done by **Adesina et al., 2019** which revealed that diagnostic laparoscopies were done in 15.6%. and the commonest indications were infertility (76%). The diagnostic laparoscopy was done in 60 % and 44.4 % in 2018 and 2019 respectively and this disagrees with the study done by **Omokanye LO et al.,2017** that showed that (20%) of total laparoscopic surgeries included in their study were diagnostic laparoscopies, 80% of the total procedures were therapeutic laparoscopies.

In our study ovarian cyst was the most common indication for ovarian surgeries which represents 93.3% & 80.0% in 2018 & 2019 respectively.



Our study concluded that the most common indication for vulvar surgeries was clitoral cyst which represent 64.3% in 2018 & Bartholin abscess 50.0% in 2019.

This study showed that most common indication for vaginal surgeries in 2018 was infertility representing 100.0%, and in 2019 was rectocele with deficient perineum 50.0%.

Our study concluded that vaginal and vulvar operations represent 7.2 % & 6.5% from total gynecological surgeries in 2018 and 2019 respectively. This is in concordance with the study done by **A. Adesiyun et al., 2012** which showed that (3.8%) of total reproductive surgeries included in their study was vaginal & vulval procedures.

Our study showed that myomectomy represents 3.4 % in 2018 and 2019. Our study result was in agreement with the result of the study done by **Geidam et al 2011** in which myomectomy represent 3.34% but our result disagrees with the study done by **A. Adesiyun et al., 2012** that showed that (41.6%) of total gynecological operations included in their study was myomectomy.

Regarding the indications of myomectomy; menorrhagia and myoma were the most common indications in 2018 and 2019 and this agrees with the study done by **Geidam et al 2011** in which menorrhagia accounts for 57.3% of the patients that had myomectomy.

The audit is retrospective and may have been limited with problems of data storage and retrieval. It is also limited by the fact that the outcomes of these gynecological procedures were not audited. An audit of all gynecological surgeries in unison may hinder appropriate extrapolations and deductions to be made from data on individual surgeries and indications.

Improvement in data storage method is advocated. This can be done by using computer assisted record system. A more regular audit of services rendered by the department is also advocated. This may help to identify the gaps in training and services. It may also be advantageous for the department to develop a protocol that audits surgeries performed by varying cadres of surgeons in training to enhance versatility and competence. An individual audit may thus also be more advantageous to the department.

### Conclusion

This study recorded the rate of all gynaecological operations reported at El Zahraa University Hospital during the period from the beginning of January 2018 To the end of December 2019, their indications, complications and cadre of surgeons performing them.

The most common operations performed in Al Zahraa University Hospital during the period from the beginning of January 2018 To the end of December 2019 were (hysterectomy, D & C and pelvic organ prolapse operations).

Teaching and training of junior gynecologist have to focus more on the major indications & their related operations. It is recommended to increase assistants of seniors staff to juniors staff.

All gynecological operations need to be learned well to the new generations to increase efficiency and minimize complications.

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