

Clinical Evaluation and Indications of Hysterectomy Among Iraqi Women in Baghdad City

Dr. Jameelah Challob Baruni Al-Saedi*

MBChB, Diploma in Gynaecology and Obstetrics

Department of Gynecology and Obstetrics, IbnSinna Hospital, Baghdad-Iraq

*Corresponding Author: Contact email: : jameelahsaedi@gmail.com

Original Article

ABSTRACT

Background: Obstetric hysterectomy is the removal of the uterus, partial or total resection after an obstetric event due to a complication of pregnancy, childbirth or puerperium or aggravation of a pre-existing disease. It is usually practiced urgently by medical indication.

Objective To estimate the incidence rate, population characteristics , indications and complications for hysterectomy in the period January 2015 to January 2018.. **Methods:** : This is a descriptive retrospective study that collected information from clinical records of patients to whom hysterectomies were performed during a period of three years , January 2015- to January 2018

Results: The annual incidence rate of hysterectomy ranged between 1.83% to 2.1% in 2015-2018 with lower rate in 2017-2018 year. Fibroid was the main indication of hysterectomy in elective cases and infection was the main complication

Conclusion: The annual rate of hysterectomy ranged between 1.83% to 2.1% during the period from January 2015 to January 2018. Uterine fibroid was the main indication for elective hysterectomies. Complications developed in 45.2% of cases and the main complication was urinary tract infection, bladder injury and wound infection.

Keywords: *Hysterectomy , Epidemiology, Incidence, Indications, Complication, outcome,.*

1.INTRODUCTION

Hysterectomy is the second most common major surgery among women of reproductive age . It is a planned surgical procedure but can also be an emergency treatment for some specific situation that endangers a woman's life. Classic examples constitute abnormalities insertion of the placenta and certain traumatic conditions that can produce a controllable bleeding through this procedure. Indications for hysterectomy in some developed countries has generated some controversial considerations begun in the late seventies of the last century ¹⁻³. Approximately 10% of hysterectomy surgeries were performed for the treatment of malignancies such as cervical, ovarian or endometrial which influence consequently the prevalence and incidence according to the situations of population health ⁴ . The particularities of the surgical technique have also been modified with the advent of laparoscopic surgery, which began in the field of gynecology, but these modifications has been related to the skills of the surgeon with adoption of new devices, however, in clinical practice, remains the most common surgical procedure in women after cesarean section and uterine curettage . The interest in having information about the hysterectomy procedures , its frequencies, indications and outcome are so important⁵⁻⁸

Definition and historical view

According to medical dictionaries, Hysterectomy is the surgical removal of the uterus without, without the ovaries and fallopian tubes ⁹. The first hysterectomy procedures was performed in November 1843 by Charles Clay in Manchester, UK. After almost 80 years the first total abdominal hysterectomy (TAH) was performed in 1929 by Richardson, MD, by this procedure the whole uterus and cervix were removed ¹⁰. However, different terms and definitions are used according to the types of the procedure and the removed organs for instance “Complete Hysterectomy) denote the removal of cervix along with the body and fundus of the uterus , “Partial hysterectomy” refers to hysterectomy when the cervix reserved . Sometimes the ovaries may also be removed (oophorectomy). As the hysterectomy procedure became safer and more popular among physicians in the 20th century, a debate surfaced questioning its surgical validity^{3,4,10}.

Epidemiology

Hysterectomy is one of the most common surgical procedures in women but regional and international variations on indications and surgical methods have been under discussion since the early seventies of the century that perished. In some countries like the US, England and Wales, Scotland incidence ranges from 249 per hundred thousand to 750 per 100000. In Finland, Germany and the Scandinavian countries, the highest rate was in Denmark, and the lowest was that of Norway¹¹⁻¹⁴. Higher incidence rates reported in developing countries and Asia, in Pakistan a rate of emergency hysterectomy was 10 per one thousand deliveries and the rate is higher after cesarean sections. The rate was extremely high, almost 863/1000 after laparotomy and delivery following rupture uterus (Pakistan study). In Turkey, an incidence rate of 5.38/ 1000 had been reported by Guzel et al. In Saudi Arabia the life time prevalence of hysterectomy was 10%. In our country, Iraq, previous studies about incidence of hysterectomy are not widely available, nonetheless, some previous studies conducted in some Iraqi provinces with variant findings, during the period from 1997 to 2007 an incidence in Amara hospital which an average incidence rate for 10 years was 1.78 per 1000 delivery^{11,12,15-17}

Indications of Hysterectomy

The most frequent causes of hysterectomy is performed are

- Uterine fibroids
- Cervical, endometrial or ovarian cancer
- Pelvic inflammatory disease
- Endometriosis
- Uterine prolapse
- Myometritis particularly chronic Myometritis

Uterine fibroids

Fibroids are also called uterine fibroids, or leiomyomas fibroid. They are noncancerous tumors that adhere or develop within the uterine wall. They are the most common pelvic tumor. the cause of fibroids is unknown in the womb.

Fibroids may be present in 15-20% of women in their reproductive years, ie, time after starting menstruation for the first time and before menopause. These fibroids may affect 30

to 40% of women after age 30 and occur 2 to 3 times more often in black women than in white women.¹⁸⁻²⁰. The growth of uterine fibroids seems to depend on the hormone estrogen. As a woman with fibroids is menstruating said, they may continue to grow, usually slowly. This condition rarely affects women under 20 years of age or postmenopausal women. Fibroids begin as small seedlings that spread throughout the muscular walls of the uterus and can be so tiny that a microscope to observe them may be necessary. However, they can also grow very large, they can fill the entire uterus and weigh several pounds. Although it is possible that only one fibroid to develop, usually more than one.

Sometimes a fibroid hangs from a long stem which is attached to the outside of the uterus and is called pedunculated fibroid. Said fibroid can become twisted and cause a kink in the blood vessels feeding the tumor and may require surgery.¹⁸⁻²⁰

Uterine prolapse

It is also called: hernia pelvic floor and pelvic relaxation. It is falling or sliding of the uterus from its normal position in the pelvic cavity within the vagina. It has been reported that uterine prolapse affects about 14% of women. Several factors may increase the risk of a woman to present this problem, including the number of vaginal deliveries, delivery of a large baby, a growing age and frequent lifting activities. Also they contribute to their development a number of ailments such as chronic obstructive pulmonary disease, chronic constipation and obesity. Obesity exerts additional stress on the supporting muscles of the pelvis, and excessive coughing caused by lung diseases such as chronic bronchitis and asthma²¹⁻²³.

Endometriosis

Endometriosis is one of the most common gynecological diseases, affecting more many women worldwide. The two most common symptoms of endometriosis are pain and infertility. This pain can be so intense that it affects the quality of life of women, from their relationships to their daily activities. Other women have no symptoms. Some are not aware they have the disease until they have difficulty getting pregnant²⁴⁻²⁶.

Cervical cancer

Cervical cancer or uterine cervix is the second most common cancer in women and in developing countries, is the most common, diagnosed more than 400,000 new cases each year^{12,27}.

Endometrial cancer

Also it called adenocarcinoma of the uterine endometrium, cervical adenocarcinoma, uterine cancer and uterine body cancer. It is a cancer that starts in the endometrium, the lining of the uterus (matrix).^{3,28} It is the most common type of uterine cancer. Although the exact cause of this cancer is not well known, increased levels of estrogen appears to play a role. Most cases of endometrial cancer occurs between the ages of 60 and 70 years, but a few cases may occur before age 40.^{3,28}

Myometritis

Also called female genital infection, oophoritis, salpingitis, salpingo oophoritis and salpingo peritonitis. It is a general term that refers to infection of the lining of the uterus, fallopian tubes or ovaries^{29,30}.

Types of hysterectomy

Hysterectomy has variants depending on how it is done:³¹

- Abdominal hysterectomy
- Mini Laparotomy Abdominal Hysterectomy
- Vaginal hysterectomy
- Total Laparoscopic Hysterectomy
- Assisted Laparoscopic Hysterectomy

None of these types involves removal of the ovaries or fallopian tubes, this procedure (Salpingo-oophorectomy) have other own indications.

Abdominal hysterectomy is the most commonly performed in the world and is to remove the uterus through the abdominal wall by a transverse incision (cesarean) or longitudinal (pubic the navel), the latter should be reserved at present almost exclusively for cancer cases (cancer). This type of hysterectomy is not part of what today we call minimally invasive surgery because it requires about 3 to 4 days of hospitalization and is relatively painful in the postoperative. This procedure has to lose adherents today. Mini-laparotomy hysterectomy using a special separator to reach the uterus through the abdominal route, has a good recovery but still involves laparotomy. Many specialists preferentially reserved to remove uterine fibroids when you want to preserve fertility and want to make a careful suturing of the uterus⁸.

Vaginal hysterectomy is the one with better recovery. It is an extraordinary way to remove the uterus and is the preferred route in many European centers. It requires experience in vaginal surgery and urogynaecology and often must be done in conjunction with pelvic floor repair (correction of prolapse and urinary incontinence). Most striking is his recovery; the patient is asymptomatic almost the next day and 48 hours at home. The other hysterectomies include using a laparoscope^{11,32}.

Hysterectomy is considered a major surgical procedure, so it should be done by experts with extensive training in the field of gynecology physicians. However, possible complications and consequences that can occur with this surgery

It is important for every patient for whom it is suggested performing a hysterectomy, determine whether there are alternative options for the treatment of their disease and therefore the patient should be completely sure about her desire for future parity

Procedures for hysterectomy

For abdominal hysterectomy the uterus is removed through a surgical incision in the abdomen, about six to eight inches long. This procedure is often used when to remove the ovaries and fallopian tubes, when the uterus is enlarged, or when the disease has spread to the pelvic cavity, as might occur in a case of endometriosis or cancer. The main surgical incision can be vertical, from the navel to the pubic bone, or horizontally, along the top of the pubic hairline. For vaginal hysterectomy the uterus is removed through the opening of the vagina. This procedure is often used in cases of uterine prolapse or as needed effect repair of the vagina because of related conditions. No external incisions are made, which means that there are no visible scars. For laparoscopically assisted vaginal hysterectomy. Vaginal hysterectomy is performed with the aid of a laparoscope, a thin, flexible tube containing a video camera. Thin tubes are inserted through small incisions in the abdomen near the navel. Then the uterus is removed in sections through the laparoscope or through the vagina. The surgeon determines the type of hysterectomy performed and the technique used to perform the procedure, based on their specific situation^{11,12,20,33}.

Aim of the Study

To estimate the incidence rate, population characteristics and indications for hysterectomy in the period January 2015 to January 2018.

2. PATIENTS AND METHODS

Study design and setting

This is a descriptive retrospective study that collected information from clinical records of patients to whom hysterectomies were performed during a period of three years , January 2015- to January 2018 in our Hospital

Study population

The study population included all hysterectomies patients at our hospital in the period Jan. 2015 to Jan 2018.

Variables

They were considered as study variables included age, occupation, residence, obstetric history, the annual prevalence of hysterectomy, the type of hysterectomy, hysterectomy indications and postoperative complications

Inclusion criteria

The clinical records of patients who have undergone hysterectomy during the period Jan. 2015 to Jan 2018.

Exclusion criteria

Medical records with incomplete information.

Administrative and ethical issues

1. Approval of the Bioethics Committee and the administration office of the hospital. .
2. Preparation of a form for collecting information.
3. Request to the hospital authorities to access the Department of Statistics.
4. Access to records of surgeries from for the study period to identify clinical records.
5. Review of clinical records of patients undergoing hysterectomy was performed.
6. Gathering information on the variables of interest for the study.

Data analysis and presentation of results

The collected data were entered into a database of a computer program SPSS version 23™ for Windows™.

For processing information and descriptive statistics apply to the type of variable. Qualitative and quantitative variables were analyzed with discrete frequencies and percentages and continuous quantitative variables were analyzed with means and standard deviations. The results are shown in number of cases (n), percentages (%), mean and standard deviation (\pm SD) for continuous variables. All results are presented in tables and figures accordingly.

3.RESULTS

The sample size included 135 clinical records of patients undergoing hysterectomy which were met the inclusion criteria during the three years retrospectively. The data collected from the completed records while those with incomplete information were excluded. The mean age of the patients was 44.8 ± 9.4 years and more than half, (56.3%) of the patients aged 40 years or above. Majority (87.4%) of the cases of urban origin, 57.8% were unemployed, (**Table 1**). Regarding the Obstetrical history of the cases, is summarized in (**Table 2**). The total files medical records for surgeries were 1853 for the year 2015-2016 among them 39 hysterectomies were performed, in the year 2016-2017, 2380 surgeries were performed of them 45 hysterectomies were performed and in the year 2017 to 2018, 2782 surgeries were performed of them 51 hysterectomies, these numbers giving an annual incidence rate of 2.1%, 1.89% and 1.83%, respectively, (**Table 3**), from other point of view, it had been noticed that the rate of hysterectomies decreased in 2016-2017 and then in 2017-2018 (**Figure 1**). Hysterectomy represented an annual rate between 1.83% and 2.1% of surgeries performed each year. The overall average incidence of Hysterectomy was 1.9%. Distribution, as indicated, of 135 hysterectomies performed in the Hospital revealed that more than half of hysterectomies were due to uterine fibroids. Endometrial hyperplasia and endometriosis were the indications in 14.8% and 8.1%, respectively, followed by dysfunctional uterine bleeding (7.4%), uterine /cervical cancer (4.4%), uterine prolapse (3%) and cervical dysplasia in (2.2%), other indications were emergency hysterectomies which performed in 7 cases (5.2%), due to complicated cases

of rupture uterus , placenta previa , placenta accrete, uterine inertia and uterine inversion. Postoperative complications were unfortunately developed in 61 cases (45.2%) while 74 cases had no complications (**Figure 2**). Furthermore the details of these complications are shown in (**Table 5**). They were recorded as complications of wound infection only two patients have undergone hysterectomy

Table 1. Demographic characteristics of 135 cases undergone hysterectomy

Variable	No.	%
Age	< 30	18
	30 – 39	41
	≥ 40	76
	Total	135
Residence	Urban	118
	Rural	17
	Total	135
Occupation	Unemployed	78
	Employed	57
	Total	135

Table 2. Obstetrical history of the cases (N = 135)

	No.	%
Gravidity	Nulligravida	7
	One	18
	Two	39
	Three	48
	Four and more	24
	Total	135
Parity	0 - 2	15
	3 – 4	44
	> 4	76
	Total	135
Abortion	None	89
	1 - 2	43
	3 or more	3
	Total	135

Table 3. Annual incidence rates of hysterectomies in the Hospital in the period January 2015 to January 2018.

Year	Surgeries	Hysterectomies	Annual rate
2015-2016	1853	39	2.10%
2016-2017	2380	45	1.89%
2017-2018	2782	51	1.83%
Total	7015	135	1.9%

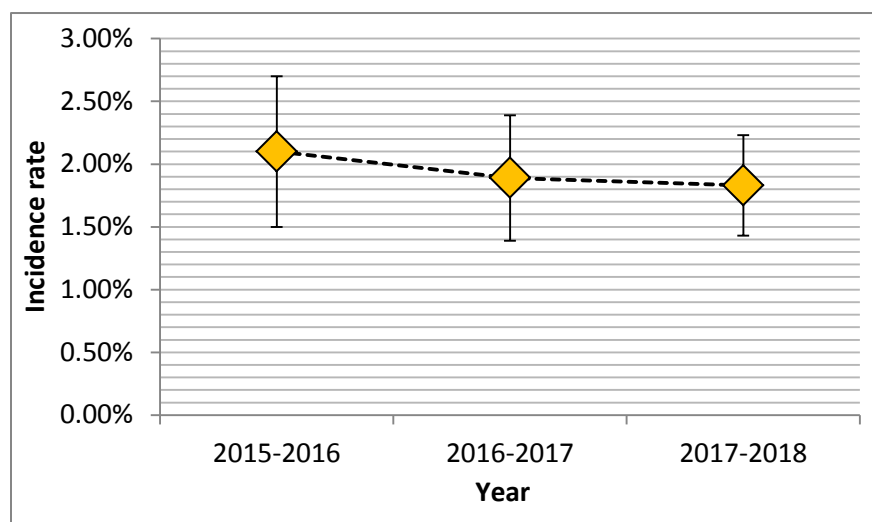


Figure 1. Trend of incidence of hysterectomies during three years

Table 4 . Indications of hysterectomy

Indication	No.	%
Fibroids	74	54.8%
Endometrial hyperplasia	20	14.8%
Endometriosis	11	8.1%
Dysfunctional uterine bleeding	10	7.4%
Uterine /cervical cancer	6	4.4%
Uterine prolapse	4	3.0%
Cervical Dysplasia	3	2.2%
Emergency hysterectomy	7	5.2%
Total	135	100.0%

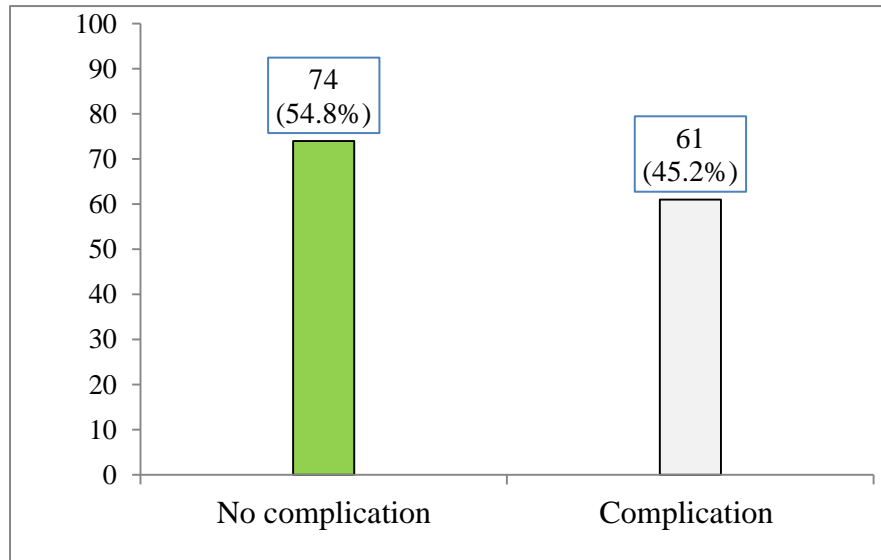


Figure 2. Distribution of 135 hysterectomy cases according to postoperative complications

Table 5. Types of postoperative complications of 135 patients have undergone hysterectomy

Complication	No.	%
None	74	54.8
Urinary tract infection	31	23.0
Bladder injury	15	11.1
Wound infection	7	5.2
Deep vein thrombosis	3	2.2
Lower respiratory infection	2	1.5
Ureteric injury	2	1.5
Vesicovaginal fistula	1	0.7
Total	135	100.0

4. DISCUSSION

In the clinical practice of our institutions both public and private sectors, hysterectomy occupies an important place among the surgical procedures for women. At the level of informational entities that publish health statistics in the country this information is not detailed but are disclosed. Details such as the age at which most frequently hysterectomy or indications that determine their surgical removal is performed are part doubtless information of each health institution where they perform but are not widely available. In this context, the present study, as a result of documentary collection a period of 36 months of work at the hospital within which is gynecological and obstetric surgery, brings with valid information on certain characteristics of the woman hysterectomy in relation to the most frequent indication for this procedure, the more likely treatment age, type of occupation, residence and finally their obstetric history. The annual incidence of hysterectomy within the surgical procedures was 2.1%, 1.89% and 1.83%, for the three years January 2015 to January 2018, respectively, that indicated as per 1000 elective surgeries performed 21 to 18 are hysterectomies. However it had been observed that the rate of hysterectomy reduced sequentially in the sub sequent years. Hysterectomy rates varies in different countries and even within the same countries because it mainly depends on the underlying indications, skills of obstetricians, facilities of the health centers and other factors related to the patient herself. However, previous studies in Iraq reported that hysterectomies performed in 17-18 per 1000 ¹⁷.

Publications from other countries realize that hysterectomy is one of the most common elective gynecological surgeries in that health institution. 65% of these procedures are performed in the reproductive age group, about 30% in perimenopausal women and the rest over 65 years . In our study 86.7% of cases aged more than 30 years . In European countries hysterectomy shows other behavior in relation to age in which it is performed more frequently. A Finnish study by the Department of Public Health at the University of Helsinki, which includes the casuistry from 1987 to 1989 reported that up to 39 years of age at least 99% of the female population keeps her uterus and that age of hysterectomies is between 39 and 54 years ^{12,15-17,20,26,34-36} .

In the United States the percentage of hysterectomies in these same age groups is a little older and reported figures close to 30% of the female population aged 45 years ³⁶.

In our study the main indications were uterine fibroids, endometrial hyperplasia and endometriosis followed by dysfunctional uterine bleeding , uterine /cervical cancer, uterine prolapse and cervical dysplasia. Other indications were emergency hysterectomies which performed in 7 cases (5.2%) , due to complicated cases of rupture uterus. It has been reported commonly slightly more than 30% of hysterectomies are due to fibroids , but in our country this figure appears to be much higher. Undoubtedly, the difference in criteria specialty handlers regarding indications or benefit of surgical treatment may be determining the increase in completion rates. Previous studies reported that among over eight thousand hysterectomies were performed at an average age of 39.1 years whose main indication for intervention was the main symptom of myomatosis and bleeding ^{8,15,18-20,29,30}. In most patients, the choice of procedure, depends on the diagnosis and clinical data found. Both techniques have their indications although the vaginal route is given some advantages such as fewer surgical complications, shorter hospital stay and faster recovery. Abdominal hysterectomy is indicated for alterations accompanied by reduction in uterine motility, pelvic adhesions and gynecological cancers; proper scanning pelvis and abdomen and the treatment of genital neoplasias almost always require this technique ^{5,8}. In published reports in the literature no information on the procedure regarding the occupation or residence. None of these variables seem to influence the procedure itself. In this regard, the results of our study show that (57.8%) of hysterectomies women were housewives, (unemployed) and (42.2%) were employed. Obstetrical history that includes background on number of pregnancies, births and abortions, in published studies, most of them descriptive like ours, this information is more related to the selection of the technique used for the procedure or whether to remove a vital organ for women under consideration have effectively performed reproductive function or have suffered significant functional impairment as a cause of multiple pregnancies, births or abortions. Included within these considerations the ease or difficulty that can offer the uterine extraction when selecting the route of surgical access. The findings of our collection showed that more than half, (53.4%) of cases with a history of 3 or more pregnancies and ranged from a minimum of 0 and a maximum of 11 pregnancies. Multiparity, is a history of more than three births more common feature in developing countries in our collection was found in 56.3% of the study population. In previous studies parity was 0 to 14 deliveries with a median of 3 parts per

patient underwent hysterectomy(20) As for abortions in our series, 65.9% had no previous abortions, 31.9% had one or two abortions and 2.2% women had 3 abortions or more^{11,15-17,20,22}.

Our work also included the detection of postoperative complications, however the information recorded in the medical records revealed that 61 cases had developed postoperative complications represented 45.2% of the 135 hysterectomy cases. Some publications reported complications of up to 18.6% in hysterectomy in general although there is some contradiction between what procedures is most frequent complications. Some researchers have found up to twice abdominally complications that vaginally and others say it is more prone to complications especially those related to the immediate postoperative infections. At any rate, the main complications reported are wound infections, wound dehiscence, thromboembolism and even anemia. In most studies the most common complication remains infection^{4,6,37}.

5. CONCLUSIONS AND RECOMMENDATIONS

The annual rate of hysterectomy was between 1.83% to 2.1% during the period from January 2015 to January 2018. Uterine fibroid was the main indication for elective hysterectomies. Complications developed in 45.2% of cases and the main complication was urinary tract infection, bladder injury and wound infection. Deep vein thrombosis , lower respiratory infection , ureteric injury and vesicovaginal fistula were also reported but less frequent.

However, further studies are highly suggested for longer duration and multiple centers to make a confidential database about the hysterectomies performed in our centers and the rate of these procedures, indications and complications to understand they that we can avoid it when it is possible and to make the right decision about due to invasiveness and adverse effect of these procedures on women life , socially, psychologically and financially.

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