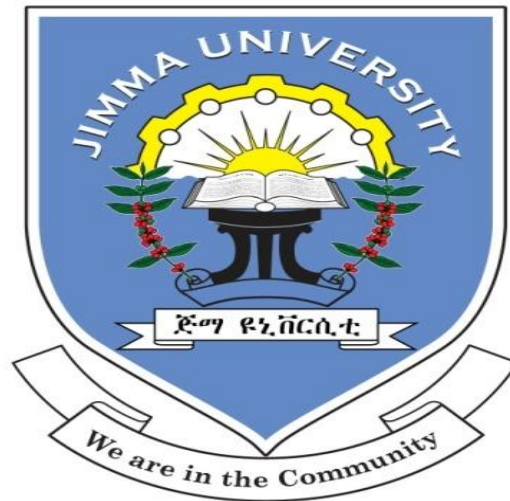


**A FIVE YEAR RETROSPECTIVE REVIEW OF MAGNITUDE AND
MANAGEMENT OUTCOMES OF ECTOPIC PREGNANCY IN
WOLISO ST.LUKE HOSPITAL, OROMIA REGIONAL STATE,
ETHIOPIA**



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**THESIS SUBMITTED TO COLLEGE OF PUBLIC HEALTH AND
MEDICAL SCIENCE, DEPARTMENT OF EMERGENCY
SURGERY, JIMMA UNIVERSITY; IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF MASTERS IN
INTEGRATED EMERGENCY OBSTETRICS AND SURGERY
(IEOS).**

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II. ABSTRACT

Background: *Globally Ectopic pregnancy (EP) is one of the fatal gynecological emergencies with case fatality rates of 1-3%. Incidence rates of EP in African countries ranges between 0.5-2.3 percent of live births. EP in developing countries diagnosis is often late and inadequate; leading to a large number of cases of tubal rupture and hemorrhage accounting case fatality rate is 10 times higher than developed countries.*

Objectives: *The study was conducted to assess the management and factor associated with management outcomes of Ectopic pregnancy in Woliso St. Luke hospital.*

Methods: *A five years Hospital based retrospective descriptive study of EP managed in St. Luke Woliso Hospital, from January 1st, 2009 to December 31st, 2013 was conducted. The medical records of the patients managed for ectopic pregnancy as well as the total birth and gynecological surgery records during the period were retrieved, and data were collected with the aid of data-entry forms designed for this purpose. There were 3,556 gynecological surgery and 14,152 deliveries, with 87 cases of ectopic pregnancies. After data coding, entry and cleaning, analysis was conducted using SPSS 20 software. Data were summarized using Descriptive statistic and logistic regression method was used for variable association.*

Result: *Majority (39.5%) of mothers were in the age group of 25-29 years. proportion of EP among total deliveries and gynecological surgeries was 0.6%&2.3% respectively. Abdominal pain, vaginal bleeding and amenorrhea were the commonest symptoms. PID, previous abortion and cases with low parity were found to have statistically significant association with unfavorable maternal outcomes. Mothers with ruptured EP (76.7%) were from outside Woliso.*

Conclusions: *The 0.6% ectopic pregnancy rate observed in this study must be considered a minimum due to probable underestimation. Unfavorable maternal outcomes were related with prior history of PID, abortions and low parity. Ruptured EP is a true medical emergency which warrants Open abdominal surgery of (salpingo-oophorectomy) with blood transfusion.*

Recommendations: *Mothers with history of abortion, PID and high parity warrant earlier careful gynecological consultation. High index of suspicion are the key tools to tackle the magnitude of EP before it causes catastrophe.*

Keywords: *Prevalence, EP, Review*

III. ABBREVIATIONS AND ACRONYMS

ANC=Antenatal care

B/P=Blood Pressure

CI= Confidence Interval

C/S= Caesarean Section

DES= Diethylstilbestrol

E.C= Ethiopian Calendar

EP = Ectopic Pregnancy

EDHS=Ethiopian Demographic Health Survey

GYN/OBS= Gynecology and Obstetrics

HCG= Human Chorionic Gonadotrophic Hormone

HIV=Human Immunodeficiency

IEOS =Integrated Emergency Obstetrics & General surgery

IUD= Intrauterine device

MSC =Master of Science

MPH = Master of Public Health

OC= Oral Contraceptives

PID= Pelvic Inflammatory Disease

RVI=Retroviral Infection

SD= Standard Deviation

SPSS= Statically Package for Social Science

UK = United Kingdom

USA=United States of America

U/S= Ultrasound

WHO= World Health Organization

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CHAPTER ONE: INTRODUCTION

1.1. Background

Ectopic pregnancy is a condition when implantations of the zygote other than the endometrium of the uterus. It is a gynecological importance, particularly in the developing world, because of the high morbidity and mortality associated with it and the enormous threat to life. When ruptured, ectopic pregnancy is a true medical emergency. It is the leading cause of maternal mortality in the first trimester and accounts for 10%–15% of all maternal deaths [1].

Ectopic pregnancy has always challenging tasks of the Obstetricians and Gynecologists by its bizarre clinical picture. It is one, which can mimic practically each and every gynecological disorder as well as many surgical catastrophes. With the rapid decline in the number of intrauterine pregnancy, during the past decade, the frequency of extra uterine pregnancy become more apparent because of attitudinal change in sexual activity, young population, the rising incidence of venereal disease, the effective role of modern antibiotics, therapy in salpingitis, use of contraceptive measures and assisted reproductive technique [2].

Another peculiarity of EP is recurrence feature nearly 15% and 25% to have another ectopic after first and second EP respectively. This signals that how the problem is becoming significant issue for the community and has direct impact upon women reproductive health [3].

Data on the incidence of EP and its trends are scarce in developing countries. In 1990, a review by Liskin reported an increase in the incidence of EP from the 1960s until the middle of the 1980s. In this review, the highest EP incidence rates were observed in African countries (between 0.5 and 2.3% of live births) whereas low incidence rates were reported in Asia and the Middle East over the same period: 0.4% of live births between 1964 and 1973 in India and about 0.6% of live births between 1976 and 1982 in Jordan (19).

1.2. Statement of the problem

Ethiopia is Located in the horn of Africa, it is a nation of more than 70 ethnic groups who speak more than 80 languages and has a total population of 80 million according to EDHS 2009. Fifty two percent of the population is believed to be children below the age of 18 years. [4].

Ethiopia is one of the developing countries where maternal and perinatal mortality rates are still very high. The maternal mortality ratio in Ethiopia is one of the highest in sub-Saharan African, 676/100,000 live births according to Ethiopian 2011 EDHS data and the perinatal mortality is also high [5].

Ectopic pregnancy is defined as a pregnancy in which the implantation of the embryo occurs outside the uterine cavity, most frequently in one of the two fallopian tubes or, more rarely, in the abdominal cavity [6].

It is a common obstetric problem the world over. Though the global incidence has been rising during the last three decades [7, 8]; the incidence of the condition varies from country to country depending on the risk factors predominant in the geographical region.

It remains an important cause of morbidity and mortality in early pregnancy. The rate of ectopic pregnancy has followed an increasing trend during the last three decades throughout the world [9]. Globally, the reasons for the rising trend are thought to include earlier diagnosis of cases that would otherwise have resolved on their own. This is due to availability of more sensitive methods such as hormonal tests, trans vaginal ultrasound and laparoscopy [10].

Due to advance in modern technology like diagnostic laparoscopy and ultrasonography diagnosis has become less difficult. Yet each method is having its own limitation. An accurate history and physical examination and its correlation to the modern diagnostic technology are believed to be the most important in the diagnosis. To diagnosis ectopic pregnancy, one has to be “ectopic minded”. Thus, in spite of advance in modern

technique of diagnosis and management of ectopic pregnancy, it still remains a very serious threat to maternal health [11].

The importance of ectopic pregnancy in in developing country like Nigeria it was challenging by its late presentations with rupture in more than 80% in most cases It was also challenging due to poor diagnostic tools, limited capacity to handle emergencies and consequent burden of increased maternal morbidity and mortality and consequent reproductive failure[12].

Complications of early pregnancy are common clinical conditions that often require emergency care. The patient may or may not be aware that she is pregnant at the time of evaluation at the emergency department. Diagnosis is frequently missed and should be considered in any woman in the reproductive age group presenting with abdominal pain or vaginal bleeding especially when combined with an episode of collapse or syncope [12].

The peak incidence of ectopic pregnancy or population most affected includes around mid-twenty. A two year (April 02-April 04), retrospective survey in B.P Koirala Institute of Health Sciences, Dharan (Nepal)75 cases of ectopic pregnancy showed that majority of cases were between 26-30 years [13].

In TikurAnbessa Hospital, Addis Ababa, Ethiopia, Review of 176 casesbetween1981-1987 revealed that 57.9% were in the age group of 20-29, and proportion of 0.8 the history revealed lower abdominal pain in 98.8%, amenorrhea in 82.9% and vaginal bleeding in 73%. On clinical examination, 92% had lower abdominal tenderness, 80.6% cervical excitation tenderness [14].

A ten year retrospective survey in Ayub teaching hospital Abbottabad, Pakistan; out of 255 patients 43 (16.86%) had un-ruptured tubal Pregnancy, 183 (71.76%) had ruptured ectopic pregnancy and 22 (8.62%) had chronic ectopic pregnancy. At laparotomy, salpingectomy was done in 229 (89.80%) patients, salpingo-oophrectomy in 2 patients (0.78%), and linear salpingectomy in 15 (5.88%) patients. The classic clinical tirades were: abdominal pain, amenorrhea and vaginal bleeding. Medical treatment was given to

5 patients and 8 patients were treated conservatively. There was no maternal mortality (15).

Across sectional survey Umtala general hospital Transkei, south Africa showed that 11 per 100 reported pregnancy and the mortality rate was 2 % Of 148 consecutive cases of ectopic pregnancy 62.2 were in shock and two third were in severely anemic on arrival About 71% of the cases had tubal rupture and 25% of were chronic leaking ectopic .Only 4 intact ruptured ectopic were found out. [16].

Health professionals and public health officials in developing countries, especially those in Africa, should consider EP as a major obstetric problem for maternal morbidity. Early detection and more public education as well as advocacy programs targeted at women are needed to solve the problem.

1.3. Significance of the study

This study result would worth to detect the magnitude and management outcomes of ectopic pregnancy in the study setup which would have further advantage to minimize morbidity and mortality of patients due to ectopic pregnancy as well as create awareness of magnitude of the problem by recommending the most possible standards of ectopic pregnancy managements.

It will also have significant advantage for health professionals in the setup adding useful information regarding the extent and management outcome of ectopic pregnancy together with the importance of early prediction, detection, and initiation of resuscitation and on time definitive management during practice.

The outcome of this study will also add epidemiological and clinical information that will serve as essential input for policy makers to design proper strategies and serve as baseline information for other studies.

CHAPTER TWO: LITERATURE REVIEW

2.1. Magnitude of EP

The incidence of ectopic pregnancy has followed an increasing trend during the last three decades throughout the world (17) In London, City and Hackney Health district, a one retrospective study 106 ectopic cases were identified and 4047 total deliveries were recorded and the prevalence of EP was 2.6%. However; in United Kingdom from 1982 - 84 G.C it was reported to be 0.57% (18)

A review of EP in developing countries from the 1960s to the mid-1980s showed that the incidence of EP was between 0.5% and 2.3% of live births in Africa .In Thika, Kenya between 1985-88 prevalence was reported to be 0.66 out of 2,4912 deliveries [18,19]. Between 1993 and 1995, the hospital-based EP incidence was 2.9% at Nosy Be Hospital (Madagascar) [20]; and up to 4% at the gynecology and obstetrics clinic of the national teaching hospital in Cotonou (Benin) [21].

In Lagos it has been reported to be responsible for 30% of emergency gynecologic admissions, 8.6% of maternal deaths and has a case fatality rate of 3.7% [22]. In Ghana, a neighboring West African country, a case fatality rate of 29.9/1,000 was reported [23]. In Conakry, Guinea, a five years retrospective study from 1995 to 1999 showed that EP has incidence increased from 0.41% to 1.5% of annual deliveries over this period .Hemoperitonium was observed in most women, with tubal rupture in 93%; only 6 women received conservative treatment [24].

A three year retrospective review of cases in Nigeria, Aminu Kano teaching hospital, between 1st November 2008 and 31st October 2011 showed that EP represented 4.26% of all deliveries, 5.55% of all gynecologic admissions and 26.01% of all gynecological surgeries. The mean age of the patients was 27.8 years with a range of 15-41 years. The highest frequency occurred in the 25-34 year age groups (61.39%) [25].

The commonest presenting symptoms were abdominal pain in 98 (97.03%), amenorrhea in 74 (73.27%) and vaginal bleeding in 65(64.36%). Thirteen patients (12.87%) presented in shock had prompt resuscitation and surgery. The main site of occurrence was tubal 89 (88.12%) and all patients had laparotomy. Salpingectomy was done in 87 (86.14%) while 1 (0.99%) each had “milking out” and linear salpingostomy respectively. Excision and reconstruction was done for the 5 (4.95%) women with ovarian pregnancies women with ovarian pregnancies. Laparotomy was negative in 5 (4.95%) of the women and only 2 (1.98%) had a diagnostic laparoscopy prior to laparotomy [25].

2.2. Factors associated with EP morbidity & mortality

The reported etiologic factors for ectopic includes previous tubal surgery, previous ectopic pregnancy, previous genital infections, assisted reproductive technology, smoking (the risk is increased by number of cigarettes), age (over 40 years),intrauterine device (IUD), Oral Contraceptives(OC) only with progestin, multi-parity, previous abortion(spontaneous or inducted), Diethylstilbestrol (DES) exposure in utero[26-29].

In Niger, NnamdiAzikiwe University Teaching Hospital (NAUTH) Nnewi, a five years retrospective study between January 1st, 2002 to December 31st, 2006, 36 cases of ectopic gestations were managed. The identifiable risk factors in this survey were multiple sex partners 27(35.5%), previous abortions 25(32.9%), and previous sexually transmitted infections 10(13.2%) [30].

2.3.Management out comes of ectopic pregnancy

In Nigeria, Ebonyi State University Teaching Hospital (EBSUTH) Abakalik, a ten years retrospective survey between June 1, 2002 to May 31, 2012) showed that anemia contributed 59.4, pyrexia 24.4%, wound sepsis 10.24% urinary tract infection 1% and maternal death 1.5%. Patients with interstitial/cornual ectopic pregnancy may have a sevenfold-higher mortality due to the fact that they rupture later and bleed more [31].

The case-fatality rate of 1.4% recorded in this study was similar to the case-fatality rates published by numerous hospitals in Nigeria and other African countries, which ranged between 1% and 3%. The three deaths recorded resulted from massive blood loss from

the rupture sites (interstitial/cornual).Salpingectomy was the commonest life-saving surgical procedure performed in the studied subjects, since most of the cases were ruptured ectopic pregnancies with massive hem- peritoneum [31].

This management option was in line with the recommendations of the National Institute of Clinical Excellence that women with such presentation of ectopic gestation should have a salpingectomy[31,32].Patients with ruptured ectopic pregnancy could present with signs of shock, including hypotension, tachycardia, and rebound tenderness, and as such they should be treated on an emergency basis [33]. In developing countries like Nigeria, where the majority of patients present after rupture, emergency surgical interventions remain the mainstay of treatment [34, 35]

The management of ectopic pregnancy has been improved upon by the use of ultrasound, laparoscopy and monitoring of the beta- human chorionic gonadotropin [36].Early diagnosis before tubal rupture is important in reducing mortality as well as preserving the potential for future fertility, through; Conservative management [37]. Fertility is substantially improved when conservative surgery is utilized instead of salpingectomy. Subsequent intrauterine pregnancy rates have been found to be 76% when conservative surgery is performed and 44% when salpingectomy is performed [38].

Conceptual Framework

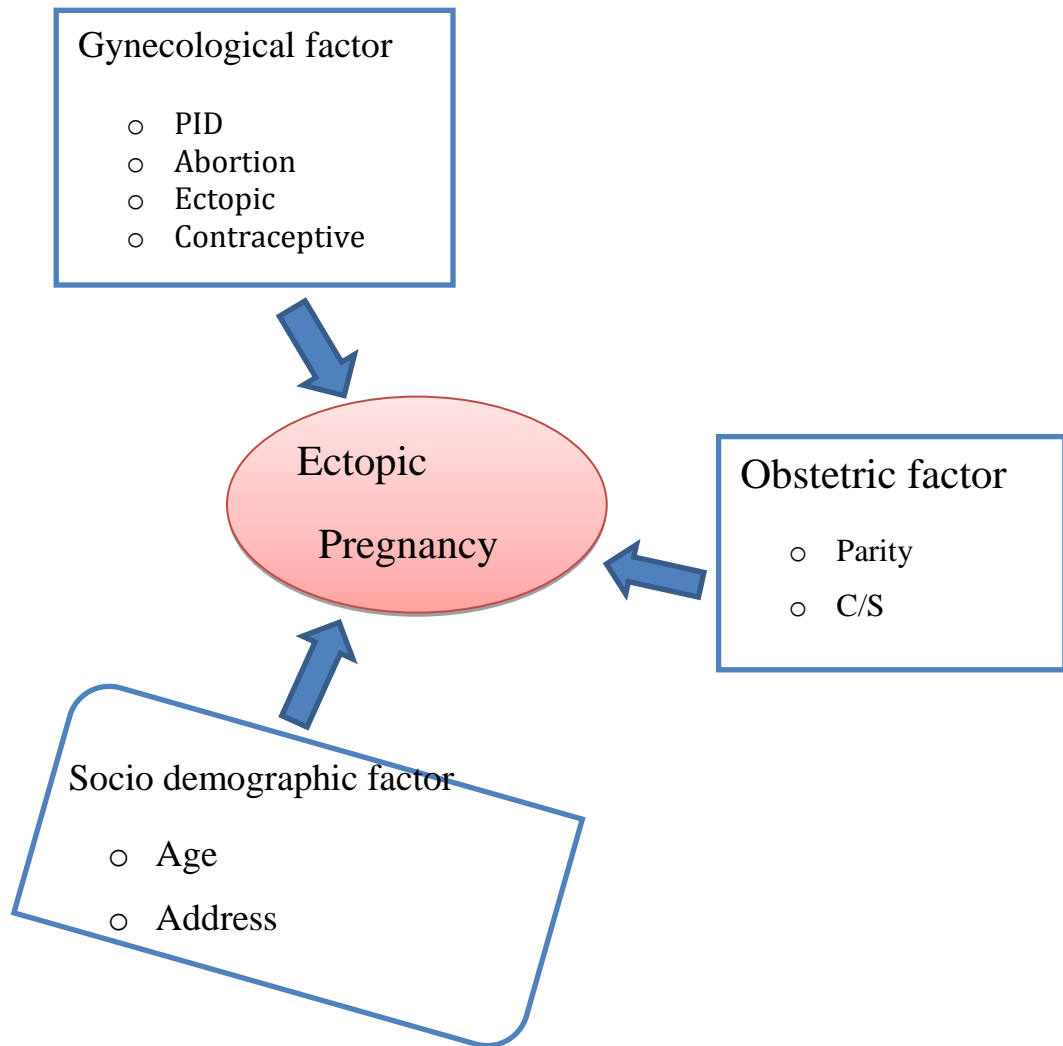


Fig1.relation of independent variables with dependent one(ectopic of pregnancy)

CHAPTER THREE: OBJECTIVES

3.1. General objective

- ❖ To assess magnitude and factors affecting management outcomes of Ectopic pregnancy in Woliso St. Luke hospital

3.2. Specific objectives

- ❖ To determine the magnitude of Ectopic pregnancy
- ❖ To describe management outcomes of Ectopic pregnancy
- ❖ To describe factors affecting management outcomes of ectopic pregnancy

CHAPTER FOUR: METEDODOLOGY

4.1. Study area and period

A five year, between 1,January (2009 to 1, January) 2013 G.C, descriptive retrospective study was conducted in Woliso St. Luke Hospital which is located 114kms away from Addis Ababa and 214km from Adama, the capital city of the region. The hospital is serving with total population of greater than 1.2 million. Totally the hospital has 200 beds. The Hospital is staffed with 3 general surgeon, 1 gynecologist and obstetrician, 1 internist, 1 pediatrician and 1 general practitioners. The department of GYN/-OBS has a total of 14 beds among which 24 beds belong to the maternity ward. A 5 -year retrospective review of Ectopic pregnancy was made in this hospital.

4.2. Study design

Across sectional retrospective design was conducted.

4.3. Sample Size

All records of patients with ectopic pregnancy at Woliso hospital during the past five years

4.4. Sampling technique

First, all operative records from gynecological operation registry book in the operation room and all deliveries labor ward registry book in the delivery ward were reviewed to identify patients treated for ectopic pregnancy from January 1, 2009 through December 30, 2013. Then, all identified cases of EP were reviewed for patient characteristics and management outcomes based on the inclusion and exclusion criteria.

4.5. Sample size

All cases of EP in the 5 year of study period were included.

4.6. Source population

All delivery cases undergone from January 1st 2009 to December 31st 2013 in St. Luke Woliso hospital

4.7. Study population

All mothers managed for EP from January 1st 2009 to December 31st 2013.

4.8. Data collection tools and Procedures

Prior to data collection, training of data collector by the principal investigator was given.. The session of the training was regarding on internalization of the objective of the survey, technique and how to review the document. Besides; the role and responsibility of the data collectors was addressed.

Data were collected from (5thMay-15th June2014) by two diploma nurse using pretested structured questionnaire under supervision of one BSc nurse. Relevant data on age, parity, clinical presentation, risk factors, findings at laparotomy, and the outcome of treatment were collected using data-entry forms designed for this purpose Supervision was given in each day regarding for questioner completeness, clarity and proper identification of required document.

4.9. Data quality assurance

Data quality was ensured during collection, coding, entry and analysis. During data collection adequate training and follow up were provided to data collectors and supervisors. Incomplete checklists were returned back to the data collector for completion. Codes were given to the questionnaires and during the data collection so that any identified errors were traced back using the codes.

4.10. Inclusion Criteria

All confirmed cases of EP between January 1st 2009 to December 31st 2013 in St. Luke Woliso hospital.

4.11. Exclusion criteria

Cases with incomplete and lost documents between January 1st 2009 to December 31st 2013

4.12. Data processing & analysis

Data were first checked manually for completeness then coded and entered in to SPSS 20.0 software for analysis. Assumptions for descriptive statically outlier were checked. The process involved descriptive statistical tables and graphs were used for data summarizing .Bivariate and multivariate logistic regression analyses were used

to identify variables associated with un favorable maternal outcomes. Variables with P- value of up to 0.2 in bivariate analysis were entered into the multivariate model. Logistic regression (LR) method was employed and variables with p value of < 0.05

4.13. Variables of the study

4.13.1. Independent variable

- ✚ Age
- ✚ Address
- ✚ Parity
- ✚ Abortion
- ✚ Sexually transmitted infection
- ✚ Contraceptive use
- ✚ Previous ectopic

4.13.2. Dependent variable

- ✚ Outcomes of Ectopic pregnancy

4.14. Operational definitions

Management outcomes= failure or success after certain treatment

Favorable outcomes = Success of treatment without complications

Unfavorable outcomes= When patient develops any of the following identified complications:

- ❖ Shock
- ❖ Syncope
- ❖ Anemia
- ❖ Rupture
- ❖ Hemorrhage
- ❖ Maternal death

4.15. Dissemination of the results

After completion, the study result was planned to be submitted to Oromia Regional Health Bureau, Woliso St. Luke Hospital, and Jimma University library.

4.16. Ethical consideration

Data collection was started after the study was being approved by the Institutional Ethics Review Committee of the College of Health Sciences of Jimma University and secured a permission letter from Woliso St. Luke Hospital. Confidentiality of the records was maintained throughout the study period. Reports shall no include names and identities of patient.

CHAPTER FIVE: RESULT

5.1. Magnitude of EP

Over the 5-year study period, there were 3,556 gynecological surgeries and 14,152 deliveries were recorded; Among 87 suspected ectopic pregnancies, of which 81 cases were suitable for analysis. The overall rate of ectopic pregnancy among all deliveries in this study was 0.6% while its rate constituted 2.3% (81 of 3,556) of all gynecological surgery during the study period. Highest incidence among all deliveries was recorded in 2013, 0.6 % (22 of 3,323) and lowest in 2012, 0.3% (8 of 3,101) (Table. 1)

Table1. Yearly distribution of EP per number of registered pregnancies in Woliso St. Luke hospital from January 1st 2009 to December 31st 2013

<i>Period</i>	<i>Registered pregnancies</i>	<i>Ectopic pregnancies</i>	<i>% total</i>
2009	2,371	18	0.8
2010	2,532	16	0.6
2011	2,825	17	0.6
2012	3,101	8	0.3
2013	3,323	22	0.7
Total	14,152	81	0.6

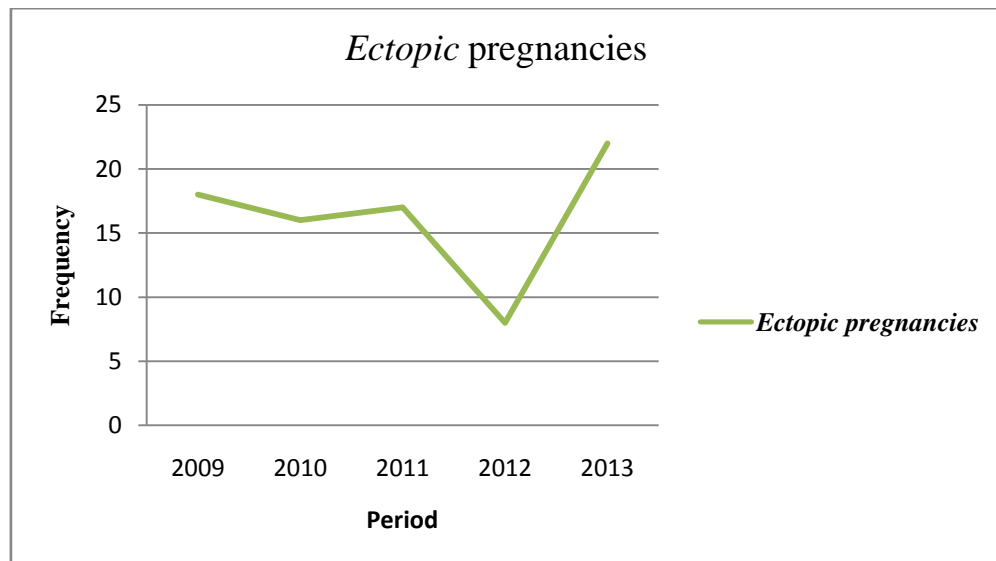


Fig2. yearly proportions of EP in St. Luke Woliso from January 1st 2009 to December 31st 2013

5.2. Socio demographic characteristics

Majority of cases 60 (74.1) were outside Woliso and 21 (25.9%) in Woliso town. The majority of patients (33.3%) were within the age group 25–29 years and 69.1% of them had amenorrhea history for < 6 week. A total of 60 (74.1%) had ruptured ectopic pregnancies, while six (7.4%) were un ruptured. A significant proportion 42% (34 of 81) of were primigravidas, while only six of 81 (7.4%) were grand multiparous (Table 2).

Table2. Demographic characteristics of patients with ectopic gestations in Woliso St. Luke Hospital between from January 1st 2009 to December 31st2013

Variables	Label	frequency	Percent
Age	15-19	3	3.7
	20-24	17	21.0
	25-29	32	39.5
	30-34	11	13.6
	35-39	16	19.8
	40 and above	2	2.5
Parity	0	44	54.3
	1	14	17.3
	2	7	8.6
	3	7	8.6
	4	3	3.7
Address	5 and above	6	7.4
	Outside Woliso	60	74.1
	Woliso	21	25.9
Gestational age	<6 weeks	56	69.1
	6-10 weeks	18	22.2
	>10 weeks	4	4.9
	Unknown	3	3.7

5.3. Clinical presentation and risk factors

The commonest 78 of 157(92.3%) presentation was abdominal pain, 45 of 157 (55.6%) Had amenorrhea, 17 of 157(21.1%) presented in shock, 11 of 157(13.6%) presented with dizziness/fainting attack and 6 of 157(7.4%) presented with vaginal bleeding. 16 of 81, 19.8%) had a past history of pelvic infection, while 14of 81 (17.3%) had previous abortion, as risk factors for ectopic gestation (Table 3).

Table 3.Clinical presentations and risk factors of ectopic pregnancy inWoliso St. Luke hospital between from January 1st 2009 to December 31st2013

variables	Label	frequency	Percent
Clinical presentation	Abdominal pain	78	92.3
	Amenorrhea	45	55.6
	Shock	17	21.1
	Syncope	11	13.6
	Vaginal bleeding	6	7.4
Risk factors	PID	16	19.8
	Previous abortion	14	17.3
	Contraceptive use	11	13.6
	Previous surgery	4	5.1
	Previous ectopic	3	3.8

5.4. Operative findings

Most of the patients 74.1 (60 of 81) had tubal ectopic pregnancies and they were ruptured at the time of presentation. 53.1 % (43 of 81) were ampullary, 19.8 % (16 of 81) isthmic, 13.6 % (11 of 8) were fimbrial and only 1.2% (1 of 81) had cervical ectopic. In 53.1% of the patients, the ectopic pregnancy was on the right while the remaining 46.9% had left sided ectopic pregnancy

There was no mortality and 58 (71.6%) of the patients were discharged within 7 days of admission, 21 (25.9% of them within 14 days and the remaining 2 (2.4%) discharged within a month with post-operative wound infection and anemia (22.5 %) and (77.5%) respectively. (Table 4).

Table 4. Operative findings and associated morbidity of EP in Woliso St. Luke hospital from January 1st 2009 to December 31st 2013

variables	Labels	frequency	percent
Patterns of EP	Ruptured	60	74.1
	Chronic EP	11	13.6
	Non ruptured	6	7.4
	Tubal abortion	4	4.9
Site of EP	Ampullary	43	53.1
	Isthmic	16	19.8
	Fimbrial	11	13.6
	Ovarian	8	9.9
	Courunal	2	2.5
	Cervical	1	1.5
Side of EP	Right sided	43	53
	Left sided	38	47
Hospital stay	3-7 days	58	71.6
	7-14 days	21	25.9
	2-week-1 month	1	1.2
Post. op complication	Wound infection	9	22.5
	Anemia	31	77.5

Blood transfusion was necessary in 15 (18.5%) of the patients and transfusions related complication was not reported (Fig.3).

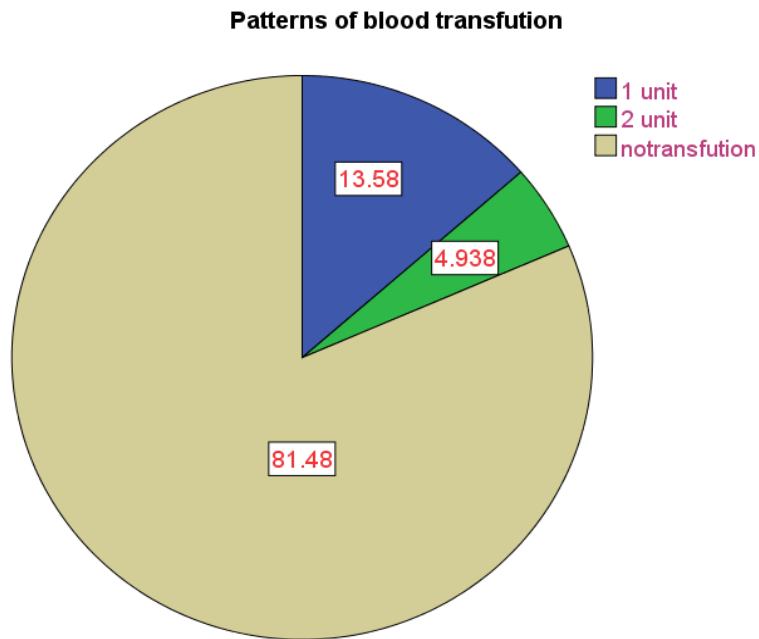


Fig.3. patterns of blood transfusion for EP in Woliso St. Luke hospitals from January 1st 2009 to December 31st 2013

Among the interventions, Salpingectomy (71.6%) was the commonest life-saving surgical procedure performed in the studied subjects, since most of the cases were ruptured ectopic pregnancies with massive hemoperitoneum. whereas 7.41% of cases contra lateral tubal ligation was made that impair future fertility whereas (Fig.4)

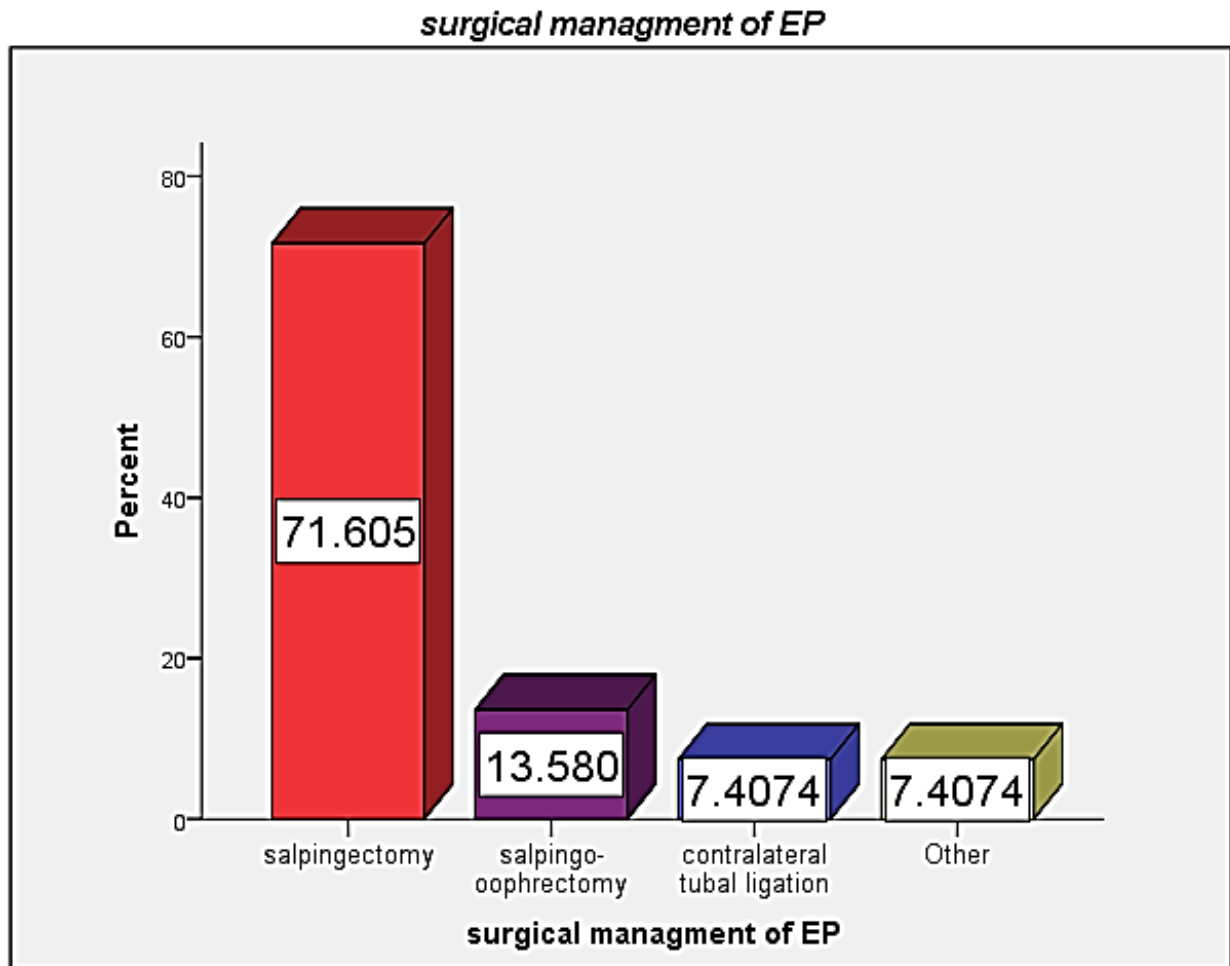


Fig.3 Surgical management of EP in Woliso St. Luke Hospital from January 1st 2009 to December 31st 2013

5.5. Binary logistic regression

Those mothers who had previous history of abortion and genital tract infection showed a statistical association with unfavorable maternal outcomes. (COR 4.58, 95%CI=1.35-15.52) and (COR 7.07, 95%CI=2.14-23.38) respectively. Among the obstetric variables, mothers with \geq parity one were six times likely to get unfavorable maternal outcomes than parity one (COR 6.91, 95%CI= 1.83-26.18).

Women who had history of ectopic and encountered dizziness/fainting attack during presentation were more than seven and five times to develop unfavorable outcomes (OR 7.18, 95%CI= 0.61-84) and (OR 5.26, 95%CI=1.39-19.91) respectively.

5.6. Multivariate logistic regression

Variables with (p-value <0.25) in the bivariate analysis were potential candidate for the multivariate. Therefore, multivariate approach was applied to determine which variables best explained and predict unfavorable management outcomes of EP. Consequently two of independent variables, parity and PID were found to have significant association on multivariate analysis.

Table5. Determinants of management outcomes of EP in Woliso St. Luke Hospital from January 1st 2009 to December 31st 2013

Variables	Maternal outcomes		COR 95% CI	AOR 95% CI
	Favorable (n=95)	un favorable(103)		
Prior abortion				
No	12	55	4.59(1.36-15.51)*	0.25(0.06-1.10)
Yes	7	7	1	1
Previous EP				
No	17	61	7.18(0.61-84)	4.73(0.33-68.18)
Yes	2	1	1	1
Parity				
Nulliparous	16	27	6.91(1.83-26.18)*	6.53(1.52-28.32)**
\geq one	3	35	1	1
PID				
No	10	55	7.07(2.14-23.38)*	5.54(1.34-23.01)**
Yes	9	7	1	1

Syncope				
No	13	57	5.26(1.39-19.91)*	5.10(0.94-27.31)
Yes	6	5	1	1

** and** show statistically significance at 5% and 1% probability level respectively*

CHAPTER SIX: DISCUSSION

6.1. Discussion

This institutional –based retrospective study has tried to identify magnitude and factors affecting management outcomes of ectopic pregnancy in Woliso St. Luke hospitals

Given the high risk of recurrence rate 15% and 30% after having 1st and 2nd EP and the finding that 3.7% of our subjects had a history of previous ectopic pregnancy, women with a history of previous ectopic pregnancy should be followed up carefully even in the absence of symptoms (3).

In this study proportions of ruptured EP were 74.1% because and ectopic pregnancy, especially when ruptured, is a common life-threatening emergency in the developing world. The study showed that there was no mortality however; EP unless treated vigorously and early enough for 73 % of early pregnancy mortalities. (12).

In my study peak age incidence of EP was noted among 21-30 years age groups, which is 39.5% and primis were the most sufferer. Similar results were found in Nepal and Tikur Anbessa, (13-14). But this is inconsistent with finding In USA, 1970 through 1978 reported increasing Incidence of ectopic pregnancy with age. This difference may be because in Ethiopia most women marry at early age and fewer pregnancies are seen beyond 30 years of age (26)

The magnitude of ectopic pregnancy found in our center during the study period is 0.6% which is consistent with the 0.8% reported in Tikur Anbessa, Ethiopia and 0.66% in Thika, Kenya. However proportion of 0.6% in my study is lower than findings of 4.26% and 1.3% in Amin Kano, Nigeria and Nnewi, Niger respectively. And higher than findings of 0.11% in Transkei, South Africa (16), (18), and (25).

This incidence rate in our findings is low to appear and hardly consistent with others because in developing countries, EP related maternal mortality is frequently under declared, resulting in the omission of numerous patients who died before receiving any intervention including surgical treatment (23).

The highest incidence of ectopic pregnancy 53.1% was noted amongst nulliparous women, which was in conformity with findings in Nnewi, Niger. This is because most young unmarried people with unintended pregnancies often procure unsafe abortions, which then predispose them for EP (29).

Since most of the cases were ruptured EP with massive hemoperitoneum, salpingectomy was done for 71.6% of cases where as 15% of patients were transfused with blood.. This management option was in line with the recommendations of the National Institute of Clinical Excellence that women with such presentation of ectopic gestation should have a salpingectomy (<http://guidance.nice.org.uk/cg154>)(33-34).

About 80.2 % of case had evidence of previous pelvic infection, thus making PID the most important risk factor for ectopic pregnancy. This is consistence with findings in South Africa (16). Like previous history of abortion and history of previous ectopic gestation were also predisposing factors for ectopic pregnancy (41).

There was no death reported in this study but, the case-fatality rates published by numerous hospitals in Nigeria and other African countries, which ranged between 1% and 3 % (30),(42).

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

7.1. Conclusion

- ✎ EP in developing countries like Ethiopia, particularly in Woliso hospital, diagnosis is often late with a large number of cases of tubal rupture and hemorrhage, salpingectomy remains the surgical treatment of choice for EP in the study area.
- ✎ The peak incidence of EP commonly seen around 25 -29 years and majority of them were ruled with low parity.
- ✎ Magnitude of Ectopic pregnancy is increasing with unfavorable maternal outcomes and mothers with history of PID, abortions and low parity were more affected.
- ✎ Ruptured EP is a true medical emergency which warrants Open abdominal surgery of (salpingo-oophorectomy) with blood transfusion.

7.2. Recommendation

Hospital

- ☞ There is a need to create and adopt a protocol for the diagnosis and management of ectopic pregnancy in the hospital as the magnitude of EP is increasing
- ☞ There is also the need to develop/improve the laboratory capacity for rapid serum hCG assay and make diagnostic laparoscopy a routine tool in evaluating any acute pelvic pain and suspected ectopic pregnancy especially during call hours.

Woliso health office

- ☞ Health professionals around Woliso town should prompt early identifications of pregnancy and early ANC
- ☞ Strengthening quality ANC for early screening and interventions

7.3.Limitation of the study

The study was involved retrospective document review as all other retrospective document reviews this study faced with incomplete information, lost worn out cards and unreadable patient cards, gynecology registration book and operation room records. Details of socio demographic variables not addressed due to lack of documentation. Since the study is institution based, findings couldn't generalize the general population un like prospective population based study dose.

7.4.Strength of the study

- Being the stud period longer, five year number of cases were worth enough for similar characteristics
- The study was the first to be carried out in the facility

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QUESTIONNAIRE

1. **Questionnaire format:** To be filled for those who had ectopic pregnancy in St. Luke Catholic Hospital and College of Nursing.

I am serving as a data collector for a the study done on prevalence, risk factor, and outcome of ectopic pregnancy conducted in St. Luke Catholic Hospital and College of Nursing by third year MSc IEOS student of Jimma university. This is to collect data from patient records in St. Luke Catholic Hospital and College of Nursing; a five-year facility based cross-sectional retrospective study.

Data collector name and signature _____

Instruction: Please encircle the letter corresponding to the correct record or write the correct record on the space provided.

I. Identification

1. Questionnaire I.D: _____
2. Card No _____
3. Date of admission _____
4. Date of discharge _____

II. Socio demographic characteristics

1. Age in year _____
2. Marital status

A. Married B. Single C. Widowed D. Divorced E.

Unknown

3. Addresses A. Urban B. Rural C. Unknown

5. Educational status (Grade completed)

A. Illiterate C. 1-6th

B. Reade and Write D. 7-12th grade E. College or
University

6. Ethnicity

A. Oromo C. Gurage
B. Amhara D. Tigre E. Other_____

7. Religion

A. Orthodox C. Muslim E. Other

B. Catholic D. Protestant F. Unknown

III. Previous gynecological history

1. Pervious history of abortion

A.1 B.2 C.3 and above D.No history

2. Had the women had previous surgery?

A. Tubal ligation B. Cesarean section C. Appendectomy
D. Tubal anastomosis E. previous ectopic F.No history

3. Had the women had previous genital tract infection?

A. Genital ulcer B. Vaginal discharge C.PID D. Known RVI E. No
history

4. Had the women had previous contraceptive use?

A. IUCD B. Depo-Provera C. Oral contraceptive pills D. Barrier
E. No contraceptive used

5. Had the women had previous ectopic pregnancy?

A.1 B. 2 C.3 and above D.No history

IV. Previous obstetrics history

1. Gravidity A .primigravida B.>2 C. Unknown

2. Had the women had previous caesarean section

A.1 B.2 C.3 and above D.No
history

V. Presenting features of ectopic pregnancy

1. Diagnosis of ectopic pregnancy

A. Clinically B. Culdocentesis C. U/S D. Intraoperative

2. Gestational age (with LNMP, physical examination, or U/S)

A. 4-6 Weeks B. 7- 9 Weeks C. 10 Weeks D.

Unknown

3. Clinical features of ectopic pregnancy

A. Abdominal pain B. Vaginal bleeding C. Amenorrhea D. Profound shock

E. Syncope F. adnexal mass G. Cervical excitation tenderness H. Unknown

4. Urine HCG

A. Positive B. Negative C. Unknown

5. Hemoglobin A. >10mg/dl B. 5-10mg/dl C. <5mg/dl D.

Unknown

6. Patterns of ectopic pregnancy

A. Ruptured B. None ruptured C. Tubal abortion D. Chronic ectopic

E. Heterotopic pregnancy

7. Estimated of blood losses record A. Yes if yes, specify in ml _____ B. No record

8. Site of ectopic pregnancy

8.1. Fallopian tube

A. Ampulla B. Isthmic C. Courunal D. Fimbria E. Non tubal

8.2. Ovarian

8.3. Cervical

8.4. Unknown

9. Side of ectopic pregnancy A. Right B. Left C. Unknown

VI. Management of ectopic pregnancy

1. Medical

A. Yes if yes, specify the type of therapy _____ B. No

2. Surgical

A. Salpingectomy B. Salpingo-oophorectomy C. Oophorectomy D. Milking
E. Cervical resection F. Hysterectomy G. Tubal ligation H.
others_____

3. Did the women transfused for blood?

A. 1 Unit B. 2 Unit C. 3 Unit D. >4 Unit E. No
transfusion

4. Hospital stay A. 7 days B. 7-14 days C. 14-1 month D. >1 month

5. Postoperative complication A. fever B. Wound infection C. Pneumonia
D. No complication

6. Did the women die? A. Yes if yes, specify the cause of death_____
B. No

Declaration

I, the undersigned, declare that this thesis is my original work and has not been presented for a degree in this or another university and that all sources of materials used for this thesis have been fully acknowledged.

Name: HailemariamBelihu

Signature: _____

Date: July, 2014

This thesis has been submitted for examinations with my approval as university advisor;

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