



## Risk Factor of Ectopic Pregnancy in Rural Women Bangladesh

Authors

Rowshon Ara Khatun<sup>1\*</sup>, Md. Munjur Hossain<sup>2</sup>, Mahbubur Rahman<sup>3</sup>

<sup>1</sup>Assistant Professor, Gynae & Obs., Ad-din Akij Medical College Hospital, Khulna, Bangladesh

<sup>2</sup>Assistant Professor, Head of Department, Anesthesiology, Ad-din Akij Medical College Hospital Khulna, Bangladesh

<sup>3</sup>Associate Professor, Gynae, Patuakhali Medical College, Patuakhali, Bangladesh

\*Corresponding Author

Dr Rowshon Ara Khatun, DGO

Assistant Prof. of Gynae & Obs. Ad-din Akij Medical College Hospital, Khulna, Bangladesh

### Abstract

**Objective:** In this study our main goal is to identify risk factor of ectopic pregnancy in rural women Bangladesh.

**Method:** This descriptive study was performed from May 2016 to April, 2017 at Ad-din Akij Medical College Hospital, Khulna. During the study 200 patients were evaluated and data was extracted from socio-demographic, menstrual, obstetric and clinical history of the patients.

**Results:** Most of the patients belong to 30 years (19.7%) age group and history of pelvic infection (26.26%), induced abortion (17.4%), previous MR (16.26%) and sub fertility (11.25%) were common risk factor in ectopic pregnancy found in the study. Also majority of the patients faced laparotomy followed by right sided salphingectomy (40.40%) which was the most common operation.

**Conclusion:** quick diagnosis, classifying of risk factors and timely intervention in the form of surgical treatment is necessary for reduction mortality rate in ectopic pregnancy.

**Keywords:** Ectopic pregnancy, laparotomy, Pelvic infection.

### Introduction

Parenthood, an eternal, universal and inherent dream which every woman has. This dream may not always be satisfying. One of this is ectopic pregnancy: A pregnancy which is associated with life threatening condition.<sup>1</sup>

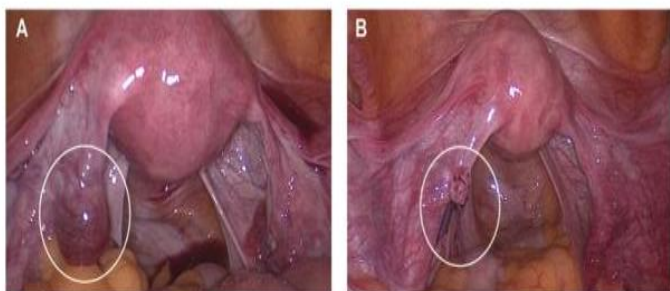
The frequency of ectopic pregnancy varies from place to place even in the same country.<sup>2</sup> Recent proof indicate that the occurrence of ectopic pregnancy such as in France- 15 per 1000 pregnancies and in India-1 in 100 deliveries. In the U.K. there are about 11,000 cases of ectopic pregnancies per year (incidence 11.5) per 1000 pregnancies with 4 deaths.<sup>3</sup>

The number of ectopic pregnancies has greater than before in the past few decades in the U.S.A. Established on hospital discharge data, the occurrence of ectopic pregnancy has increased from 4.5 cases per 1000 pregnancies in 1970 to 19.7 cases per 1000 pregnancies in 1992.<sup>4</sup>

In the industrialized world, among 1% and 2% of all reported pregnancies are ectopic pregnancies.<sup>5</sup> The incidence is thought to be higher in developing countries, but specific numbers are unknown. Although the incidence in the developed world has remained relatively static in recent years, between 1972 and 1992 there was an

estimated six-fold rise in the incidence of ectopic pregnancy.

Ectopic pregnancy is a momentous cause for maternal morbidity & mortality as well as fetal loss.<sup>6</sup> There has been a momentous increase in the number of cases of ectopic pregnancy. Pelvic inflammatory disease, induced abortion, history of infertility, use of intrauterine contraceptive device (IUCD) pelvic surgery, STDs are the causative risk factor for ectopic pregnancy.<sup>7</sup>



**Figure-1a and 1b:** shows tubal ectopic pregnancy which has been removed by salpingectomy.<sup>8</sup>

In this study our main objective is to identify clinical outcome and operative situation with ectopic pregnancy at Ad-din Akij Medical College Hospital, Khulna.

## Objective

### General Objective

- To identify clinical outcome and operative situation in patients.

### Specific Objective

- To detect risk factors of ectopic pregnancy.
- To evaluate operative findings of the patients

## Methodology

### Study Type

- This was a descriptive study.

### Place and period of study

- This study was conducted at Ad-din Akij Medical College Hospital, Khulna from May 2016 to April, 2017.

### Sample Size and Technique

- During the study 200 patients data was collected and sampling technique was purposive

## Inclusion Criteria

- Clinically suspected ectopic pregnancy.
- Clinically diagnosed ectopic pregnancy supported by positive urinary pregnancy test or serum -hCG and USG findings.

## Exclusion Criteria

- Patients who were clinically suspected but laparotomy findings ruled out ectopic pregnancy.
- Ethical consideration- Ethical issue will be addressed duly with due consent from the patient.

## Data Collection Procedure

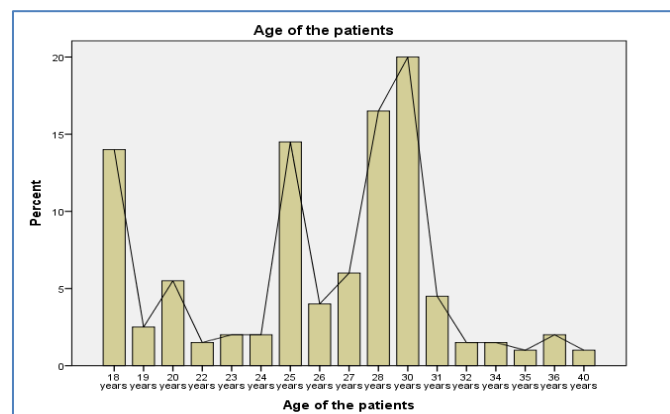
- After taking informed consent from each patient, a very careful history with particular attention to socio-demographic, menstrual, obstetric and contraceptive history, a through physical examination was done and diagnosis was established clinically in majority of cases. Pregnancy test and ultrasonography were done in most cases to support the clinical diagnosis. Haemoglobin estimation and blood grouping were done in all cases.

## Statistical analysis

- Data were analyzed in computer based programme Statistical Analysis for Social Science (SPSS) for windows version 12.

## Results

In figure-2 shows age distribution of the patients where most of the patients belong to 30 years (19.7%) age group. The following figure is given below in detail:



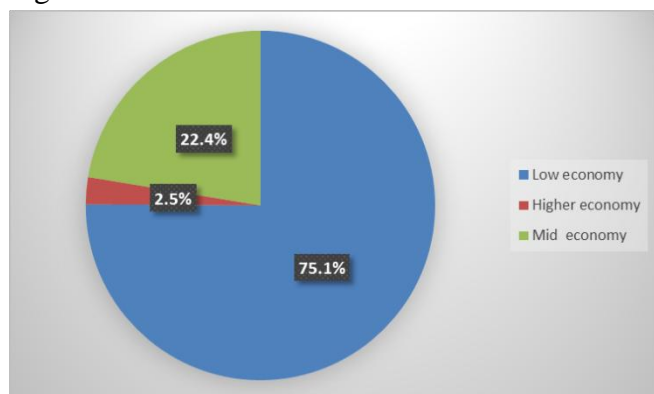
**Figure-2:** Age distribution of the patients

In table-1 shows parity in patients with ectopic pregnancy where the peak percentage was among who are Para 2 (41.26%) and incidence is low (3.74%) among those who are nulliparous. The following table is given below in detail:

**Table-1:** Parity in patients with ectopic pregnancy

Parity	Percentage
0	3.74%
1	6.25%
2	41.25%
3	26.26%
4	13%
5 or > 5	9.5%

In figure-3 shows social-economic status of the patients where most of the patients (75.1%) in this study belong to low economy and only 2.5% belongs to higher economy. The following figure is given below in detail:



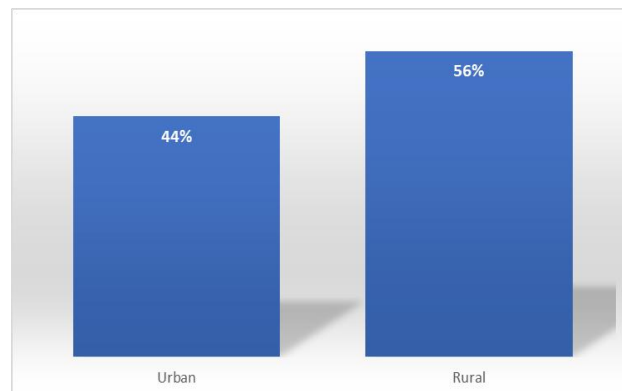
**Figure-3:** Social-economic status of the patients

In table-2 shows educational status of the patients where 63.74% of the patients were illiterate. Only 1.26% patients were graduate. The following table is given below in detail:

**Table-2:** Educational status of the patients

Level of education	Percentage
Illiterate	63.74%
Primary	26.26%
Secondary	8.74%
Graduate	1.26%

In figure-4 shows residential area of the patients where 56% patients' lives in rural area and only 44% patients' lives in urban . The following figure is given below in detail:



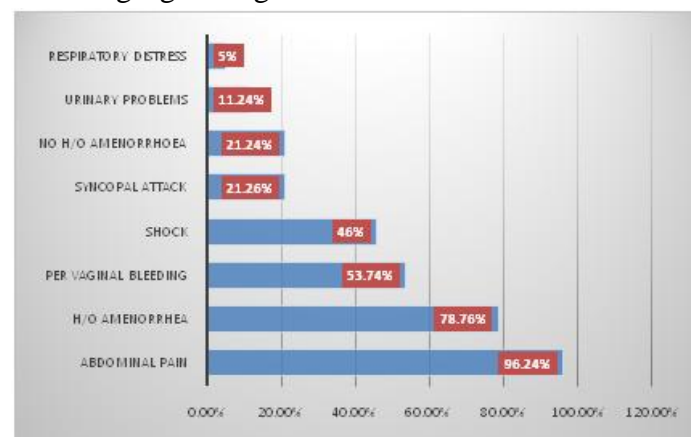
**Figure-4:** Residential area of the patients

In table-3 shows risk factors of ectopic pregnancy where history of pelvic infection (26.26%), induced abortion (17.4%), previous MR (16.26%) and sub fertility (11.25%) constitute the main bulk of risk factors. The following table is given below in detail:

**Table-3:** Risk factors of ectopic pregnancy

Risk Factors	Percentage
Pelvic infection	26.26%
Induce abortion	17.4%
Previous MR	16.26%
Sub fertility	11.24%
IUCD insertion	11.26%
D&C	10.1%
LUCS	6.24%
Any pelvic surgery- Appendicectomy, ovarian cystectomy, tubal ligation.	3.76%
Endometriosis	2.4%
Previous ectopic pregnancy	1.26%

In figure-5 shows symptoms of ectopic pregnancy where abdominal pain (96.24%) is the leading symptom symptoms of ectopic pregnancy. The following figure is given below in detail:



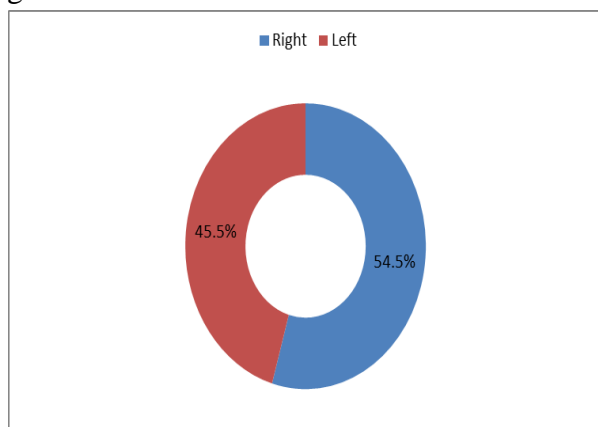
**Figure-5:** Symptoms of ectopic pregnancy.

In table-4 shows signs of ectopic pregnancy where most of the patients (96.26%) has abdominal tenderness & cervical excitation test was positive 94.99% cases. The following table is given below in detail:

**Table-4:** Signs of ectopic pregnancy

Signs	Percentage
Anaemia	93.74%
Abdominal tenderness	96.26%
P/V bleeding	51.24%
Cervical exhibition test	94.99%
uterine enlargement	48.76%
Adnexal lump	35.1%
Fullness of pouch of Douglas	51.25%

In figure-6 shows tube affected in the patients where right sided tube (54.5%) has been found affected more than the left. The following figure is given below in detail:



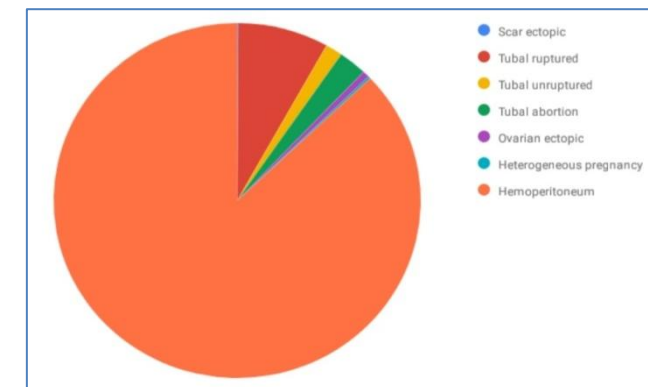
**Figure-6:** Tube affected in the patients.

In table- 5 shows types of operation where all cases were managed surgically. Laparotomy followed by right sided salphingectomy (40.40%) was the most common operation. The following table is given below in detail:

**Table-5:** Types of Operation

Types of operation	Percentage	Frequency
<b>Laparotomy :</b>		80
➤ Right sided salphingectomy	40.40%	
➤ Left sided salphingectomy	36.45%	
➤ Peritoneal toileting in tubal abortion	4.40%	
<b>Laparoscopy:</b>		20
➤ Right sided	14.35%	
➤ Left sided	4.10%	
➤ Salphinogostomy	.3%	

In figure-7 shows per operative findings in ectopic pregnancy where most of the cases (88.10%) were haemoperitoneum. Followed by tubal ruptured 8.5%, tubal abortion cases were 2.5%, ovarian ectopic cases were .6 %, heterogeneous pregnancy cases were .2% and scar ectopic cases were .1%.



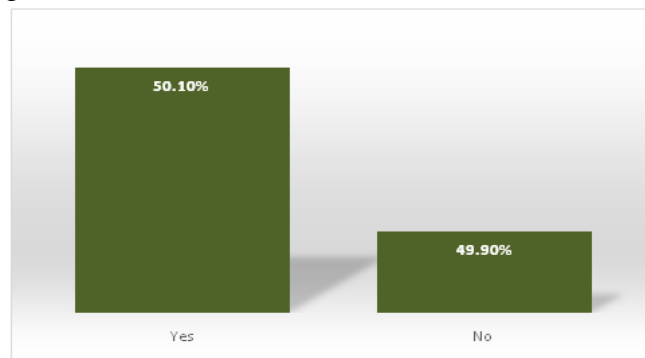
**Figure-7:** Per operative findings in ectopic pregnancy

In table-6 shows Types management of the patients where most of the cases managed by laparotomy (79.9%). Followed by 18.1 % laparoscopy and under conservative management, 2% methotrexate therapy were used. The following table is given below in detail:

**Table-6:** Types of management of the patients

Types of management	Percentage
Laparotomy	79.9%
Laparoscopy	18.1%
Conservative management: Methotrexate therapy	2%

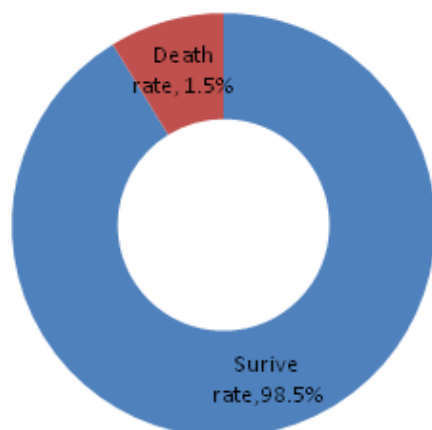
In figure-8 shows distribution of ICU support of the patients where 50.1% patients need ICU support during surgery. The following figure is given below in detail:



**Figure-8:** Distribution of ICU support of the patients



In figure-9 shows survival and death rate of the patients where 98.5% patients were survive. The following figure is given below in detail:



**Figure-9:** Survival and death rate of the patients

### Discussion

The frequency of ectopic pregnancy has been increasing worldwide' varies country to country even place to place in the same country, even place to place in the same country, such as in Jamaica 1 in28 deliveries<sup>[9][10][11]</sup>

In this study out of 200 patients most of them belong to 30 years (19.7%) age group. In one study reported that 65% of cases were between the ages of 26-35 years.<sup>[12]</sup> And other report identified that 38% of the patients were in age group 26- 30 years.<sup>[13]</sup> In a local study of 300 cases showed that 79%-99% patients in 15-34 years age group.<sup>[14]</sup>

In this study we found that the peak percentage was among who are Para 2 the (41.26%) and incidence is low (3.74%) among those who are nulliparous. American Journal of Epidemiology showed different observation from us that para-0 was 39.5% and para-1 35.6%.<sup>[15]</sup> But many other study also showed similar result from us that higher incidence of ectopic pregnancy was present among women of para-2.<sup>[12][14]</sup>

In one study they reported that ectopic pregnancy was more commonly found in women of low economic status with 90.3%<sup>[15]</sup>. During the study we also found that most of the patients (75.1%) belong to low economy and only 2.5% belongs to higher economy.

In this study we found that 63.74% of the patients were illiterate. Also 26.26% were primary passed. Only 1.26% patients were graduate. American Journal of epidemiology showed similar result that primary 7.2%, secondary 69.5% and higher 23.3%.<sup>[16]</sup>

One study reported that patients in ectopic pregnancy were higher in rural areas rather urban areas<sup>[17]</sup> which supports our study where we found that 44% patients' lives in urban area and only 56% patients' lives in rural.

During the study we identified that major risk factor for ectopic pregnancy in patients who had history of pelvic infection 26.26%, induced abortion 17.4%, previous MR 16.26% and sub fertility 11.25%. Which is similar to other study which reported that.

In one study reported that 48% cases have H/O PID<sup>[13]</sup> and another study found PID in 25% cases.<sup>[9]</sup>

Another study also identified pelvic infection and past history of abortion or MR as the main risk factor for ectopic pregnancy.<sup>[12]</sup> other report observed 48% cases had prior induced abortion<sup>[13]</sup> The incidence of unsafe abortion by untrained practitioners is quite high which increases the risk of ectopic pregnancy in our country. Subfertility is a risk factor for ectopic pregnancy in our country. History of subfertility was found 4.59% cases in one study.<sup>[9]</sup>

Use of IUCD is another risk factor for ectopic pregnancy. One study found 17% cased had H/O IUCD insertion. But no patient had IUCD in situ when presented with ectopic pregnancy.<sup>[18]</sup>

During the experiment we found that abdominal pain (96.24%) is the leading symptom symptoms of ectopic pregnancy. One study also found similar outcome that 90.82% with abdominal pain, 78.57% with history of amenorrhoea.<sup>[9]</sup>

In the study most of the patients (96.26%) has abdominal tenderness & cervical excitation test was positive 94.99% cases. Which is similar to other study?<sup>[13]</sup>

One study showed that right sided tube was affected more (79%) in ectopic pregnancy.<sup>[13]</sup>

Which support our study where we found that right sided tube (54.5%) has been found affected more than the left.

In the ectopic pregnancy we identified that laparotomy followed by right sided salphingoectomy (40.40%) was the most common operation, which is similar to one study.<sup>[19]</sup>

In ruptured ectopic pregnancy hemoperitoneum is one of the life threatening situations which was very common in Bangladesh now a days.<sup>[20]</sup>

During the study, we also found that most of the cases (87.10%) were hemoperitoneum. Followed by tubal ruptured 8%, tubal abortion cases were 2.5%, ovarian ectopic cases were .6 %, heterogeneous pregnancy cases were .2% and scar ectopic cases were .1%. Many case report showed similar type of outcome like us <sup>[20][21]</sup> but other study reported that ruptured cases were 74.86% and tubal abortion cases were 12.85%.<sup>[9]</sup>

During surgery we found that 50.1% patients need ICU support and only 1.5% patients were dead which quiet similar to one study where they found assessed mortality rate of ectopic pregnancy is between 2 and 4/1000 during the study.<sup>[22]</sup>

### Conclusion

After many investigation and analysis we can conclude that quick diagnosis, categorizing of underlying risk factors and timely intervention in the form of surgical treatment will help in minimizing the mortality rate associated with ectopic pregnancy.

### References

1. Yeasmin MS, Uddin MJ, Hasan E. A clinical study of ectopic pregnancies in a tertiary care hospital of Chittagong, Bangladesh. *ChattagramMaa-O-Shishu Hospital Medical College Journal*. 2014 Nov 28; 13(3):1-4.
2. Qyasian A, Mohammadi Z, Giardino L, Palazzi F, Shalavi S, Sabbaghi S, Khoshbin E, rkuma Joseph. A., Egesie Julie. O, Banwat Edmund. B., Ejele Adebayo. O. Nigerian Journal of Medicine. 2014 Jul; 23(3).
3. Lalchandani S, Geary M, O’Herlihy C, Sheil O. Conservative management of placenta accreta and unruptured interstitial cornual pregnancy using methotrexate. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 2003 Mar 26;107(1):96-7.
4. Murray H, Baakdah H, Bardell T, Tulandi T. Diagnosis and treatment of ectopic pregnancy. *Cmaj*. 2005 Oct 11;173(8): 905-12.
5. Goldner TE, Lawson HW, Xia Z, Atrash HK. Surveillance for ectopic pregnancy—United States, 1970–1989. *MORBIDITY AND MORTALITY WEEKLY REPORT: CDC Surveillance Summaries*. 1993 Dec 17:73-85.
6. Jurkovic D, Wilkinson H. Diagnosis and management of ectopic pregnancy. *BMJ*. 2011 Jun 10; 342:d3397.
7. Grudzinskas JG. Miscarriage, ectopic pregnancy and trophoblastic disease. *Dewhurst’s textbook of obstetrics and gynaecology for postgraduate*. London: Blackwell. 1999 Dec 23:61-76.
8. Sivalingam VN, Duncan WC, Kirk E, Shephard LA, Horne AW. Diagnosis and management of ectopic pregnancy. *J Fam PlannReprod Health Care*. 2011 Oct 1;37(4):231-40.
9. Vyas PS & Vaidya P, “Epidemiology, Diagnosis and Management of Ectopic pregnancy” *Research Articles* 1998; 1-11.
10. Ectopic pregnancy: Learn more on Ectopic symptoms and treatment, [http://w.w.w.Women’s-health, co.UK/ectopic, asp](http://w.w.w.Women’s-health.co.UK/ectopic.asp). 2007:1-6.
11. Medical Encyclopedia: “Ectopic Pregnancy”, [http:// w.w.w.n/m.nih.Gov/medline plus/print/ency/article/ 000895. htm](http://w.w.w.n/m.nih.Gov/medline_plus/print/ency/article/000895.htm) 2007; 1-3.
12. Rather, Gousia Rahim, Yudhvir Gupta, and Subash Bardhwaj. "Patterns of lesions

- in hysterectomy specimens: a prospective study." *JK science* 15, no. 2 (2013): 63.
13. Nahar K, Talukder T, Sultana S, Hossain MA. Study on Risk Factors, Clinical Presentation & Operative Management of Ectopic Pregnancy. *Bangladesh Journal of Obstetrics & Gynaecology*. 2013;28(1):9-14.
  14. Milunsky A, Milunsky JM. Genetic counseling: preconception, prenatal, and perinatal. *Genetic Disorders and the Fetus: Diagnosis, Prevention and Treatment*. JHU Press: Baltimore, MD. 2004:1-65.
  15. Stulberg DB, Zhang JX, Lindau ST. Socioeconomic disparities in ectopic pregnancy: predictors of adverse outcomes from Illinois hospital-based care, 2000–2006. *Maternal and child health journal*. 2011 Feb 1;15(2):234-41.
  16. Bouyer J, Coste J, Shojaei T, Pouly JL, Fernandez H, Gerbaud L, Job-Spira N. Risk factors for ectopic pregnancy: a comprehensive analysis based on a large case-control, population-based study in France. *American Journal of Epidemiology*. 2003 Feb 1;157(3):185-94.
  17. Garrett AM, Vukov LF. Risk factors for ectopic pregnancy in a rural population. *Family medicine*. 1996 Feb;28(2):111-3.
  18. Al-Daheen G. Ectopic pregnancy, A Prospective Study In Al-Batool Teaching Hospital In Mosul–Iraq. *Al-Kindy College Medical Journal*. 2007;4(1):63-9.
  19. Marchbanks, Polly A., John F. Annegers, Carolyn B. Coulam, Janette H. Strathy, and Leonard T. Kurland. "Risk factors for ectopic pregnancy: a population-based study." *Jama* 259, no. 12 (1988): 1823-1827.
  20. Al-Daheen G. Ectopic pregnancy, A Prospective Study In Al-Batool Teaching Hospital In Mosul–Iraq. *Al-Kindy College Medical Journal*. 2007;4(1):63-9.
  21. Hanna WA, Myles TJ. Spontaneous intraperitoneal haemorrhage during pregnancy: report of three cases. *British medical journal*. 1964 Apr 18;1(5389):1024.
  22. Schneider J, Berger CJ, Cattell CR. Maternal mortality due to ectopic pregnancy. A review of 102 deaths. *Obstetrics and gynecology*. 1977 May;49(5):557-61.