

Correlation between Ectopic Pregnancy and Reproductive History among Pregnant Women in Karbala City/ Iraq

Sarah Flaieh Essa ¹

Hawraa Hussein Ghafel ²

* Collage of Nursing,
University of Baghdad,
Ministry of health Nursing,
Iraq.

** Maternal and Neonate
Nursing Department, College
of Nursing, University of
Baghdad, Iraq.

Corresponding author:

Sarah Flaieh Essa; Collage of
Nursing, University of
Baghdad, Ministry of health
Nursing, Iraq.

Email:

[Sarrra.Faleeh1203a@conursing.uobaghdad.edu.iq](mailto:Sarra.Faleeh1203a@conursing.uobaghdad.edu.iq)

ABSTRACT

Background: Ectopic pregnancy (EP) is a major problem in obstetrics, with warnings of an uptick in cases all over the world. It contributes significantly to maternal morbidity and mortality. Ectopic pregnancy is a common and potentially life-threatening disorder that affects about (2%) of all pregnancies in the United States. It happens when a fertilized ovum implants outside of the uterus, usually in the

الخلاصة:

خلفية البحث: يعتبر الحمل المنتبذ مشكلة رئيسية في التوليد، مع وجود تحذيرات من حدوث زيادة طفيفة في الحالات في جميع أنحاء العالم. يساهم بشكل كبير في مرضية ووفيات الأمهات. الحمل المنتبذ هو اضطراب شائع ومهدد للحياة ويصيب حوالي (2%) من جميع حالات الحمل في الولايات المتحدة. يحدث ذلك عندما تُزرع البويضة الملقحة المنتبذ، عادةً في أمبولة قناتي فالوب. تم التعرف على البطن وعنق الرحم وندبة العملية القيصرية والمبيض على أنها مواقع للزرع.

الهدف: لمعرفة العلاقة بين الحمل المنتبذ والتاريخ الإنجابي للحوامل ولتحديد الخصائص الديموغرافية للنساء الحوامل المصابات بالحمل المنتبذ.

المنهجية: أجريت هذه الدراسة في مستشفى الولادة في مدينة كربلاء في العراق لتقييم مشاكل الصحة البدنية للنساء المصابات بالحمل المنتبذ. بدأت هذه الدراسة في كانون الثاني / 2020 وحتى آذار / 2021، وقد تم الحصول على البيانات المتعلقة بمشاكل صحة المرأة من الرسوم البيانية للمريض المسجلة بقسم الإحصاء بالمستشفى، وتتكون الدراسة من (40) سيدة مصابات بحمل المنتبذ تم اختيارها على أساس التضمين. المعايير (النساء الحوامل المنتبذ، النساء في سن الإنجاب فقط). تم تحليل البيانات من خلال استخدام الدراسة المقطعية (وصفية) واستخدمت إجراءات تحليل الإحصاء الاستنتاجي لتحليل البيانات.

النتائج: تظهر نتائج الدراسة أن هناك علاقة ذات دلالة إحصائية بين الحمل المنتبذ وعدد الإجهاض بين النساء عند قيمة $p = 0.020$ ، ولكن لم يتم الإبلاغ عن أي علاقة ذات دلالة إحصائية بين الحمل المنتبذ ودورة الطمث المنتظمة، وعدد مرات الحمل، والعمر. والأطفال على قيد الحياة، وولادة جنين ميت، وطريقة الولادة، واستخدام موانع الحمل.

الاستنتاجات: هناك علاقة بين حدوث الحمل المنتبذ والتاريخ السابق للحمل. **التوصيات:** تشجيع النساء على الالتزام بالزيارات المنتظمة لمراكز الرعاية الصحية الأولية لاكتشاف وفحص الحمل خارج الرحم مبكرًا وتوفير التنقيف الصحي للنساء الحوامل أثناء زيارتهن حول أسباب وعوامل الخطر للحمل المنتبذ.

الكلمات المفتاحية: الحمل المنتبذ، تاريخ الإنجاب، النساء الحوامل في مدينة كربلاء / العراق.

ampulla of the fallopian tubes. The abdomen, cervix, caesarean-section scar, and ovary have all been identified as implantation sites.

Objective: To find out the correlation between ectopic pregnancy and reproductive history of pregnant women and to identify demographic characteristics of pregnant women with ectopic pregnancy.

Methodology: This study was conducted at maternity hospital in Karbala city in Iraq to assess the physical

health problems of women with ectopic pregnancy. This study was started in January 2020 to March 2021, The data regarding women's health problems was achieved from the patient's charts that recorded in the Statistical Department in the hospital, the study consist of (40) women with ectopic pregnancy which were selected according to inclusion criteria (Women who had ectopic pregnancy, Women in reproductive age only). The data are analyzed through the use of cross-sectional study (descriptive) and inferential statistics analysis procedures were employed for the data analysis.

Results: The findings of the study exhibits that that there is significant relationship between ectopic pregnancy and number of abortion among women at $p\text{-value} = 0.020$, but there is no significant relationship

INTRODUCTION

Ectopic pregnancy (EP) This disorder has serious health implications and is a leading cause of morbidity and mortality among women of reproductive age ⁽¹⁾. Ectopic pregnancy is a common and potentially fatal condition that affects approximately 2% of all pregnancies in the United States. It occurs when a fertilized ovum implants outside of the uterus, most often in the fallopian tube ampulla. The implantation sites have been identified as the abdomen, cervix, caesarean-section wound, and ovary ⁽²⁾. Ectopic pregnancy is becoming more common across the world as a result of higher rates of salpingitis, insufficient care for pelvic inflammatory disease, the usage of intrauterine contraceptives, a rise in surgical procedures for tubal disease, and improved diagnostic techniques. The risk of ectopic pregnancy has been linked to a number of factors. These risk factors work in the same way as the most common risk factor, affecting the ciliary functions of the fallopian tube with pelvic inflammatory disease ⁽³⁾.

Ectopic pregnancy (EP) is currently managed in three ways: surgical care with methotrexate injections, progressive surgery (fallopian tube

removal, salpingectomy), and conservative surgery (preservation of the tube, salpingectomy). Improvements in diagnostic methods (such as ultrasonography and laboratory measurements) have enabled earlier and more reliable diagnosis of ectopic pregnancies, allowing for earlier management and a reduction in serious adverse events. As a result, EP treatment has been evaluated in terms of optimizing not only initial recovery but also subsequent fertility preservation ⁽⁴⁾.

Conclusion: There is a correlation between incidence of ectopic pregnancy and previous history of pregnant.

Recommendation: Encourage women to commitments in regular visits to primary health care centers to detecting and screening ectopic pregnancy early and providing health education to pregnant women during their visits about the causes and risk factors of ectopic pregnancy.

Keyword: Ectopic Pregnancy, Reproductive History, Pregnant Women in Karbala city.

removal, salpingectomy), and conservative surgery (preservation of the tube, salpingectomy). Improvements in diagnostic methods (such as ultrasonography and laboratory measurements) have enabled earlier and more reliable diagnosis of ectopic pregnancies, allowing for earlier management and a reduction in serious adverse events. As a result, EP treatment has been evaluated in terms of optimizing not only initial recovery but also subsequent fertility preservation ⁽⁴⁾.

The sloughing of decidual endometrium causes vaginal bleeding in women with ectopic pregnancy, which may vary from spotting to menstruation-like amounts. Ectopic pregnancy pain can vary in nature, place, and severity. When the fallopian tube distends, it sometimes starts as a colicky abdominal or pelvic pain that is localized to one side. Once the tube ruptures and hem peritoneum forms, the pain can become more generalized. Presyncope, syncope, vomiting, diarrhea, shoulder pain, lower urinary tract symptoms, rectal discomfort, or pain with defecation are all possible symptoms ⁽⁵⁾.

AIMS OF THE STUDY

1. To find out the correlation between ectopic pregnancy and reproductive history of pregnant women.
2. To identify demographic characteristics of pregnant women with ectopic pregnancy.

METHODOLOGY

This study was conducted at maternity hospitals in Karbala city in Iraq to assess the physical health of women with ectopic pregnancy. This study was started in from the January 2020 to March 2021, the data regarding rate women's with ectopic pregnancy was achieved from the data recorded in the Statistical Department in the hospital.

A descriptive study was non-probability (a purposive sample) the study consist of (40) women

with ectopic pregnancy which were selected according to inclusion criteria that are (Women who had ectopic pregnancy, consists of sections that are related socio- demographic characteristics included part one (age, educational level, women occupation, Residency, and smoking). While part two include: reproductive status history, previous medical history, The Previous history of gynecological diseases, previous surgical history).

Later part three include: physical domain, Reliability of questionnaire is determined through a pilot study and validity through panel (13) expert's Descriptive statistical analysis and inferential statistical analysis procedures were employed for the data analysis.

RESULTS

Table (1): Distribution of Women According to their Socio-demographic Characteristics

List	Characteristics	f	%	
1	Age (M±SD=29±7)	13 – 17 year	2	5
		18 – 22 year	3	7.5
		23 – 27 year	13	32.5
		28 – 32 year	7	17.5
		33 – 37 year	11	27.5
		38 ≤ year	4	10
		Total	40	100
2	Residency	Urban	29	72.5
		Rural	10	25
		Suburban	1	2.5
		Total	40	100
3	Level of education	Doesn't read & write	3	7.5
		Read & write	14	35
		Primary school	13	32.5
		Intermediate school	6	15
		Secondary school	1	2.5
		Institute/college +	3	7.5
		Total	40	100
4	Occupation	Employee	9	22.5
		Housewife	30	75

		Students	1	2.5
		Total	40	100
5	Smoking	No	36	90
		Yes	4	10
		Total	40	100

F: Frequency, %: Percentage, M: Mean, SD: Standard deviation

This table shows that women are with age 29 ± 7 years in which the highest percentage is refer to 23-27 years (32.5%). It have been found (32.5%) of women are with age group 23 – 27 years, they are read and write as reported with high percentage of 35% and 32.5% of them are graduated from primary school; (75%%) of women are housewives and only 22.5% of them are governmental employee, (72.5%) are resident in urban. The smoking status indicates that only 10% of women are smoking while most of them are not smoking (90%).

Table (2): Distribution of Women According to their Reproductive History

List	Characteristics	f	%	
1	Last menstrual cycle (M±SD=6±2)	1 – 6 weeks	23	57.5
		7 – 12 weeks	17	42.5
		Total	40	100
2	Regular menstrual cycle	Regular	11	27.5
		Irregular	29	72.5
		Total	40	100
3	Gravida	1 – 3	24	60
		4 – 6	13	32.5
		7 – 9	2	5
		10 ≤	1	2.5
		Total	40	100
4	Number of ectopic pregnancy	1	32	80
		2	8	20
		Total	40	100
5	Age of ectopic pregnancy (M±SD=6±2)	3 – 6 weeks	24	60
		7 – 10 weeks	13	32.5
		11 ≤ weeks	3	7.5
		Total	40	100
6	Fallopian tube rupture	No	12	30
		Yes	28	70
		Total	40	100
7	Para	None	4	10
		1 – 3	30	75
		4 – 6	6	15
		Total	40	100
8	Number of lived child	None	4	10
		1 – 3	30	75
		4 – 6	6	15
		Total	40	100
9	Stillbirth	None	37	92.5

		1	3	7.5
		Total	40	100
10	Abortion	None	26	65
		1 – 2	12	30
		4 – 6	2	5
		Total	40	100
11	Mode of previous delivery	None	4	10
		Cesarean section	12	30
		Normal vaginal	20	50
		Normal wit episiotomy	4	10
		Total	40	100
12	Number of previous delivery	None	4	10
		1 – 3	30	75
		4 – 6	6	15
		Total	40	100
13	Use of contraceptive	No	24	60
		Yes	16	40
		Total	40	100
14	Method of contraceptive	None	24	60
		Pills	12	30
		IUD	4	10
		Total	40	100
15	Contraceptive use duration	None	24	60
		1 – 4 years	15	37.5
		5 ≤ years	1	2.5
		Total	40	100
16	History of infertility	No	32	80
		Yes	8	20
		Total	40	100
17	Pills and Injection	No	33	82.5
		Yes	7	17.5
		Total	40	100
18	IUI	No	40	100
		Yes	0	0
		Total	40	100
19	IVF	No	38	95
		Yes	2	5
		Total	40	100

F: Frequency, %: Percentage, M: Mean, SD: Standard deviation

This table reveals that 57.5% of women ceased menstrual cycle since 1-6 weeks ago. 72.5% are showing irregular menstrual cycle. Regarding gravidity, 60% of women are reporting that they have 1-3 gravida and 32.5% have 4-6 gravida. The number of ectopic pregnancy is reported once among 80% and twice among 20% of women. 60% of them are reporting their age of ectopic pregnancy is 3 – 6 weeks. Regarding fallopian tube rupture, 70% of women are reporting that they have rupture of fallopian tube while 30% are not. More of women refer that have 1-3 Para which they are lived children (75%). The stillbirth is referring to one among only 7.5% of women. 30% of them are reporting 1-2 abortion. The mode of previous delivery is referring to normal vaginal

delivery among 50% of women, 75% of women are reporting that they have 1-3 previous delivery. The contraceptive methods are used by 40% of women in which 30% of them are using pills and injection while 10% are using intrauterine device. 37.5% of women are using contraceptive for 1-4 years and 2.5% are using for more than 5 years. Only 20% of women are showing a history of infertility, 17.5% reporting that they use hormonal therapy and only 5% using IVF as treatment of infertility.

Table (3): Correlation between Ectopic Pregnancy and Reproductive Variables of Women (N=40)

Variables	Ectopic Pregnancy	Pearson correlation	p-value	Sig
Regular menstrual cycle		-0.069	0.671	N.S
Gravidity		0.239	0.138	N.S
Parity		0.011	0.945	N.S
Lived children		0.011	0.945	N.S
Stillbirth		-0.182	0.262	N.S
Abortion		0.367	0.020	S
Mode of previous delivery		-0.056	0.730	N.S
Use of contraceptive method		0.083	0.613	N.S

This table indicates that there is significant relationship between ectopic pregnancy and number of abortion among women at p-value =0.020, but there is no significant relationship has been reported among ectopic pregnancy and regular menstrual cycle, gravidity, parity, lived children, stillbirth, mode of delivery, and use of contraceptive.

DISCUSSION

Table 1 shows that the socio-demographic characteristics of women with ectopic pregnancy high percentage (32.5%) of women are with age group 23-27 years old Such finding was supported by the study of Li and others (2014). who found in their study that the highest percentage of women with ectopic pregnancy among (15- 24) years old (50.6%) (6). they are resident in urban are (72.5%), (25%) are resident in rural and only (2.5%) are resident in sub-urban. Non-compliance of pregnant women with prenatal visits to primary care centers to identify the causes and risk factors for ectopic pregnancy due to poor education.

This finding are not agree with study for Negewo and others (2019), who found that most of the sample was resident in Rural 58.2 % (7). With respect to their education, the study findings indicate that most of these women with ectopic pregnancy are Read & write (35%) (Table1). Such result does agree

with a report has indicated that more than half (57.14%) of women with ectopic pregnancy reported Majority of patients had lower educational level (8). With regard to the women's employment, the study has revealed that (75%) of the study sample are Housewife. These finding are supported by the study of (9) who found that most of sample was housewives 55.9 %. High percentage (90%) of women are none smoker such finding was supported by the Li and others (2015), who found in their study that the highest percentage of women with ectopic pregnancy were not smoking (95.31%) (10).

Regarding to their past obstetric history, the study depicts that most of the women with ectopic pregnancy have been to have (1 – 3) gravida, (1 – 3) Para and no abortion (65%). This table reveals that (57.5%) of women ceased menstrual cycle since 1-6 weeks ago. (72.5%) are showing irregular menstrual cycle. Such findings have presented issues relevant

to the latitude of the women past obstetric history. This finding are agree with study for Moini and others (2014).Who found that prior abortions associated with increased risk of ectopic pregnancy ⁽¹¹⁾.

The number of ectopic pregnancy is reported once among 80% and twice among 20% of women, 60% of them are reporting their age of ectopic pregnancy is 3 – 6 weeks. The results of the study showed that the occurrence of most of the ectopic pregnancy was the woman's first pregnancy. This finding is not agreed with study for Taran et al., 2015. Who found that most commonly diagnosed of ectopic pregnancy in the 6th through 9th week of gestation ⁽¹²⁾.

In terms of women's delivery histories, According to the results, the majority of pregnant women have a normal vaginal delivery (50%), and Cesarean section (30%). Most Number of previous deliveries is (1 – 3; 75%). This study agrees with study ⁽¹³⁾. Who found that previous cesarean section may can risk factors to ectopic pregnancy.

The contraceptive methods are used by (40%) of women in which (30%) of them are using pills while 10% are using intrauterine device. (37.5%) of women are using contraceptive for 1-4 years and (2.5%) are using for more than 5 years. According to the results

REFERENCES:

1. Creanga, A. A., Shapiro-Mendoza, C. K., Bish, C. L., Zane, S., Berg, C. J., & Callaghan, W. M. (2011). Trends in ectopic pregnancy mortality in the United States: 1980–2007. *Obstetrics & Gynecology*, 117(4), 837-843.
2. Lee, R., Dupuis, C., Chen, B., Smith, A., & Kim, Y. H. (2018). Diagnosing ectopic pregnancy in the emergency setting, *Ultrasonography*, 37(1), 78.
3. Bello, O. O., & Akinajo, O. R. (2018). A 10-year review of ectopic pregnancy at university college hospital, Ibadan Nigeria, *Glob J Med Res*, 18, 7-11.
4. Fernandez, H., Capmas, P., Lucot, J. P., Resch, B., Panel, P., Bouyer, J., & GROG, (2013). Fertility after

of the study, the use of contraceptives was not a major cause of ectopic pregnancy. Such result does agree with a report has indicated that Previous use of oral contraception was associated with a decreased risk of ectopic pregnancy. In contrast, previous use of an intrauterine device was associated with an increased risk of ectopic pregnancy ⁽¹⁴⁾.

The results of the study show that there were a small percentage of women who had an ectopic pregnancy who had been infertile in the past. This finding are not agree with study for Sivalingam, and others (2011), who found that assisted reproductive technology (ART) risk factors ectopic pregnancy) ⁽¹⁵⁾.

CONCLUSION

There is a correlation between incidence of ectopic pregnancy and previous history of pregnant.

RECOMMENDATIONS

1. Encourage women to commitments in regular visits to primary health care centers to detecting and screening ectopic pregnancy early.
2. Providing health education to pregnant women during their visits about the causes and risk factors of ectopic pregnancy.

ectopic pregnancy: the DEMETER randomized trial. *Human Reproduction*, 28(5), 1247-1253.

5. Hendriks, E., Rosenberg, R., & Prine, L. (2020). Ectopic pregnancy: diagnosis and management. *American family physician*, 101(10), 599-606.
6. Li, C., Meng, C. X., Zhao, W. H., Lu, H. Q., Shi, W., & Zhang, J. (2014). Risk factors for ectopic pregnancy in women with planned pregnancy: a case-control study. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 181, 176-182.
7. Negewo, A., N., Feyissa, G., T., Diriba, G., Gameda, D., H., and Kebede, A., (2019). Prevalence and Management Outcome of Ectopic Pregnancy in Adama Hospital Medical College, East Shoa Zone,

- Oromia Region, Ethiopia, *EC Gynaecology* 8.9 (2019): 844-850.
8. Mahmood, M. K. (2019). Ectopic Pregnancy; Causes and Management in Kerbala Maternity Hospital, *Karbala Journal of Medicine*. 12(2), 2245-2250.
 9. Thonneau, P., Hijazi, Y., Goyaux, N., Calvez, T., & Keita, N. (2002). Ectopic pregnancy in Conakry, Guinea, *Bulletin of the World Health Organization*, 80, 365-370.
 10. Li, C., Zhao, W. H., Zhu, Q., Cao, S. J., Ping, H., Xi, X., ... & Zhang, J. (2015). Risk factors for ectopic pregnancy: a multi-center case-control study. *BMC pregnancy and childbirth*, 15(1), 1-9.
 11. Moini, A., Hosseini, R., Jahangiri, N., Shiva, M., & Akhoond, M. R. (2014). Risk factors for ectopic pregnancy: A case-control study. *Journal of research in medical sciences: the official journal of Isfahan University of Medical Sciences*. 19(9), 844.
 12. Taran, F. A., Kagan, K. O., Hübner, M., Hoopmann, M., Wallwiener, D., & Brucker, S. (2015). The diagnosis and treatment of ectopic pregnancy, *Deutsches Ärzteblatt International*, 112(41), 693.
 13. Petrides, A., Dinglas, C., Chavez, M., Taylor, S., & Mahboob, S. (2014). Revisiting ectopic pregnancy: a pictorial essay, *Journal of clinical imaging science*, 4.
 14. Bouyer, J.; CosteJoel, J.; Taraneh, C.; Shojaei, S. and Job-Spira, N. (2013). Risk Factors for Ectopic Pregnancy: A Comprehensive Analysis Based on a Large Case-Control, Population-based Study in France, *American Journal of Epidemiology*, 157(3), pp. 185-194.
 15. Sivalingam, V. N., Duncan, W. C., Kirk, E., Shephard, L. A., & Horne, A. W. (2011). Diagnosis and management of ectopic pregnancy, *Journal of Family Planning and Reproductive Health Care*, 37(4), 231-240.