

Study of Abortion and Risk Factor of Abortion

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ABSTRACT

The overall miscarriage rate is 10-20% of recognized pregnancies as recorded by hospital episode statistics. Common risk factors include increased maternal age, obesity, numbers of previous abortion, pre – existing medical condition and anatomical abnormalities of the reproductive system.

Results of study: show that most of cases of abortion occur in the 1st 13 weeks of pregnancy (1st trimester 75.62%). The most common type of abortion is missed abortion (about 53.12%), mainly in the 1st trimester of pregnancy. This may be due to chromosomal abnormalities of fetus. Regarding the number of previous cases of abortion, the study shows relative relationships between previous & current abortion cases, about 47.5% of cases of abortion have history of one, two or more abortion, and about 47.5% of cases of abortion in the current study are of unknown causes and 52.5% of cases are of known causes. In the current study, most abortion cases occur in age group between 18 – 40 years (about 90.62%). This result is opposite to the result of the study done in Paris, France. The current study revealed that the study sample was mostly from urban areas (about 90%) and that abortion is not related to education or occupation.

Aim of study: the study aims at studying abortion and risk factors of abortion in Mosul city.

Method: It is across section study of abortion and risk factor of abortion in Mosul city. Samples were collected from Al. Mosul General hospital, Al – Salaam General hospital and Al – Aqsa primary health care centre and Al Zohoor primary health care centre. The study took a period of 6 months from 5th of may 2019 to 30th of October 2019A sample of 160 pregnant women were collected and documented by pregnancy test or by ultrasound. Exclusion criteria are those pregnant with ectopic pregnancy, hydati form pregnancy or women with twin pregnancy.

INTRODUCTION

Termination of pregnancy before 20 week gestation was calculated from the date of onset of last menses. An alternative definition is the delivery of a fetus with a weight of less than 500 g – If abortion occurs before 12 week gestation, it is called early, and from 12 to 20 week it is called late abortion (2,8). Abortion occurs in approximately (10-20) of all clinical pregnancies. The risk of miscarriage increases with increasing maternal age; miscarriage occurs in 21 % of pregnancies at the age of (35-40) and increases to 41 % above the age of 40. Most abortion cases (80 %) are diagnosed between (8-12) weeks, with the risk of miscarriage decreasing as gestational age increases.^(7,11) Types of abortion are Threatened Abortion in which woman may experience vaginal bleeding or other signs of miscarriage, but loss of the pregnancy has not yet occurred.⁽⁵⁾ There is some vaginal bleeding but the cervical os is closed and ultrasound reveals a viable intrauterine pregnancy⁽¹⁾. Incomplete abortion in which There is heavy and increased vaginal bleeding, intense lower abdominal pain and passage of some products of conception⁽⁴⁾. Other type of abortion is Complete abortion, it is complete” products of conception have been passed⁽⁸⁾. Inevitable abortion.

It refers to the presence of an open internal os in the presence of bleeding in the first trimester of pregnancy, most often the conception products are not expelled and intracervical contents are present at the time of examination^(2,9). Inevitable abortion should not be treated with strategies to prevent miscarriage, support for miscarriage completion should be provided⁽³⁷⁾. Missed abortion, fetus has not yet been form or has died but the placenta and embryonic tissues are still in the uterus⁽¹⁴⁾, the ultrasound scan may reveal that the baby has no heart beats, or that the baby is too small for the date of pregnancy⁽¹⁵⁾. Septic abortion It is an infection of the placenta and fetus (products of conception) of a previable pregnancy

⁽⁶⁾. Recurrent abortion It is defined as 3 consecutive pregnancy losses prior to 20 weeks from the last menstrual period. It affects approximately 1 % to 2 % of women⁽¹⁰⁾, the incidence of recurrent pregnancy loss should be approximately 1 in 300 pregnancies – Epidemiologic studies have revealed that 1 % to 2 % of women experience recurrent pregnancy loss^(11,15). The best available data suggest that the risk of miscarriage in subsequent pregnancies is 30 % after 2 losses, compared with 33 % after 3 losses among patients^(19, 20). Blighted ovum It is missed abortion in which embryonic development stopped before the embryonic pole was visible.

The gestational sac may continue to grow. It is also called an embryonic pregnancy^(16, 21). Induced abortion It is the termination of pregnancy before it reaches the time of viability which is an elective procedure to safe guard mother's health⁽²²⁾. Chemical pregnancy A chemical pregnancy occurs when an egg is fertilized but never implanted in the uterus, the fertilized egg signals the body to begin making HCG (human chorionic gonadotropin, sometimes commonly referred to as the pregnancy hormone), which can result in an early positive pregnancy test even three to four days before a women first missed period^(12,27). Unfortunately, because the egg fails to develop and implant properly, no clinical evidence (such as a gestational sac or placenta) would be found on an Ultrasound examination, and the pregnancy is not viable^(7, 29). Etiology of abortion in the first trimester the most common causes of abortion is chromosomal abnormality (50 – 60 %)⁽²⁴⁾.

In the second trimester abortion is commonly due to an incompetent cervix⁽²⁵⁾. Other potential causes of miscarriage include Fetal malformation, e. g neural tube defects, Uterine structural abnormalities like uterine septum, Ashermans syndrome, fibroids⁽²³⁾. other cause of abortion are Chronic maternal health factor like Thrombophilia, Antiphospholipid syndrome, SLE, PCOS, Poorly controlled Diabetes mellitus, Thyroid dysfunction. Active infection Includes Rubella, CMV, Herpes simplex virus, Listeria infection, Toxoplasmosis, Parvovirus B19⁽¹⁸⁾. Latrogenic Causes like Amniocentesis, Chorionic villus sampling. Social factor like Tobacco, Alcohol, Cocaine⁽²⁶⁾. Other risk factor of abortion are Exposure to environmental toxins, Advanced Paternal age, Hormone imbalance, High Fever, Taking certain drugs during pregnancy and Obesity^(13,28). Diagnosis of abortion By History, Examination, and ultrasound finding. History of Amenorrhea, Vaginal bleeding (details regarding quantity and pattern) +/- syncope (indicating significant blood loss), Cramping abdominal pain, Passage of any fetal tissue, Fever means septic miscarriage^(17,44). Examination, Threatened abortion mild abdominal tenderness and closed non tender cervical os, Inevitable abortion more abdominal tenderness dilated cervical os,

In complete abortion severe abdominal tenderness with heavy vaginal bleeding and dilated cervical os, complete abortion no abdominal tenderness and closed non tender cervical os, Septic abortion high fever with severe abdominal tenderness and very tender cervix, Missed abortion no abdominal tenderness, uterus size less than expected and closed cervical os^(3,31). Differential Diagnosis to perform pregnancy testing for every women of child bearing age present with lower abdominal pain. Vaginal bleeding, or both. History alone is not sufficient to exclude pregnancy. Pregnancy is possible even if the patient gives a history of arecent normal menstrual period, Lactation or conceptive use^(16, 18).

Rule out ectopic pregnancy. An ectopic pregnancy must be excluded in every pregnant woman with abdominal pain, vaginal bleeding, or both during the first or second trimester⁽⁹⁾. Management of abortion include Prehospital care for patients with suspected abortion complication⁽³²⁾, Medical management of abortion generally involves either a combination regimen of mifepristone and misoprostol or amisoprostol – only regimen⁽¹⁹⁾. Medical abortion care reduces the need for skilled surgical abortion providers and offer anon - invasive and highly acceptable option to pregnant individuals⁽³³⁾. Surgical Management of abortion Dilation and evacuation are a surgical abortion procedure performed during the first 6 to 16 weeks gestation. The procedure usually lasts 10 – 15 minutes, but recovery can require staying at the clinic for a few hours^(34,35).

RESULTS

Table1: distribution of study population according to Gestational age

Gestational age	Cases n=160	
	No.	Percentage %
1 st trimester	121	75.625
2 nd trimester	39	24.375

Table 1: This table shows that cases of abortion occur most commonly at the 1st trimester (<13 weeks of gestation) of pregnancy (about 75.62%). In the second trimester abortion rate is about 24.375%

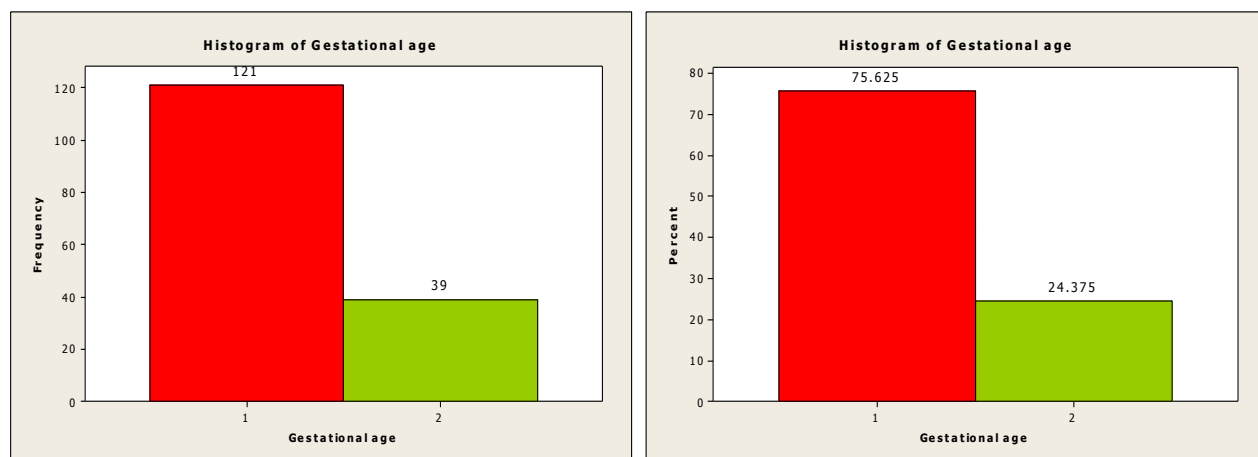


Figure1: distribution of study population according to Gestational age

Table2: distribution of cases according to Types of Abortion

Types of Abortion	Cases n=160	
	No.	Percentage %
Missed Abortion	85	53.125
Complete Abortion	13	8.125
Incomplete Abortion	23	14.375
Threatened Abortion	24	15
Recurrent Abortion	12	7.5
Induced Abortion	1	0.625
Blighted Ovum	2	1.25

Table – 2: This table shows that the most common type of abortion in our Locality now is missed abortion (53.125%) which mainly occurs in the 1st trimester which may be due to chromosomal abnormalities of fetus.

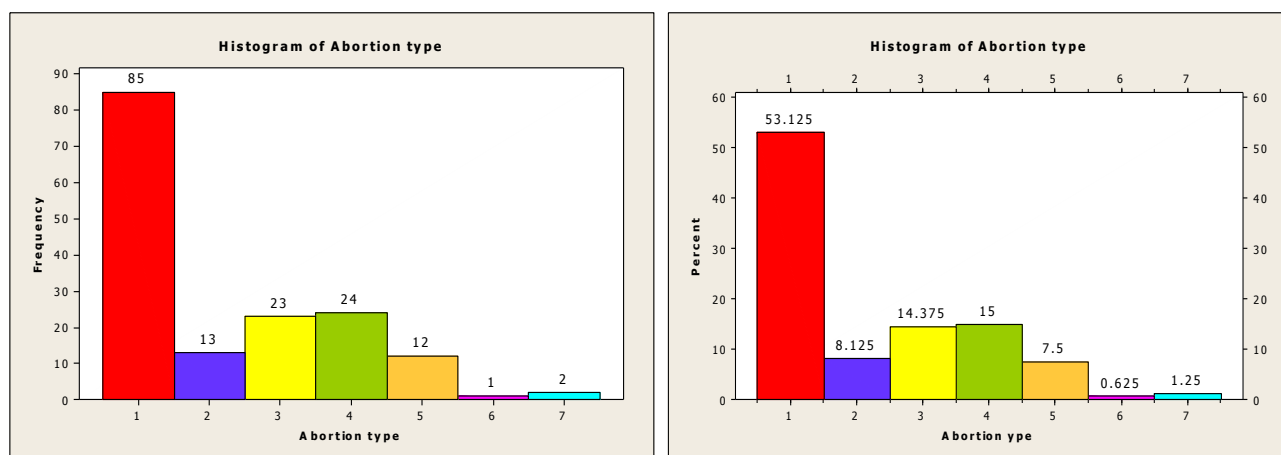


Figure2: distribution of study population according to Abortion types

Table3: distribution of cases according to No. Previous Abortion

No. Previous Abortion	Cases n=160	
	No.	Percentage %
0	84	52.5
1	41	25.625
2	19	11.875
3+	16	10

Table – 3: This table shows that 52.5% of cases have no history of previous abortion, 25.625% of cases have history of previous 1 abortion, 11.875% of cases have history of previous 2 abortion and 10% of cases have history of previous 3 abortion. This means that about half of the cases have no history of abortion, and half of the cases have history of previous 1, 2 or 3 abortion.

Table4: distribution of cases according to Etiological Factor

Etiological Factor	Cases n=160	
	No.	Percentage %
Unknown	76	47.5
Cervical Incompetence	14	8.8
TORCH	8	5.0
Male Factor	12	7.5
Severe Anemia	6	3.8
Thyroid disease	3	1.9
D.M.	7	4.4
Stress	6	3.8
Fever	6	3.8
Hormonal Insufficiency	10	6.3
Uterine Septum	2	1.3
H.T.↑	8	5.0
Toxin	2	1.3

Table – 4: This table shows that 47.5% of the cases of abortion have no significant cause , while 52,5% of the cases have different causes of abortion, but the most common causes are cervical incompetence (about 8.8%) and male factor (7.5%).

Table5: distribution of cases according to Age of Patient

Age of Patient	Cases n=160	
	No.	Percentage %
<18	8	5
>18 &<40	145	90.625
>40	7	4.375

Table – 5: This table shows that there is no association between (age > 40 < 18) with abortion rate. Abortion rate is more between 18 years and 40 years of age (about 90.625%).

Table6: distribution of Demography

Parameters	Cases n=160	
	No.	Percentage %
Urban	144	90.0
Rural	16	10.0
Employee	21	13.125
Housewife	138	86.25
Student	1	0.625
Illiterate	5	3.125
1ry School	57	35.625
2dry school	70	43.75
High Education	28	17.5

Table – 6 This table shows that abortion rate is more in urban areas (90.0%) than rural (10.0%). Abortion rate is less in higher education than 1ry 2ndry school (about 17.5%).

DISCUSSION

Abortion is a common pregnancy complication that affects women. The majority of recurrent pregnancy Loss cases following investigation are classified as idiopathic. It is generally accepted that within the idiopathic group there is considerable heterogeneity and it is unlikely that one single pathological mechanism can be attributed to their recurrent pregnancy lost history^(40,42). Fortunately the prognosis for early pregnancy loss is still excellent. After one complete abortion no sensible increased risk exists for another one. Patient need reassurance (Tender loving care) with subsequent pregnancies proven an effective therapy in some studies. This approach, includes early quantitative human chorionic gonadotropine (HCG) level and ultrasound weekly, after the (HCG) threshold reached, with more frequent visits available if needed for reassurance^(42,43). About 75.625 % of the study samples were at gestational age below 13 weeks (1st trimester). This goes with the fact that the majority of abortion occurs early before 13 weeks gestation while 2nd trimester loss between 13 and 20 weeks occurs less frequently (24.375% of abortion)⁽¹⁾.

This agrees with other study^(22, 40). Most of them represent failure of implantation and the rate of clinical pregnancy Loss is known to decrease with gestational age from 25% at 5-6 weeks to 2% after 14 weeks⁽²²⁾. In this study about half of the cases of abortion are missed abortion (53.125%), which means that the most common type of abortion in our locality is missed abortion, which is higher than other study 15 – 20 %^(29,31). This increased rate of missed abortion may be due to increased pollution of war, stress and marriage of relatives that increases risk of chromosomal anomalies. Having one missed abortion doesn't increase your odd of having a future abortion.

If this is your first miscarriage, the rate of having a second miscarriage is 14%. If you've had two miscarriages in a row, your doctor might order follow up testing to see if there is an underlying cause⁽⁴⁵⁾. Regarding the number of previous abortion cases the study results show that (about 47.5 % of cases) have history of previous one, two, three or more abortion and it goes with other study^(13, 30, 36). This increased risk may be attributed to that this woman with history of abortion may still have the same risk factor for abortion or they may have same chromosomal abnormalities. About 47.5% of cases of abortion in the current study are of unknown causes and 52.5% of cases are of known causes. The study shows that uterine anomalies (cervical incompetence and uterine septum), are the most common cause of abortion in those with known cause of abortion about 10.1%. This result has been shown also by other study^(25, 45).

This may be explained by the fact that cervical incompetence allows easy passage of product of conception through incompetent cervix. TORCH infection account for (about 5%). Unlike other study^(27, 34). This difference in result may be due to that TORCH epidemiology depends on the geographic area and immunization and as the current study cases were mostly from urban areas where they are health educated to Toxoplasmosis and don't eat from the farm or row vegetables. This study shows that 7.5 % of cases of abortion due to male factor Recent studies by shamsiet have shown that sperm DNA damage is correlate with early pregnancy loss. There are several causes of DNA damage, main causes among these are oxidative stress, high temperature, smoking, drugs and varicocele⁽⁴⁷⁾. Regarding hypertension as a risk factor of abortion account for about 5% of cases of abortion unlike other study⁽⁴⁶⁾. Hormonal insufficiency about 6.3% of abortion cases this goes with other study^(38,41).

This is due to that progesterone hormone is necessary for implantation and it enhances blood flow and oxygen delivery. In the current study most abortion cases occur in the age group between 18-40 years (about 90.62%). This result is opposite to the result of a study^(14,15). This difference in result revealed the fact that most women in the current study are 18-40 year old by chance, most women are aware of the risk of pregnancy above 40 so they don't get pregnant above this age and most of women complete their family before age of 40. The current study revealed that the study sample was mostly from urban areas (about 90%). This result has been shown by other study.⁽³²⁾

This may be due to that women from rural areas may get aborted at home without consulting a doctor or visiting a hospital and in our locality Demographic changes of distribution in which most population change their residence from rural to urban areas. The current study shows that the study sample was mostly (86.25%) housewives mainly of 2ry school education 43.75 % this goes with other study^(32,39). This result may be due to that in our locality females mostly reach 2ndry school in their education and mostly they are house wife.

CONCLUSION

Most abortion occur in 1st trimester and that the most common type of abortion is missed abortion. About half of the cases of abortion have history of previous one, two or three abortion. More than half of cases of abortion are of known cause and the most common cause is cervical incompetence and male factor. Abortion most commonly occur in urban areas. There is no relation between education, occupation with abortion.

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