



The Association between Some Demographic Characteristics and the Types of Miscarriage among Women in Rania City

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ABSTRACT

Background: Miscarriage or spontaneous abortion is one of the prevalent adverse reproductive outcomes, which seriously threatens maternal health around the world. Some demographic features might associate with an elevate risk of spontaneous miscarriage which include cervical incompetence, infection, previous history of miscarriage, maternal passive smoking, age, and body weight.

Objectives: The current study was carried out in order to investigate the association between socio-demographic characteristics of women undergoing miscarriage and their risk for spontaneous miscarriage in Rania city.

Methodology: Quantitative design, a descriptive cross-sectional study was performed to assess the types of miscarriage and associated factors among women in Rania City. Samples of the study are Non probability purposive of (158) sample who attend Rania maternity and pediatric teaching Hospital. Besides two participants induced miscarriage were excluded. The data were collected from 1st June to 15th August 2022 through the utilization of construct questionnaire, data were collected by interview technique face to face approach of the study samples.

Results: The study illustrate socio-demographic characters of miscarried women, the average age was 34.6 years and majority of them have diploma qualification (27.8%), and (61.4%) were house wife, also (48.7%) were in sufficient level of income, furthermore most of the study sample were in normal weight include (50.6%) while only (2.5%) were under weight, (38.6%) of samples were in passive cigarette of smoking, moreover the samples' weight and smoking cigarette associated to miscarriage ($P=0.022$), ($P=0.003$) respectively.

Conclusion: The present study concluded that most common factor where associated with miscarriage was related to sociodemographic features. Excessive focusing on cigarette smoking exposure and maternal weight. Regarding the results of this study, mother's demographic had relationship to miscarriage.

Keywords: miscarriage, associated factors, socio-demographic characteristics.

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INTRODUCTION

Spontaneous abortion, also known as miscarriage, is defined as the loss of pregnancy less than 20 weeks gestation. The American College of Obstetricians and Gynecologists (ACOG) estimates it is the most common form of pregnancy loss (Dugas & Slane, 2021). The early pregnancy loss (EPL) is estimated to occur in approximately 15% of recognized pregnancies. It can have negative consequences both physically and psychologically. Physical complications can include infection, hemorrhage, embolism, damage to uterus and associated structures, and anaesthetic complications. Psychological complications such as grief, depression and anxiety are common (Quenby et al., 2021). and it can be suggested that developing countries, including India, Bangladesh, Kurdistan/Iraq also are still racing towards Spontaneous abortion (miscarriage) defined as; loss of a pregnancy prior to 24 weeks' gestation, on other hand, WHO guideline in 2021 The recommended medical term for pregnancy loss under 20 weeks is 'miscarriage' in both professional and direct care contexts. The term 'abortion' should not be used (Organization, 2017).

Complete or spontaneous miscarriage Missed/silent miscarriage, Delayed miscarriage (includes previously used and now abandoned terms such as blighted ovum/anembryonic pregnancies and missed abortions), Late miscarriage, these are the types of miscarriages (Linnakaari et al., 2019). Pregnancy loss is common with approximately one-third of conception sending in a loss, and signs and symptoms include vaginal bleeding, lower abdominal cramping, nausea and vomiting (Sapra et al., 2016).

Besides genetic and demographic factors, spontaneous miscarriage can also be attributed to acquired and environmental factors, many of which are modifiable (Quenby et al., 2021). Cigarettes contain hundreds of toxic substances such as nicotine, cotinine, etc... these substances could rapidly cross the placenta, accumulate and

metabolize in the fetus, causing up to twice the concentration of cotinine on the fetal than on the maternal side and threatening the developing fetus evidence from human observational studies of the association between spontaneous abortion and active smoking is more conclusive, yet studies concerning passive smoking are fewer, results are inconsistent, and most were performed in Western countries. In China, the prevalence of passive smoking for non-smoking women was considerable, reaching around 40% in the workplace, 51% in the home and even 76% (McDonnell et al., 2017).

Both induced and spontaneous is due to various factors like socio-demographic characteristics such as age, education, and family income as well as due to individual health and occupational status (Santos et al., 2016). Women with lower socio-economic status are at higher risk of miscarriage the main reason was unplanned pregnancy. In addition, another factor that associate to miscarriage in this study illustrate is the obesity is a main health problem in low- and middle-income countries (LMICs) and was associated with miscarriage. the association between miscarriage with women body mass index (BMI) and determined that presence of significant interpreters of underweight and obese among miscarriage. Nevertheless, these studies in developed countries were shown. There is no topical study in low- and middle-income countries that measure the influence of women BMI on miscarriage in (Cavalcante, Sarno, Peixoto, Araujo Junior, & Barini, 2019). the aim of this research paper tends to assess the Sociodemographic characteristics (age, occupation, level of education...) of the study samples. and to impact of some sociodemographic characteristics; such as passive smoking and body mass index on spontaneous miscarriage.

AIMS OF THE STUDY

The current study was carried out in order to investigate the association between socio-demographic characteristics of women undergoing miscarriage and their risk for spontaneous miscarriage in Rania city.

METHODOLOGY

Design of the study: Quantitative design, a descriptive cross-sectional study was conducted to find out the relationship between women sociodemographic data and type of miscarriage among women in Rania city which performed in February to October 2022.

Settings of the study: The present study was carried in Kurdistan region, at Rania Maternity and pediatric teaching Hospital. and private clinics from Rania city. In maternity department I was taken some cases from delivery unit and ward.

The sample of the study: Non probability purposive of (158) sample who attend Rania maternity and pediatric teaching Hospital after agreement of participants to include in recent study. While two induced women were excluded in part association between variable just women with spontaneous miscarriage analyzed.

Inclusion criteria:

1. Women's who presented miscarry both in prime and multi gravida and those who have a history of miscarriage.
2. Any nation.
3. sample who admitted at Rania maternity teaching Hospital and maternity private clinic, after taking permission to participate in the study.

Exclusion Criteria:

1. Pilot study cases.
2. Incomplete forms.
3. Mis-diagnosed with ectopic pregnancy, blight ovum and still birth cases

The study tools: For the purpose of the present study, a questionnaire based on intensive review of literature will be construct by researcher which consist of four parts, 1st part demographic characteristics of the study sample, and 2nd part obstetric history include; pregnancy status, family planning, and the 3rd part deal with the information related to miscarriage and the associated factors. Also, the types of questionnaire form by yes, no question and multiple-choice the content Validity of the questionnaire will be conducted through a panel of expert's selection.

Data collection methods and Statistical analysis:

The data would be collected through the utilization of construct questionnaire, by interview technique with study samples and there medical chart information's. and the data were analyzed with Statistical Package for the Social Sciences (SPSS) version (25). Descriptive statistics such as frequency, percentage, mean, and standard deviation were used to describe the sample characteristics; also, inferential statistics chi-square was used to find association between variable. A ($p > 0.05$) reveal of statistical significances. and association between maternal body mass index, passive smoking associate with miscarriage. Also, Chi-square test was used to associate the level of knowledge and socio-demographic characteristics.

RESULTS

Demographic Characteristics of the women's:

There were total of 158 miscarried women included in this study result that indicated in subsequent figure (1): (women aged from 18 to 50 years) the average age of the women was 34.6 years, Std. Dev. \pm 6.84. The recent study found that association some sociodemographic features related to miscarriage. Regarding the analysis of the data in 158 samples women half of them (52) participants in 40 years of age it is mean the highest proportion in age 40 and mean of the age was in 34 years.

The data about result of mother's sociodemographic features presented in Table (2); represented by blood group in frequency was type O+ by 54 cases, (34.2%) of the study samples. Also, the (A+) blood type in the second by 38 cases (24.1%), while only 5 case (3.2%) those in B- group. Furthermore, it was identified that near to the majority (79.8%) of them were educated with at least primary level education, while they are house wife. In terms of residency. more than half were living in urban; in addition, high proportion of study sample shows financial status nearly had a sufficient (48.7%), and barely sufficient (44.3%) respectively. also, most of them are non-relative with her husband 77.2%. the final items about body mass index (BMI) the weight Hight was checked by the researcher maximum range (50.6%) was normal weight.

Association of maternal BMI and smoking cigarette on spontaneous miscarriage:

As it shown in table (3) the result evidenced that there was statistically significant association between type of mischarge and body mass index of maternal with ($P=0.02$).

Association of smoking on miscarriage:

The chi-square analyses revealed that there were statistically highly significant association was found between smoking and type of miscarriage (p -value=0.01). there is demonstrate significantly associated with miscarriage.

DISCUSSION

Miscarriage is usually a distressing experience for couples who have had miscarriages. Women and their partners have uncertainties about the cause of miscarriage (etiology), the tests required (diagnosis), and treatments that could prevent a miscarriage (NICE, 2021).

The researcher has question about which associated those factors are common for a woman with miscarriage. there are many factors affect pregnancy loss, Also the main purpose of this study was to determine whether a maternal BMI and

smoking status could associate with miscarriage in Rania city among women.

The participants in this study 156 women have had history of miscarried and current visit to maternity hospital in Rania city, Kurdistan region/ Iraq, baseline sample's characteristics of women among was interviewed. analysis the results of this study, identified that the age accounted for mean age of thirty-four years. Moreover, the chart presented the highest proportion of miscarriage frequency between thirty-six and forty years of age. Specifically, miscarriage in advanced age. then lowest frequency in age between eighteen to twenty years about educational level near to half of women were institute graduated while the majority of women were house wife There might be due to social, cultural or personal beliefs to prevent women's to work in out, and also more than half of them live in urban. However, in developing countries the high proportion of unemployed because of the governmental has not support citizens by providing opportunities. This may have negative effect on psychological and physical impact.

On other hand, The distribution of sociodemographic characteristics of study samples are, classify to eight items and each one consists of some categories such as; blood group; the highest frequency in blood group O+ of the study samples. Also, the blood group (A+) in the second level of the frequencies, Otherwise, Ali Mohammed, study done in Ahvaz medical college in Iran, about the frequency of blood group AB was the lowest one. Then In another study was performed by (Mahmud, Nagat, & NURI, 2020).in the Libya country from Derna city the most common blood group was O+ that is agree with current study. In addition, this finding was in agreement with a study done which showed that almost all understudied maternal socio-demographic variables were significantly associated with spontaneous abortion (miscarriage) in Ghana (Alhassan, 2021).

Regarding to weight of the study sample result in the recent study revealed that high proportion of respondent include more than half were in normal weight while smallest portion was in underweight furthermore, nearly less than half of them was overweight and obese, different types of unhealthy weight in this area could be due to genetic and environmental factors also life style such as lack of exercise and imbalance of diet. The researcher had opportunity to be involved with the participants recruited into this study by performed the evidence on maternal weight and height were collected using digital scale for weighing is a standard scale for clinical measurement to collect information about height and weight of maternal scale respectively. This information was used to compute maternal BMI. The researcher used the Asian specific BMI cut-offs were used by researcher to make weight into categorize involving BMI 18.5–22.99 kg/m² was normal, less than 18.5 kg/m² underweight.

Regarding cigarette smoking distribution among study sample results demonstrate that least of respondents were active smoking and less than half of them were in passive also more than half of them were nonsmoking this small rate just (3) women of active smoking greatest factor might be due to our religion, culture and good information about adverse effect of cigarette smoking and prevention of self-harm in any way.

According to result of the article review done under titled; Miscarriage and Associated Factors: A Hospital Based Cross-Sectional Study in Bangladesh identified the relationship between various sociodemographic variables and miscarriage, and the second part was binary logistic regression analysis which shows the risk of several selected socio-demographic variables on the experience of miscarriage (A, 2021).

Conferring to weight of the study participants results revealed that the most of samples had normal weight, while overweight and obese women were less as well as but having significant association with a

risk of miscarriage was improved. The study presented by (Ghimire, et al 2020) about the reasons of modifiable behavioral affecting fetal viability as destructively. Which studied the association among miscarriage and mothers' weight and high. Inanition, obese and underweight were vital predictors of miscarriage concluded that presence. Still there are remains slight experimental suggestion accessible on the impact of mother BMI on fetal viability in resource-poor countries such as Kurdistan/Iraq. miscarriage is relatively understudied. and Body mass index has a main effect on female fertility particularly pregnancy difficulties. This might describe the variance observed in gestational loss between the over-all population and females who obese. The existing paper study examines the association between miscarriage and BMI among reproductive aged women (18–50 years) in Rania city. Results from current study show strong significant association between pregnant women BMI and types of miscarriage in which nearly half of them with overweight had miscarriage with different types and small proportion of underweight women. That is caused by malnutrition or women has taken insufficient amount of foods it is necessary to support healthy pregnancy. also, presented with variety types involving: incomplete, missed, recurrent, and complete. While, normal weight is also supposed to miscarriage. it might could be due to large number of normal weights participated in analysis or may other factors rather than weight for instance they may be had antiphospholipid syndrome, chronic disease, and advance maternal age lead to occurrence miscarriage.

Another difference across studies is BMI of miscarriage. the study by (Zheng et al., 2022) established there are no important effect of weight and high on the chance of pregnancy loss, rises the risk of miscarriage increased by either both obesity and overweight. Underweight is associated with lower risks of miscarriage. Overweight impairs both maternal and neonatal consequences. this study included No significant effect of BMI on miscarriage

was investigated of the women with dissimilar BMI categories. In contrast, these studies showing there was high range of miscarriage rate in the normal-weight women compared with the overweight women. BMI had effects on both neonatal complications and mothers.

The result of association of smoking and miscarriage showed the highly significant associations. While passive smoking was prevalent, and none smoker as well as over half of participants demonstrating that they were in environment exposed to smoking. most studies agree with this result. In study performed by (Lin et al., 2022) demonstrated Significant differences ($p < 0.05$) were observed between spontaneous abortion cases and controls with regard to, passive smoking and BMI in China. furthermore according to findings of this investigation was similar to the study results (Lin et al., 2022) that explored the association between maternal passive smoking, risk of spontaneous abortion. The findings indicated a dose-response relationship of incremental risk of spontaneous miscarriage with rising degree of combined exposure to passive smoking. study found that there was an association between maternal exposure to passive smoking and an elevated risk of spontaneous abortion. This result was consistent with another case-control study in China that showed a rising risk of unexplained recurrent spontaneous abortion for passive smokers.

CONCLUSION

The most common factor that is associated with miscarriage was related to sociodemographic features. regarding the results of the study maternal BMI and passive smoking associated to miscarriage. Additional study is required to found how spontaneous miscarriage is linked to women's the mechanisms underlying these association and long-standing well-being.

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TABLES AND FIGURE

Figure (1): Distribution of age with frequency, the bar chart illustrated the highest frequency in age 40 and lowest frequency in age 18-20 years also the mean of age in 34 years.

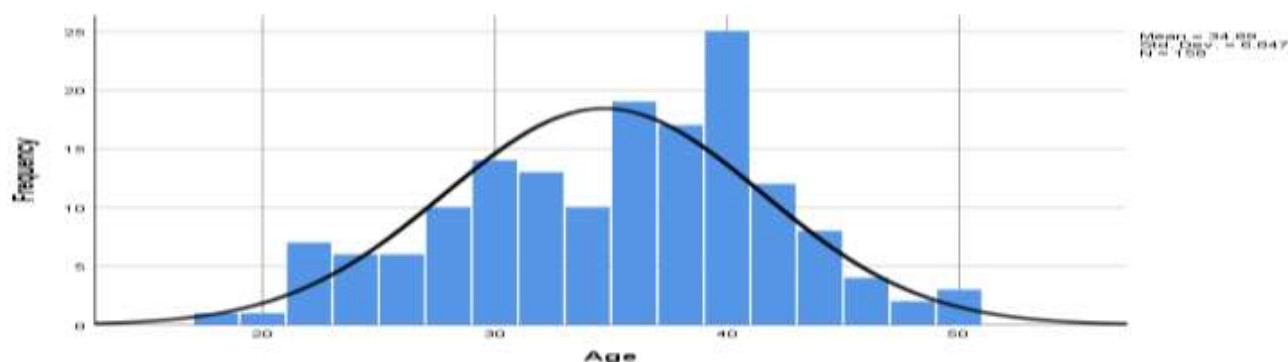


Table (1): Distribution of sociodemographic characteristics of study samples.

Blood group	Frequency	Percent %
O-	7	4.4
O+	54	34.2
A-	15	9.5
A+	38	24.1
B-	5	3.2
B+	19	12.0
AB-	8	5.1
AB+	12	7.6
Total	158	100.0

Level of education	Frequency	Percent %
unable to read and write	23	14.6
able to read and write	4	2.5
primary school graduation	35	22.2
Secondary school graduation	33	20.9
Institute graduation	44	27.8
University graduation	17	10.8
post-graduation	2	1.3
Total	158	100.0
Residential area	Frequency	Percent %
Urban	91	57.6
Rural	17	10.8
Suburban	50	31.6
Total	158	100.0
Occupational Status	Frequency	Percent %
Governmental employee	38	24.1
Non-Governmental employee	10	6.3
House wife	97	61.4
Student	3	1.9
Self-job	8	5.1
Jobless	2	1.3
Total	158	100.0
Financial Status	Frequency	Percent %
Sufficient	77	48.7
Barely sufficient	70	44.3
Insufficient	11	7.0
Total	158	100.0
Kinship	Frequency	Percent %
Relative	36	22.8
Non-Relative	122	77.2
Total	158	100.0
BMI	Frequency	Percent %
under weight	4	2.5
normal weight	80	50.6
Overweight	50	31.6
Obese	24	15.2
Total	158	100.0
Smoke cigarette	Frequency	Percent %
Active	3	1.9
Passive	61	38.6
None	94	59.5
Total	158	100.0

Table (2): Association between types of miscarriage with BMI and cigarette smoking among samples

Variable	Threatened	inevitable	complete	Incomplete	missed	septic	Recurrent	Total	P-value
under weight	0	0	0	1	1	0	2	4	0.022 (S)
normal weight	15	1	13	19	20	1	10	79	
Overweight	8	8	11	2	11	1	8	49	
Obese	1	2	3	7	7	1	3	24	
Total	24	11	27	29	39	3	23	156	
Active smoking	0	3	0	0	0	0	0	3	0.003 (HS)
Passive smoking	11	6	11	15	10	1	5	59	
Non smoking	13	2	16	14	29	2	18	94	
Total	24	11	27	29	39	3	23	156	

(N=156)