

The prevalence of high risk pregnancy among pregnant women attending primary health care center in Baghdad Al-Karkh health directorate

Ali Awad Zaidan

Raya Khudhair Al-Gburi

Hanady Mohammad Alhilli

M.B.Ch.B/FICMS/FM

M. B. Ch. B.

M.B.Ch.B /FICMS/FM

Abstract:

Background: A high-risk pregnancy refers to anything that puts the mother, fetus, or neonate at increased risk for morbidity or mortality during pregnancy or childbirth also the prevalence of high-risk pregnancies is still high in the developing countries

Objectives: to find the prevalence of high risk pregnancy in pregnant women who attended the primary health care centers in Baghdad/ Al- Karkh district, and to assess some risk factors.

Patients and Methods: The study period was 5 months, with a total sample of 614 women, from 6 out of the total 20 Family Medicine Primary Health Care Centers. The questionnaire was adopted from WHO antenatal care guidelines background and approach, and high risk pregnancy score to calculate the risk.

Results: The prevalence of high risk scores was 19.4%, and 2.6% severe risk. There was a statistically significant association between BMI, antenatal visit ≥ 20 wks, anaemia, hypertension due to pregnancy and gestational diabetes and educational level with risk scores categories, as there were 30 (27.0%) patients with high risk and BMI $> 25 \text{ kg/m}^2$.

Conclusion: From every 5 pregnancies there is 1 pregnant women with high risk.

Introduction:

The modern models of antenatal care aim to focus on the mother, and how she should be treated with kindness and friendliness at all times.⁽¹⁾ Most pregnancies are low risk and have proper outcomes, while high-risk pregnancies are less common and are potentially serious.⁽²⁾ It's crucial to identify and control for risk factors that predispose pregnant women to develop diseases.⁽³⁾ A high-risk pregnancy refers to anything that puts the mother, fetus, or neonate at increased risk for morbidity or mortality during pregnancy or childbirth ⁽⁴⁾. The prevalence of high-risk pregnancies is still high in the developing countries and it could be attributed to a number of different causes like low educational levels, lack of medical supervision, absence of medical infrastructures and high prevalence of many diseases such as anemia which could be due to poor dietary control ⁽⁵⁾. Teen childbearing is associated with adverse health and social outcomes for teen mothers and their children, although these outcomes often reflect preexisting social deficits, compared with women who delay childbearing until their 20s, teen mothers are more likely to drop out of school and have low educational attainment; to face unemployment, poverty, and welfare dependency; to experience more rapid repeated pregnancies.⁽⁶⁾

The current study was conducted aiming to determine:

The prevalence of high risk pregnancy in pregnant women who attended the primary health care centers in Baghdad/ Al- Karkh district, and various risk factors among high risk pregnant women and their prevalence.

Patients and Methods:

A cross sectional study for a period of 5 months extended from the 1st of Feb until 1st of July/2016, on a sample number of 629 women (15 women were excluded due to insufficient information from data records giving a total of 614 women). The data was collected by simple random sampling from data records of 6 out of the total 20 Family Medicine Primary Health Care Centers in Baghdad/ Al-Karkh health directorate, where 10% of total number of pregnant women attended each primary health care center in 2015 were adopted also by simple random sampling. (Al- Shabab, Al-Salam, Al-Yarmook, Al-Zahraa, Al-Adel, Al-Salam-Al-Sakany)

The questionnaire was adopted from WHO antenatal care guidelines background and approach, the antepartum high risk pregnancy scoring form, originally made by Coopland et al (1977) ⁽⁷⁾, and modified by the Iraqi Ministry of Health and Environment in collaboration with WHO and USAID, the final score was divided into three risk groups: Low risk: 0-2, high risk: 3-6, and severe score: ≥ 7 .

Questionnaire

The prevalence of high risk pregnancy in pregnant women attending primary health care center in Baghdad al-Karkh health directorate.

1. Age: <16 16-35 >35
2. BMI: <18 18-22.5 >22.5
3. Weight: height:
4. Educational level: Illiterate Read and write Primary school Secondary Collage
5. Visit a primary health care center before 20 wks of gestation?

- Yes no
6. Have elevated blood pressure during this pregnancy?
Yes no
Have gestational diabetes mellitus? Yes no
7. Have anaemia? Yes no
8. The collected data were entered to Minitab version 16 for statistical analysis.

Chi square test and was used for inferential statistics. The two categories high and severe risk score were treated as one category for statistical purposes, the Fisher Exact test was used wherein applicable. P value less than 0.05 considered statistically significant.

Scoring form

A. Reproductive history	Risk score	B. Present pregnancy	Risk score	C. Medical & surgical history	Risk score	D. Obstetrical history	score
age <16 or >35 years	1	hypertension	2	previous surgery in reproductive system	1	premature delivery	1
BMI before pregnancy <18 or >22,5	1	multiple pregnancy	3	diabetic mellitus	3	post term delivery	1
first antepartum visit >20 weeks	1	Rh-isoimmunization	3	chronic hypertension	3	infant >4kg	1
prim parity	1	anemia	1	gestational DM	3	infant <2,5kg	1
Parity >5	2	Bleeding <20 weeks	1	thyroid disease	1	fetal malformation	1
abortion	1	bleeding >20 weeks	2			Previous Cesarean section	1
ectopic pregnancy	1						
infertility	1						
bleeding before or after delivery	1						
stillbirth	1						
preeclampsia or hypertension	1						

Results:

In this study there were 479 (78%) pregnant women with low risk, 119(19.4%) with high risk and only 16 (2.6%) with severe risk as shown in figure (1). There was no statistical association between age groups and risk scores categories as shown in table (1). There was a statistically significant association between BMI and risk scores categories, as there were no severe risk with underweight patients (BMI<18 kg/m²), but there were 83 (17.0%), and 13 (2.7%) of normal BMI patients with high and severe risk respectively, compared to higher percentages of high risk groups in patients with BMI >25 kg/m² with 30

(27.0%) patients, as seen in table (1). There was a statistically significant association between educational levels of pregnant women and risk scores. Majority of high and severe risk scores were among illiterate and low level educated women. The educational level distribution is shown in table (1). Regarding the time of first antenatal care visit, 564(91.9%) women had their visit before 20wk, and 50(8.1%) women had the first visit at 20wk or after, 80.3% of women attended antenatal care center before 20 weeks gestation had low risk score for their pregnancy versus 52% among those women attended the ANC ≥20 weeks. The statistical difference is

highly significant. The time of visit with the risk score is shown in table (2). In present pregnancy history, 3.09% of studied women developed hypertension due to pregnancy with 100% women of them had high risk pregnancy, with a statistically significant association between the two. From the result of this study there was 8.79% of women studied with anemia with a statistically

significant ($p=0.001$) association with high risk pregnancy as 63% of pregnant women with anemia had high risk pregnancy. Gestational diabetes mellitus was found in 1.79% of pregnant women studied and all of them had high risk of pregnancy with a statistically significant association with high risk ($p=0.001$), as shown in table (2).

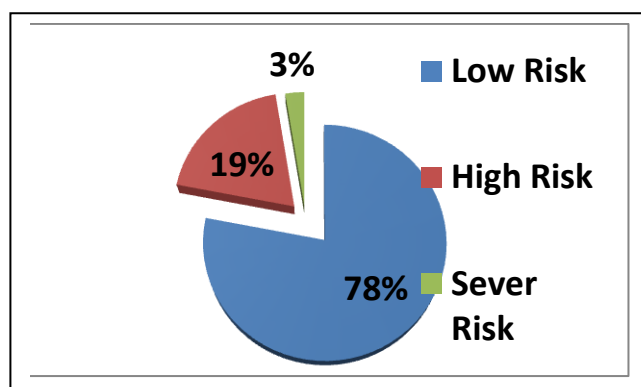


Figure1: Distribution of the study sample regarding their risk scores

Table (1): The age of the pregnant women classified according to their risk score:

Variables		Risk Score			Total	P value
		Low No (%)	High No (%)	Sever No (%)		
Age in years	<16	24 (80.0)	6 (20.0)	0 (0.0)	30	0.661
	16-35	441 (78.2)	109 (19.3)	14 (2.5)	564	
	>35	14 (70.0)	4 (20.0)	2 (10.0)	20	
BMI in	<18	9 (60)	6 (40)	0 (0)	15	0.016*
	18-25	392 (80.3)	83 (17.0)	13 (2.7)	488	
	>25	78 (70.3)	30 (27.0)	3 (2.7)	111	
Educational level	Illiterate	3 (30)	5 (50)	2 (20)	10	0.002*
	Read and write	214(81.7)	46 (17.6)	2 (0.7)	262	
	Primary school	96 (76.2)	25 (19.8)	5 (4.0)	126	
	Secondary school	160(77.3)	40 (19.3)	7 (3.4)	207	
	college	6 (66.7)	3 (33.3)	0 (0)	9	

* P value < 0.05 was significant

Table (2): The age of the pregnant women classified according to their risk score:

Variables		Risk Score			Total	P value
		Low No (%)	High No (%)	Sever No (%)		
ANC	<20Wk	453 (80.3)	98 (17.4)	13 (2.3)	564	0.0001*
	≥20wk	26 (52.0)	21 (42.0)	3 (6)	50	
Hypertension due to pregnancy	No	479(80.5)	106(17.8)	10(1.7)	595	0.001*
	Yes	0 (0)	13 (68.4)	6(31.6)	19	
Anaemia	No	459(81.9)	91 (16.3)	10(1.8)	560	0.001*
	Yes	20 (37.0)	28 (51.9)	6(11.1)	54	
Gestational diabetes	No	479(79.4)	110 (18.3)	14 (2.3)	603	0.001*
	Yes	0 (0)	9 (81.8)	2 (18.2)	11	

* P value < 0.05 was significant

Discussion:

The majority of our studied sample were at low risk, and 22.0% were at high risk. This result was in agreement with results with Nosseir *et al* was done in Egypt 1990⁽⁸⁾ and Chalermopolprapa(2002)⁽⁹⁾ in Thailand while a study done by Yehia *et al*, in Iraq (2008), showed that out of the total 425 pregnant women, 47.8% were at low risk, 42.8% were at high risk, and 9.4% were at severe risk⁽¹⁰⁾, this might be due to the fact that the researcher studied only one primary health care center, or that the antenatal care.

In the current study, there was no statistically significant association between age distribution and risk scores. This might be explained as the majority of the samples became pregnant during safe and appropriate age for conceiving, this was in agreement with study of Ali *et al*, in Iraq (2015)⁽¹¹⁾, who showed; from the total 220 pregnant women included in the study the majority of them had their age ranged from 15-34 years, who made 80.90% of their study's total sample.

The current finding disagreed with the results of a study done by Sohag *et al* (2013)⁽¹²⁾ in Pakistan, that aimed to determine the factors affecting utilization of antenatal care service, 250 pregnant women were included who registered for antenatal care after 14 weeks of gestation. At 2016 Momboo *et al* (2011)⁽¹³⁾ reported that; young maternal age increases the risk for adverse pregnancy outcome. In our results overweight and obese women similar to the result of Tandu -Umba *et al* in Congo (2014)⁽¹⁴⁾ of study sample comprised 2,086 women, overweight/obesity (21.9%) of women. And our results lower than the result of the study of 200 high risk pregnancy Saudi pregnant women, the obese women was 60% of women⁽⁴⁾.

Many other studies had been done and gave the results that agreed with the results of the current study, Shazia *et al* (2012)⁽¹⁵⁾ in Karachi stated that; in high socioeconomic group all parameters were 50% better than those in low socioeconomic level and 70% of the uneducated women had more than 2 adverse factors regarding pregnancy and outcome of it.

WHO stated that; complication of pregnancy and child birth are the second cause of death for 15-19 years and it is more in poor, uneducated and rural communities.⁽¹⁶⁾ Patidar concluded that; most adolescent miscarriage pregnant were among young, and uneducated and poor women.⁽¹⁷⁾ Sarode (2010) showed that; as education level increased the utilization of antenatal care also increased.⁽¹⁸⁾

Regarding the time of ANC visit, the statistical difference was significant between ANC after 20 weeks and high risk score. This agreed with the result of study of Yehia *et al* (2008), in Baghdad⁽¹⁰⁾ and Abd Alrahman *et al* (2015) in Erbil⁽¹⁹⁾. In present Pregnancy history, 3.09% of studied women had hypertension lower than the results of

study in our country of Al-Ghezay (2011)⁽²⁰⁾ revealed that the prevalence of hypertension was 10.7% among pregnant women. Predisposing factors might be more frequent among women studied such as obesity, bad eating habit during conception, decreased physical activity and others.

The percentage of women had anemia is similar to the percentage of anemic pregnant women in previous study of Jain *et al* (2014)⁽²¹⁾ as it is prevalent in developing countries.

The study showed the prevalence of pregnant women with gestational diabetes mellitus were 1.79%, and it was lower to the prevalence of previous study of Yassin *et al* (2005) in Egypt, about 5.2% at a high-risk because of diabetes mellitus.⁽²²⁾ Diet habits could explain the small difference in the prevalence of gestational diabetes, as low fiber in diet, and increased glycemic load is associated with higher risk for developing gestational diabetes.⁽²³⁾

In conclusion:

High and severe risk pregnancy had low prevalence in the studied women attending PHCCs in al Karkh side of Baghdad (22%) this meant that among each five pregnant one had high risk pregnant woman, with the majority of high and severe risk scores were among illiterate, low level educated women, antenatal care visits ≥ 20 weeks of pregnancy, hypertension due to pregnancy, anaemia, and gestational diabetes

It is recommended that:

Raising awareness of the pregnant women and health care provider about the common high risk pregnancy in our region, and the need for more analytic studies to be done to reveal association of educational level and high risk pregnancy.

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