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Research Article

Risk Factors of Pregnancy over the Age 35 among Women in Baghdad

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Abstract

Background: A high-risk pregnancy is one in which some condition puts the mother or the developing fetus, or both, at an increased risk for complications during or after pregnancy and birth.

Aim of the study: To assess the effect of maternal age with risk factor of adverse pregnancy and pregnancy outcome in our setting.

Methods: A cross sectional study has been conducted in six hospitals in Baghdad for the period extended from 1st September 2018 to 28 December 2018. A detailed physical examination was conducted on all the participants. A questionnaire was completed for each case including basic socio demographic data. The statistical analysis was performed using the statistical package for the social sciences version 22 to analyses the data.

Results: From our data found that 73 (76.8%) of cases in the age group 35-39 years old, 81 (85.3%) were unemployed; read and write education in 28 (29.5%). The highest frequency of cases had a parity more than 6, 67 (70.5%) had a family history, 32 (33.7%) of cases had a previous still birth and 2 (2.1%) of cases had history of alcohol drinking. Anemia, diabetes and infertility are the main risk factor of pregnancy.

Conclusions: A statistically significant has been found between maternal age with hypertension, Diabetes and vascular disease at the p. value <0.05.

Keywords: Risk; Age; Hypertension; Significant; Maternal

1. Introduction

Advanced maternal age, defined as age 35 years and older at estimated date of delivery, has become increasingly common [1, 2]. Women 35-39 years old have a two-threefold higher risk of pregnancy-related death than women in their twenties, and the risk is even more dramatic for women 40 years and older [3]. A high-risk pregnancy is one in which some condition puts the mother or the developing fetus, or both, at an increased risk for complications during or after pregnancy and birth [4, 5]. Hypertension in pregnancy is the 2nd leading cause of maternal death in the United States, accounting for 15% of all deaths [6]. High blood pressure (hypertension) during pregnancy endangers the health of both the mother and the baby and is increasingly common as women delay pregnancy until they are older, and as they are more frequently overweight [5]. Stillbirths account for 58% of all perinatal deaths before 28 days of life, and 48% of all deaths in the first year of life [7, 8]. Ultrasound resolution to improve, making earlier pregnancy evaluation possible [9]. Recent studies of fetal anatomy evaluation at 14-16 weeks of gestation have been able to detect 60% of heart defects. Pregnancy increases the demands on the cardiovascular system, with an increased cardiac output seen early in pregnancy to deliver oxygen and nutrients to the fetus [10]. Women with repaired heart defects can be at increased risk for cardiovascular complications during pregnancy, and they have increased risk for obstetric complications such as preterm birth. Treating these complications can aggravate the underlying cardiac disease [11]. The aims of this study were to assess the effect of maternal age with risk factor of adverse pregnancy and pregnancy outcome in our setting.

2. Methodology

A cross sectional study has been conducted in six hospitals (Fatima AL-Zahra hospital, Al-elwyia teaching hospital, Ibn albeldy hospital, Alnuman general hospital, Shaheed Dhari Fayad hospital, Kamal al-Samarrai hospital). The study period extended from 1 September 2018 to 28 December 2018. All sample of cases attending to outpatient's clinic of six hospitals. A detailed physical examination was conducted on all the participants. Glucose levels were determined from finger prick capillary blood samples by using a HemoCue Glucose 201+blood glucose analyser (HemoCue AB, Angelholm, Sweden) and recorded to the nearest 0.01 mmol/l. Systolic and diastolic blood pressures were taken from the mid-upper-arm of the left hand using sphygmomanometer and recorded in mm Hg. A questionnaire were completed for each cases including basic socio demographic data {age, occupation (employed, none employed), education (illiterate, read and write, primary, intermediate, secondary university or higher), parity (is defined as the number of times that she has given birth to a fetus with a gestational age of 24 weeks or more, regardless of whether the child was born alive or was stillborn), gravidity (is defined as the number of times that a woman has been pregnant), use of alcohol, use of folic acid, hypertension (blood pressure>140/90 on at least 2 occasions greater than 6 h apart without evidence of chronic hypertension), diabetic mellitus (non fasting 50 g oral glucose challenge test 135 followed by 2 or more abnormal values on fasting 100 g oral glucose tolerance test [fasting 95, 1-h 180, 2-h 155, 3-h 140]), vascular disease (is a pathological state of large and medium sized muscular arteries and is triggered by endothelial cell dysfunction), anemia (Anemia is a condition in which the body does not have enough healthy red blood cells), previous of the still birth (defined as fetal deaths of 20 weeks of gestation or

more), family history, smoking}. The statistical analysis was performed using the statistical package for the social sciences version 22 SPSS Inc, Chicago, IL, USA [12].

3. Results

In this study found the higher percent 73 (76.8%) in the age group 35-39 years old, followed by 22 (23.7%) in the age group 40-44 years old. Regarding the occupation, most of cases 81 (85.3%) were unemployed and 14 (14.7%) were employed. Also in this table shows that the education level, the highest frequency of cases were read and write education 28 (29.5%), 27 (28.4%) were illiterate education followed by 17 (17.9%) were primary education and only 4 (4.2%) were university education. The highest frequency of cases with parity>6, 39 (41.1%), followed by 37 (38.9%) of cases with parity 3-5 and 19 (20) in the 2 parity. Also, in this table shows the family history the highest frequency of cases 67 (70.5%) were family history while 28 (29.5%) were not. Regarding the previous of still birth, 32 (33.7%) of cases were previous of still birth while 63 (66.3%) of cases were not. 2 (2.1%) of cases were using alcohol while 93 (97.9%) of cases were not. 59 (62.1%) of cases were using folic acid while 36 (37.9%) of cases were not. Also, in this table shows that the smoking, 17 (17.9%) of cases were smoker while 78 (82.1%) were not [Table 1]. Regarding to the risk factors, 23 (24.2%) of cases had hypertension while 72 (75.8%) were not. Also 44 (46.3%) of cases had diabetic while 51 (53.7%) of cases were not. 9 (9.5%) of cases had vascular diseases while 86 (90.5%) of cases were not. Most of cases 77 (81.1%) had anemia while 18 (18.9%) were not. 59 (62.1%) of cases had infertility while 36 (37.9%) were not [Table 2].

Variables	**Frequency (95)**	**Percent**
Age groups		
35-39	73	76.8
40-44	22	23.2
Occupation		
Employed	14	14.7
Unemployed	81	85.3
Education		
Illiterate	27	28.4
Read and write	28	29.5
Primary	17	17.9
Intermediate	12	12.6
Secondary	7	7.4
University	4	4.2
Parity		
2	19	20
3-5	37	38.9

≥ 6	39	41.1
Family history		
Yes	67	70.5
No	28	29.5
Previous still birth		
Yes	32	33.7
No	63	66.3
Use of alcohol		
Yes	2	2.1
No	93	97.9
Use of folic acid		
Yes	59	62.1
No	36	37.9
Smoking		
Yes	17	17.9
No	78	82.1

Table 1: Distribution of studied sample according to socio demographic data and habits.

Risk factors	**F (95)**	**%**
Hypertension		
Yes	23	24.2
No	72	75.8
Diabetic mellitus		
Yes	44	46.3
No	51	53.7
Vascular disease		
Yes	9	9.5
No	86	90.5
Anemia		
Yes	77	81.1
No	18	18.9
Infertility		
Yes	59	62.1
No	36	37.9

Table 2: Distribution of studied sample according to risk factors.

Highest frequency of cases recorded from Kamal al-Samarrai hospital 31 (32.6%), followed by Fatima AL-Zahra hospital 21 (22.1%), Al-elwyia teaching hospital 17 (17.9%) and the last frequency recorded from Shaheed Dhari Fayad hospital 5 (5.3%) [Table 3].

Region	**F (95)**	**%**
Al-elwyia teaching hospital	17	17.9
Shaheed Dhari Fayad hospital	5	5.3
Ibn albeldy hospital,	12	12.6
Fatima AL-Zahra hospital	21	22.1
Kamal al-Samarrai hospital	31	32.6
Alnuman general hospital	9	9.5

Table 3: Distribution of studied sample according to region.

In this table presented that in the age groups 35-39 years, 7 (9.6%) had hypertension while 66 (90.4%) were not. In the age 40-44 years old 16 (72.7%) had hypertension while 6 (27.3%) were not. Significant association have been found between the age group and hypertension (p. value <0.0001) [Table 4]. Regarding the diabetic mellitus, in the age group 40-44 years, 16 (72.7%) had diabetic while 6 (27.3%) were not. In the age group 35-39 years, 28 (38.4%) had diabetic while 45 (61.6%) were not. Significant association have been found between the age group and diabetic mellitus (p. value <0.009) [Table 4]. Also, in this table shows that in the age group 35-39 years, 3 (4.1%) had vascular disease while 70 (95.9%) were not. In the age group 40-44 years old, 6 (27.3%) had vascular disease while 16 (72.7%) were not. Significant association have been found between the age group and vascular disease (p. value <0.005). In age group 35-39 years old, 59 (80.8%) had anemia while 14 (19.2%) were not. Also, in the age 40-44 years old 18 (81.8%) had anemia while 4 (18.2%) were not. Not significant association have been found between the age group and anemia (p. value <0.841). Also, in the age 35-39 years, 44 (60.3%) of cases were infertility while 29 (39.7%) were not. In the age 40-44years, 15 (68.2%) of cases were infertility while 7 (31.8%) were not [Table 4].

Risk factors	**Age groups**				**Total**		**p. value**
	35-39 years		**40-44 years**				
Hypertension	**F**	**%**	**F**	**%**	**F**	**%**	
Yes	7	9.6	16	72.7	23	24.2	X^2**=33.3**
No	66	90.4	6	27.3	72	75.8	**<0.0001**
Total	73	100	22	100	95	100	**H.S**
Diabetic mellitus							
Yes	28	38.4	16	72.7	44	46.3	X^2**=6.71**

No	45	61.6	6	27.3	51	53.7	**<0.009**
Total	73	100	22	100	95	100	**S**
Vascular disease							
Yes	3	4.1	6	27.3	9	9.5	X^2**=8.05**
No	70	95.9	16	72.7	86	90.5	**<0.005**
Total	73	100	22	100	95	100	**S**
Anemia							
Yes	59	80.8	18	81.8	77	81.1	X^2**=0.04**
No	14	19.2	4	18.2	18	18.9	**<0.841**
Total	73	100	22	100	95	100	**N.S**
Infertility							
Yes	44	60.3	15	68.2	59	62.1	X^2**=0.18**
No	29	39.7	7	31.8	36	37.9	**<0.671**
Total	73	100	22	100	95	100	**N.S**

Table 4: Distribution of studied sample according to risk factors by age groups.

4. Discussion

Advanced maternal age is considered relatively more hazardous from both the maternal and fetal prospective. In the present study, 76.8% of cases still in the group 35-39 years, lower results should be found in US [13]. Also 85.3% of cases were unemployed, lower results found in Australia [14] 22.9%, this may be to differences of the customs and traditions between the countries. In this study 29.5% of cases were read and write education level, other results found in US [13] 1.9%, this may be due to the most mothers left education due to the unstable situation in the country.

Pregnancy with a history of stillbirth because of causes other than maternal conditions and fetal abnormalities is a moderate risk state, with prematurity and low-birth weight rates somewhat higher than those in the general population [14]. 33.7% of cases were previous still birth, other results found in Australia [14] 11.9%, the difference is due to increase health education and awareness programs about risk stillbirth in developed countries. The use of any alcohol in pregnancy puts a fetus at risk for fetal alcohol spectrum disorder [15], 2.1% of cases used alcohol, higher results found in US [16] 41.9%, the reason for the difference is due to differences of habits between the countries. Women age 35 and older are more likely to have taken folic acid supplements in the preconception period. 62.1% of cases used folic acid, lower result found in Australia 48%. Reason for the difference is due to awareness programs on the use of folic acid during pregnancy and distributed during pregnant review to the health center [17].

Smoking is already an important contributor to social inequalities in health and mortality, it may also damage the life chances of children whose mothers smoked during pregnancy, 17.9% of cases were smoker, higher results found in US 35.2%, this may be differences of habits and practices between the countries [16]. Maternal complications such as hypertension diseases, diabetes may contribute to the increased risk of preterm delivery among women aged 40 years and older [14]. Hypertensive disorders during pregnancy carry risks for the woman and the baby, 24.2% of cases were suffer from hypertension, diabetic mellitus, 46.3% of cases were suffer from diabetic, similar results found in Canada [18], This findings is due to the similarity of habits and practices between the two countries.

5. Conclusions

A statistically significant has been found between maternal age with hypertension, Diabetes and vascular disease at the p. value <0.05.

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