Assessment of risk factors in pregnant women in Al-Samawa city

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Abstract

Aiming to assess the risk factors in pregnant women in Al-Samawah city, and to find out the relationship between these risk factors with certain variables factors. A cross sectional study was carried out during 1st of December 2013 through April 2014 including pregnant women attending the primary health care centers in Al- Samawah city. Data were collected through direct interview of pregnant women and from surveying their medical records using especial designed questionnaire form. A significant association has been detected between age groups of pregnant women and bleeding during pregnancy (P= 0.01). Old age pregnancy (more than 35 years) had the higher percentage of risk factors, and the degree of relatives between women and their husbands is (35.9%). Old age pregnancy had a higher percentage of anemia, hypertension and bleeding during pregnancy. The BMI higher percentage (49.5) of pregnant women were in the normal score, it was close to the international standards. The BMI is significantly association with D.M (p= 0.038). The Socio-Economic-Status (SES) of the most families in this sample were at low level (65). Further, a statistically significant association has been detected between (SES) of pregnant women and D.M (P = 0. 012). More than half (58) of women had in adequate visit to (PHCs), sixth of the deliveries was at home, one third of pregnant women had risk factors of them one quarter had more than risk.

Keywords: Risk factor of pregnancy; BMI; DM; SES; Hypertension; Anemia

Introduction

Pregnancy is considered a normal physical and psychological process in the reproductive age. It is associated with clinical, mechanical, physiological and metabolic change that effect all of the body's organs [1]. Although most pregnancies progress normally, some are more complex because of antenatal or intra partum

conditions that place the mother, the developing fetus, or both at a higher risk for complications than pregnancies without these conditions. Pre-existing chronic conditions, as well as conditions that arise during pregnancy, can threaten the life and health of the fetus or the mother. Fetal growth restriction arising from placental insufficiency is a significant cause of prenatal mortality (stillbirth or neonatal death) and morbidity[2].

In addition to hypertension, obesity, diabetes mellitus, and lack of exercise, Adult growth hormone deficiency (AGHD) could also increase the risk of cardiovascular disease. AGHD is associated with increase in body mass index (BMI), waist–hip ratio, arterial thrombophilia caused by an increase in plasminogen activity inhibitor, and fibrinogen, an abnormal lipid profile and atherosclerosis [3,4]. Risks associated with adolescent pregnancy include poor maternal weight gain, preterm birth, pregnancy induced hypertension, low birth weight, and neonatal death [5, 7]. Every day 1500 women die from pregnancy or childbirth related complications [8]. Pregnancy can provide an opportunity to identify existing health risks in women and to prevent future health problems for women and their children [9]. This study aims to assess the risk factors in pregnant women in Al-Samawah city.

Methodology

This study was a descriptive, cross-sectional design was employed to enroll a convenient sample of pregnant women attending 14 primary health care centers in Al-Samawah city, during the period from the 1st of December 2013 to the end of April 2014. Data were collected through direct interview

of pregnant women and from surveying their medical records using questionnaire form, which was designed for the study purpose. A structured questionnaire was developed and constructed. The purpose of the study was clearly explained to all pregnant women and their verbal consent was obtained.

Result

In this study (29.1%) of pregnant women were in age group (<= 21) years it disagrees with the study that reported by in 2010 which conducted on (12557) pregnant women in Irbil and found that (11%) was below the age of (20) years [10], this indicates that in the south the percentage of younger marital age is higher than in the North.This study found that (47%) of pregnant women were in age group (22-29) years which is in agreement with the result that done in 2004 that found (54.7%) pregnant women were in the age group (20-29) years [11]. Anemia comprise (19.2%) of the sample of them (75%) were mild this is lower than the figure reported in 2013 in Erbil city, who found the overall prevalence of anemia were (55.5) and (20.8%) of them were mild [12], this difference may be due dietary habit. Further, the result is in agreement with WHO figure in Egypt and Jordan when the prevalence of mild anemia were (76%), (64.9%) respectively [13]. While the percentage of anemia in Nepal was (41.02) and (67.14) of them were mild [14]. Hypertension found in 11.1% of pregnant women, which in higher than the study that done in 2014 in Diyala that reported (5.25%) of pregnant women had hypertension [15]. While in 2010 in Erbil reported that (15%) of cases had hypertension [10]. These data consistence with the study that reported in 2011 that

(11%) of mothers had hypertension during pregnancy [16].

Variables	Groups	Frequency	Percentage
Age of pregnant mother (years).	<= 21	278	29.1
	22 – 27	372	39
	28 – 34	189	19.8
	35 – 40	92	9.6
	41 and over	24	2.5
	Total	950	100
Gestational age	first trimesters	91	9.5
	second trimesters	670	70.2
	third trimesters	194	20.3
	Total	955	100
Level of consanguinity	Relative	343	35.9
	Not relative	612	64.1
	Total	955	100

Table 1.
Higher percentage of pregnant women 39 was in age groups (22-27) years, and the lowest percentage 2.5 was in 41 and over, pregnant women in second trimester comprise the highest percentage (70.2), and women who were relative to their husband composed (35.9%).

Diabetes mellitus found (1.2%) of pregnant women in agreement with the study that done in 2006 in Mosul who reported (1%) of cases had Diabetes mellitus [17]. The risk of cardiovascular disease found in (0.9%) of pregnant women, same result with the study that done in 1997 who reported that the incidence of heart disease in pregnancy was (0.7%) in Hong Kong [18]. A statistically non-significant association has been detected between age groups of pregnant women and hypertension (P=0.64), which is agreed with the result that reported in 2012 in Ghana. Women aged (36–39) years did not have a significantly increased risk of developing hypertension compared to women between (35–39) years of age (P=0.8) [19].

A statistically non-significant association has been detected between age groups of pregnant women and anemia (P=0.487),

which is in agreement with the result that reported in 2013 in Nepal no significant association between age groups of pregnant women and anemia (P=0.55) [14]. The highest percentage of bleeding during pregnancy in pregnant women was in age groups (35) years over (8.6%) and a statistically significant association has been detected age groups of pregnant women bleeding during pregnancy (P=0.01), which is disagreed with the result that reported in 2004, the highest percentage bleeding during pregnancy was in ages 20-34 years (75.7%) [20].

Variables		N (955)	%
Anemia		184	19.2
Hypertension		106	11.1
Rh Factor	Rh incompatibility	53	5.5
	Rh compatibility	902	94.5
Bleeding during pregnancy		40	4.2
Blood transfusion		15	1.6
D.M		12	1.2
Cardiovascular disease		9	0.9
Drug sensitivity		7	0.7
UTI		5	0.5
Epilepsy		3	0.3
Liver disease		2	0.2
Thyroid disease		2	0.2
Asthma		1	0.1

Table 2
The most frequent risk factor were anemia (19.2%), hypertension (11.1%), and the Rh incompatibility between pregnant women and husbands was percentage (5.5), and the bleeding during current pregnancy (4.2%). There is no cases for other risks factor for pregnant women were detected like rubella, tuberculosis and thalacemia.

A significant association has been detected between (BMI) of pregnant women and DM (P=0.038), which is agreed with the result that reported in 2012 who reported a significantly higher BMI in pregnant ladies with GDM (P < 0.02) [21]. A statistically no significant association has been detected between (BMI) of pregnant women and anemia (P= 0.091), which is in agreement

with the result that reported in 2012, who found that there was no significant association between BMI and anemia ($P < 0.05$) [22].

Variables	N	%
Pregnant without risk (normal pregnancy)	653	68.4
Pregnant with risk:-		
One risk factors	234	77.5
Two risk factors	56	18.6
Three risk factors	8	2.6
Four risk factors	4	1.3
Total of pregnant with risk	302	31.6
Total	955	100

Table 3.
Pregnant women without risk (normal pregnancy) were (68.4), and pregnant women with risk were (31.6%), one risk factors comprise (77.5%) out of all pregnant women with risk, (22.5%) had more than one risk factor (two risk factors (18.6%), three risk factor, and (2.6%) and four risk factor (1.3%).

Variables		<= 21		22 - 27		28 - 34		35+		Total	
		N	%	N	%	N	%	N	%	N	%
Hypertension	Yes	26	9.4	41	11	22	11.6	17	14.7	106	11.1
	N0	252	90.6	331	89	167	88.4	99	85.3	849	88.9
	Total	278	100	372	100	189	100	116	100	955	100
						X2		df		P value	
Chi-Square Tests						2.528		4		0.640	
		<= 21		22 - 27		28 - 34		35+		Total	
		N	%	N	%	N	%	N	%	N	%
Anemia	Yes	58	20.9	61	16.4	39	20.6	26	22.4	184	19.3
	N0	220	79.1	311	83.6	150	79.4	90	77.6	771	80.7
	Total	278	100	372	100	189	100	116	100	955	100
						X2		df		P value	
Chi-Square Tests						3.439		4		0.487	
		<= 21		22 - 27		28 - 34		35+		Total	
		N	%	N	%	N	%	N	%	N	%
Bleeding during pregnancy	Yes	6	2.2	11	3	13	6.9	10	8.6	40	4.2
	N0	272	97.8	361	97	176	93.1	106	91.4	915	95.8
	Total	278	100	372	100	189	100	116	100	955	100
						X2		df		P value	
Chi-Square Tests						13.353		4		0.01	

Table 4.
The highest percentage of hypertension, anemia and bleeding during pregnancy were (14.7%, 22.4%, 8.6%) respectively in age group 35 years and over. There is a significant association between increase age and bleeding during pregnancy ($P = 0.01$).

In conclusions, this study pregnant women in second trimester comprise the higher percentage in the study sample, and one third of pregnant women were relative to their husband. About one third of pregnant women had risks factors of them one quarter had more than one risk. The most frequent risk factors in pregnant women are anemia and hypertension. Old age pregnancy (more than 35 years) had the higher percentage of anemia, hypertension and bleeding during pregnancy. Bleeding during pregnancy is significantly association with increase in age groups. Body mass index (BMI) of pregnant women is significantly associated with diabetes mellitus.

Variables		BMI Score (kg/m²)									
		<18.5		18.5 – 24.9		25 – 29.9		=> 30		Total	
		N	%	N	%	N	%	N	%	N	%
D.M	Yes	0	0.0	3	0.6	8	2.9	1	0.5	12	1.3
	NO	6	100	470	99.4	269	97.1	198	99.5	943	98.7
	Total	6	100	473	100	277	100	199	100	955	100
				X2		df				P value	
Chi-Square Tests				8.407		3				0.038	
		<18.5		18.5 – 24.9		25 – 29.9		=> 30		Total	
		N	%	N	%	N	%	N	%	N	%
Anemia	Yes	2	33.3	101	21.4	40	14.4	41	20.6	184	19.3
	NO	4	66.7	372	78.6	237	85.6	158	79.4	771	80.7
	Total	6	100	473	100	277	100	199	100	955	100
				X2		df				P value	
Chi-Square Tests				6.463		3				0.091	

Table 5.
The highest percentage of D.M (2.9%), was in overweight score, and the highest percentage of anemia 33.3% was in underweight during pregnancy. There is significant association between body mass index of pregnant women and D.M ($P = 0.038$).

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