Volume 2, Issue 5, May 2015, PP 104-113
ISSN 2349-0373 (Print) & ISSN 2349-0381 (Online)
www.arcjournals.org

International Journal of Humanities Social Sciences and Education (IJHSSE)

Prevalence of pregnant women with multiple risk factors attending primary health center in Erbil

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Abstract

C**Background and objective:** The pregnancy is a journey of nine months ends with delivery of new member of the family, but sometimes this journey exposed to multiple risk factors may affect the fetus or the mother. the objective of this study to find out the prevalence of pregnant women with more than one risk factor attending health center in Erbil city

Material and method: A Cross sectional study had been conducted in 15 primary health care centers in Erbil city between 1st May through October 2013on350 pregnant women were randomly selected to include in this study. Questionnaire of the study consists of 4 major parts: lifestyle, socioedemographic, multiple risk factors (medical and obstetrical factors).

Result: This study revealed that 70% of participants have risk factors and majority of them having a single risk factor (26.4%). Regarding multiple risk factor, the study revealed that those having 2 risk factor are representing (25.2%) and those with 3 risk factors and more representing (9.2%), the commonest current risk factors were Urinary tract infection and Anemia which representing (33.1%) and (31.1%) respectively.

Conclusion: the prevalence of multiple risk factors among pregnant women in Erbil city is high and affecting the outcomes of pregnancies. Interventions needs by Ministry of Health, Directorate of Health, media, civil society organizations and community to emphasize the importance of controlling these risk factors.

INTRODUCTION

Pregnancy is a wonderful dream for all married women to establish new family with lovely children's. But not all pregnancies go smoothly [(1)]. A pregnancy can be considered a high risk pregnancy for a variety of reason [(2)]. Risk factors may present as solitary factor or multiple risk factors occur together during same pregnant period , the risk factors has been defined as the probability that an event will occur [(3)], however in epidemiology, it is most often used to express the probability that a particular outcome will occur following a particular exposure [(4)].

Multiple risk factors are conditions puts the mother, the developing fetus, or both at higher-than-normal risk for complications during or after the pregnancy and birth [(5)]. Many risk factors contribute to the health problems of the mothers and babies shown in the statistics on infant mortality and low birth weight[(6)]. WHO estimates that worldwide more than (529,000) women die every year from the risk factors of pregnancy, childbirth and abortion[(7)]. As stated by study done in Erbil [(8)] the health education provided at antenatal clinic level in Erbil city seems to be relatively poor, and this affect on controlling risk factors during pregnancy. Any conditions may affect the outcomes of any pregnancy referred to risk factor which could be single or multiple risk factor, multiple risk factors may be Medical only such as Gestational Diabetes, Urinary tract infections and Anemia or could be Obstetrical risk factors such as previous Cesarean Section, Low birth space, and Abortion or could be Medical and Obstetrical Risk factors in the same pregnancy. Multiple risk factors still high in the developing countries due to variety of reasons such as lack of medical supervision and absence of medical infra structures , low educational levels , high prevalence of many diseases such as Anemia which could be attributed to poor dietary control [(9)]. At both end of the reproductive years≤17and≥35years, maternal age

impacts pregnancy outcome [2,10,11,12]. The risk of miscarriage is directly proportional with age of pregnant women which increase at those two reproductive ends and with those who had low interval from previous1-2 abortion and this is explained by repeated efforts of women to have babies after abortion rather than this may she had rh incompatibility that develops when a pregnant woman has Rh-negative blood so may lead to more than one risk factors at the same time during pregnancy[13,14,15].some time woman may had previous cesarean section >4 and she older than 35 years and may be she was smoker so all these multiple risk factors during pregnancy a significant association between different parity levels and pregnancy outcomes in terms of obstrtric complications neonatal morbidity and perinatal mortality[15,16,17,18]

Rational : As updated research knowledge, there is no previous study Conducted regarding of prevalence of multiple risk factors among pregnant women Erbil city.

OBJECTIVE

The present study was designed to determine prevalence of multiple risk factors of pregnant women attending primary health care centers in Erbil city.

SUBJECTS AND METHOD

A Descriptive cross sectional study was used to identify multiple risk factors among pregnant women attending 15 primary health care centers in Erbil city, during the period from 1st May 2013 to 15th October 2013. Convenient sample of 350 pregnant women has been selected from those 15 primary health care centers and sample size estimated according to population rate at catchment area of each specific health center. Self administered questionnaire was used to collect information from participant which include Socio-demographic data, General Information about pregnancy data during antenatal care Life style of pregnant women, information's about past and current history regarding medical and obstetrical , official written and verbal consent was obtained previously Data were analyzed using 4 statistical package for social sciences using (SPSS,Version 19) Windows , Frequencies and percentage were used to describe the results and chi square to get p value and association between different variables ,p value≤ 0.05 consider significant association.

RESULT

Table (1) shows that the highest age group of pregnant women was within (18-34) years old which represent (86%) and 42.2% with secondary level of education

Table (1): Distribution of participants according to the age and educational level.

Age total(350)	No.	%
<18 years	2	0.5
18-34 years	297	86
≥35 years	51	14.5
Educational level		
Illiterate	23	6.6
Primary school	121	34.6
Secondary school	148	42.2
College	58	16.6

Table (2) shows that more than half of participants were housewife (58.6%),about one quarter were employed (26%) and majority of them 56.6% from medium SES.

Table (2) distribution of pregnant women according to occupation and SES

Occupation	NO	%
Housewife	171	58.6
Governmental	128	26
Student	48	13.7
Free work	3	0.9
SES		
Low	117	33.4
Medium	198	56.6
High	35	10
Total	350	100

Table (3) shows that 70% of collected cases were have risk factors while 30% of pregnant women included in the study don't have any risk factor.

Table (3) shows classifications of pregnant women according to presence or absence of risk factors

Risk factor	No	%
with risk factors	245	70%
without risk factors	105	30%
Total	350	100

Table (4) shows distribution of participant according to number of risk factors they have as, single in (26.3%), 2 risk factors in (24.6%), presence of 3 risk factors in (7.7%) , 4 risk factors in (0.6%) and presence of 5 risk factors in (0.9%) .

Table (4) show classification of multiple risk factors

No. of risk factors	Frequency	%
0	105	30.0
1 risk	92	26.4
2 risk	88	25.2
3 risk	35	10
4 risk	22	6.1
5 risk	8	2.3
Total	350	100.0

Table (5) shows that there was significant association between age group of studied samples with presence of risk factors (p-value<0.001), and significant relative association between age group and multiple risk factors (P-value 0.04).

Table (5) association between age and multiple risk factors

Risk factors	Age					P.value for all
	<18	18-34	>=35	Total	p.value for group risk	
single - risk	0	69	25	94	0.04	<0.001
2 risk	2	73	16	91		
3 risk	0	23	12	35		
4 risk	0	13	4	17		
5 risk	0	6	2	8		
No-risk	0	105	0	105		
Total	2	290	58	350		

Table (6) shows that there was significant association between socioeconomic factors and presence of multiple risk factors and 63 person in about 38% from medium SES (p.value<0.001)

Table (6) Association between Multiple risk factors and socioeconomic status

	multiple risk								
	single-risk	2risk	3risk	4risk	5risk	no-risk	Total	P. Value For risk group	p.valueforall
Low	14	44.7%47	20.95%22	4.76% 5	4.76% 5	12.6% 12	105		
Medium	56	33	11	16	3	45	164	<0.001	<0.001
high	22	8	2	1	0	48	81		

Table (7) shows that there were significant high association between Urinary tract infection as a dominant risk factor with majority of other risk factors like Anemia ,current Gestational Diabetes ,current Gestational hypertension and low birth space (p.value<0.001) while this study revealed that urinary tract infection didn't have significant association with gravid > 5 (p.value 0.5).

According to current risk factors table (8) shows that the most frequent risk factors (33.1%) were urinary tract infection then anemia (31.1%) , Hypertension , Gestational Diabetes Mellitus,Gravida>5 ,Rh incompatibility ,current others ,Vaginal bleeding and Multiple gestations respectively (8.3%),(6.6%),(6.5%) ,(4.3%), (4.3%), (1.7%)and (0,6%) respectively.

Table (7) association between Urinary tract infection and other risk factors

		Current UTI		Total	P. value
		yes	No		
Anemia	yes	15	94	109	< 0.001
	No	101	140	241	
		116	234	350	
Current GDM	yes	23	0	23	<0.001
	No	93	234	327	
		116	234	350	
Current HT	yes	29	0	29	<0.001
	No	87	234	321	
		116	234	350	
Birth space<2	yes	33	24	57	<0.001
	No	83	210	293	
Total		116	234	350	
Current Gravida>5	yes	8	15	23	0.5
	No	108	219	327	
	Total	116	234	350	

Table (8) distribution of pregnant women by current risk factor

Current risk factors	N=210 F	%
Urinary tract infection	116	33.1%
Anemia	109	31.1%
Hypertension	29	8.3%
Gestation Diabetes Mellitus	23	6.5%
Gravida>5	23	6.5%
Rh incompatibility	23	4.3%
Others	15	4.3%
Vaginal bleeding	6	1.7%
Mutiple gestation	2	0.6%

Table (9) show that there were very high significant association between Anemia and majority of risk factors as Anemia playing important role to increase the risk factors during pregnancy period , which was clearly evident as (p.value<0.001) for association with current gestational hypertension ,urinary tract infection ,gravida>5 and Cesarean section while there was no association between anemia with current Gestational Diabetes (p.value 0.2) .

Table (9) association of Anemia with other risk factors

		Current ANEAMIA		Total	P-value
		yes	No		
Current GDM	**yes**	1	22	23	0.2
	No	108	219	327	
Total		109	241	350	
Current HT	**Yes**	0	29	29	< 0.001
	No	109	212	321	
Total		109	241	350	
Current UTI	**Yes**	15	101	116	< 0.001
	No	94	140	234	
Total		109	241	350	
currentGrav_5	**Yes**	19	4	23	< 0.001
	No	90	237	327	
Total		109	241	350	
Cesarean Section	**Yes**	15	84	99	<0.001
	No	94	157	251	
Total		109	241	350	

DISCUSSION

High-risk pregnancy identification is a challenging work. A pregnancy is considered to be at risk when a problem is more likely than usual to occur as multiple risk factors.

Proper screening techniques should be used for all pregnant women attending antenatal clinics to pick up the factors that qualify the pregnant women for a risky pregnancy [19].

The age play important role in this study and may reflect to risk factor, the highest age group of pregnant women were normal reproductive age (from 18-34 years old) which was representing (85%) of samples that means majority of the samples became pregnant during safe and normal age for conceiving. A finding similar to study conducted in Erbil City/Iraq and in USA previously that reveled most of pregnant women were from age group (17-34) years old in a rate (77.15%) (79%) respectively [20,21]. In developing countries , Maternal mortality in women under 18 years of age is estimated to be two to five times higher than in women between 18 and 25 [22].

Finding of this study shows clearly that high significant association between age and presence of risk factors during pregnancy period, while there was a significant relative association between age group and multiple risk factors.

Support for this result was seen in a study done in Erbil at 2012 [23] which showed that there was high significant association between age and number of pregnancy (Gravida > 5)and at the same time with anemia.

Another support of the result was study done in Philippines [24] which revealed that age has detectable influence on the frequency of urinary tract infection low space birth while study in Sulaimaniya [25] stated that significant association between age and vaginal bleeding also study done in Erbil [26] showed that significant association present between age and anemia during pregnancy . The current study finding reveals that the majority of study sample were believed that

their socioeconomic state were medium. This finding agree with the result of the study done in Erbil city on 300 pregnant women which showed that the highest percentage (77.7%) of pregnant women whom attending Primary Health Care their socioeconomic state were medium [27].

According to study conducted in Melbourne /Australia [28] showed that there is association between socioeconomic status, health and presence of risk factors. The current study revealed that there was significant association between level of socioeconomic status and presence of multiple risk factors during pregnancy and most of them 79 women in a rate 75% of low SES class had more than one risk factors and 63 women with medium SES in a rate 60 % from medium SES had more than risk factors , this result attributed to with decrease SES associated with decline level of education , economic level and awareness of pregnant women to their health during pregnancy so more liability to having multiple risk factors and increase risk of maternal mortality and morbidity. Regarding pregnant women occupation, the highest percentage (58. sample were primary and secondary school graduated. This finding were agree with the result of 6%) of the study sample were housewives this result was less than result of study done in Erbil 2008 and 2010 which revealed that (85.55%),(76%) were housewives respectively([29,27] , and less than result of study done in Baghdad who found that majority of the sample 91.08% were housewives[20] . Regarding level of education, the majority of study study done in Erbil city and India that showed most of studied samples were from primary and secondary school[23,30]. This result shows that the majority of them were not very well educated and this probably affect to their awareness about the risk factors of during pregnancy .it is worth mentioning that mothers with low educational level may not have enough knowledge to take proper care of themselves . Regarding current risk factors, our study revealed that 70 % of samples have risk factors while remaining samples didn't have any risk factor. This was supported with study done in Erbil [31] which revealed 65% of estimated pregnancy samples had risk factors, also study done in South Africa on risk factors among pregnant women[32] which reveled similar results of 67% with risk factor and 27 % with more than one risk factor that was disagree result of prevalence multiple risk factor in present study by a rate 43% . Result of current study showed that it was most common risk factor in current pregnancy representing (33.1%) of estimated samples. This result found to be nearly similar to result of study conducted in Egypt [33] which showed that the majority of study samples were complained from urinary tract infection during pregnancy which represents (31.3%). Another support for our result obtained from study done in Yemen which conclude (30%) of pregnant women have UTI during pregnancy [34]. Finding of this study revealed that significant association present between Current Urinary tract infection with Hypertension , Diabetes Mellitus , Anemia and Birth space <2 years while there are no significant associations between current urinary tract infection and other risk factors like (Multiple gestation , gravida >5 and vaginal bleeding).

These findings agreed with study done in Erbil [31] in 2013 which revealed significant association between Anemia and Urinary tract infection also agreed with study done in Mexico 2009 [25] which sated that significant associations present between Urinary tract infection and Anemia.

National Center of Health Statistics in United States supported this association between Anemia and Urinary tract infection through research published in 2004 [35] .

Anemia is considering second risk factor in the current study which found in (31.1%) of current estimated risk samples, the result was less than the study conducted in Erbil city at 2012 [23] which found that anemia was representing (49.5%) of samples. This result was disagreed with the study performed in Iran [36] which showed only few of pregnant women which represent (4.7%) complain from anemia during pregnancy.

Study in Maryland/ USA[37] stated that teenage mothers in developing countries at increased risk for anemia. Study done in Baghdad [38] founded that maternal anemia may also associated with UTI during pregnancy. Those who complain from anemia could be because their bad

dietary habits as all pregnant women should eat regular frequent meals daily rich in minerals other cause could be deficit in their knowledge about the type of food which contains iron.

An important issue is the role of media like television, newspapers in spreading knowledge of mother care during pregnancy.

CONCLUSION

The current study revealed that 70% of pregnant women who participate having risk factor and about 43% of them had multiple risk factors and ther were significant association between age and SES and prevalence of risk factors, the UTI and anemia were most common risk factor that was most of time associated significantly.

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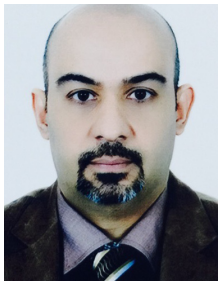

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Citation: Dr. Talal Hasan Al-Khafaji, Dr. Jwan Zangana AND Ali Shakir Dauod (2015) Prevalence of pregnant women with multiple risk factors attending primary health center in Erbil. IJHSSE 2(5), pp: 104-113