EXTENT OF RISK FACTORS AMONG PREGNANT WOMEN IN THI-QAR AT 2010.

Dr. Ali Abid Saadoon Al-Ghezay*

ABSTRACT

A descriptive cross sectional epidemiological study including 1463 pregnant women in Nasseriyah center of Thi-qar governorate extended from the 1st week of January 2009 till the last week of December 2010was under taken to estimate the extent of high risky pregnancy among antennal care attendants and to relate risk factors with selected socio-demographic characters. The study covered pregnant women attending 6 primary health care centers randomly selected from a list containing all the health centers in the city at. A systematic sample of record- based was used selecting every 5th recorded women with a random starting point. Anaemia, abortion, Cesarean section, hypertension, birth interval less than 2 years were the most prevalent risk factors among pregnant women attending health care centers. There was a strong positive association between socio-demographic characters of pregnant women with the risk factors. High prevalence of risk factors in this study than the other comparative studies. More health education, bettering of recording systems, more attention for the at risk pregnancy were the recommendations of the study.

INTRODUCTION

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. 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. Such a problem could be caused by a health condition the mother had before she was pregnant. It could also be a problem that arises during pregnancy or delivery (1). A high-risk pregnant woman accounts for a large number of the problems that occur in relation to pregnancy (2). Some risk factors are present before women become pregnant. These risk factors include certain physical and social characteristics of women, problems that have occurred in previous pregnancies, and certain disorders women already have. Also, before becoming pregnant, women may have a disorder that can augment the risk during pregnancy.

Examples of such problems are (2):

1. High blood pressure
2. Heart disease, lung disease, or liver disease
3. Sexually transmitted infections
4. Urinary tract infections
5. Viral or bacterial infections
6. Uncontrolled diabetes mellitus
7. Severe asthma
8. Seizure disorders or epilepsy
9. Posttraumatic stress disorder
10. Hypothyroidism, or a low level of thyroid hormone production

Problems related to the current pregnancy or past pregnancies can increase the risk to the mother and baby, such as (3):

1. Problems in past pregnancies: When women have had a problem in one pregnancy, they are more likely to have a problem, often the same one, in subsequent pregnancies. Such problems include having had a premature or an underweight baby, a baby that weighed more than 10

---

* M.B.Ch.B. M.Sc. community medicine - College of Medicine- University of Thi Qar

2. pounds, a previous miscarriage, post term pregnancy, Rh incompatibility,, cesarean delivery and a stillbirth.
   Women may have a condition that tends to make the same problem recur. For example, women with diabetes are more likely to have babies that weigh more than 10 pounds at birth (4).
   Age: Adolescent pregnancy in a mother who is younger than 15 years of age, and pregnancy in a woman older than 35 years of age carry extra risk of pre- eclampsia, preterm labour, anaemic babies, premature babies and gestational diabetes. Women aged 35 and older are at increased risk of problems such as high blood pressure, gestational diabetes (diabetes that develops during pregnancy), chromosomal abnormalities in the fetus, and stillbirth. Also, they are more likely to have complications during labor such as preeclampsia, placental abruption or placenta previa and difficult labor (5).
3. Weight: Women who weigh less than 100 pounds before becoming pregnant are more likely to have small, underweight babies. Obese women, on the other hand, are more likely to have very large babies, which may be difficult to deliver. Also, obese women are more likely to develop gestational diabetes, high blood pressure, or preeclampsia. They are more like to have post term and to need a cesarean delivery (6).
4. Height: Women shorter than 5 feet are more likely to have a small pelvis, which may make labour more difficult. Also, short women are more likely to have preterm labour and a small for date baby (7).
5. Reproductive Abnormalities: Structural abnormalities in the uterus or cervix increase the risk of having a difficult labor, a miscarriage, or mal-presentation and of needing a cesarean delivery. These abnormalities include a double uterus or incompetent cervix (4).
6. Previous birth defects: Women who had a baby with a genetic disorder or birth defect are more likely to have another baby with a similar problem. Genetic testing of the baby, even if stillborn, and of both parents may be appropriate before another pregnancy is attempted (8).
7. Having had five or more pregnancies increases the risk of very rapid labor and excessive bleeding after delivery.
8. Multiple fetuses, for example, twins or triplets: Having multiple births increases the risk of placenta previa.
9. Pregnancies that are less than 6 months or more than 5 years apart
10. Vaginal bleeding, especially during the second trimester or third trimester
11. Preeclampsia, which is pregnancy-induced high blood pressure
12. Abnormal fetal heartbeat
13. Intrauterine growth retardation, a condition in which a fetus is not growing enough for its age

Furthermore, the probability of a risky pregnancy can be increased by lifestyle issues such as smoking, drinking alcohol, caffeine intake, particularly in the first trimester, taking drugs and herbal remedies not prescribed by a healthcare provider or not obtaining appropriate medical care, poor nutrition, including low levels of folic acid, lack of prenatal care, poverty and exposure to pesticides (9)

AIMS OF THE PRESENT STUDY

No previous study was identified to describe the extent of high-risk pregnancy or the pattern of risk factors associated with such a pregnancy in Thi-Qar governorate or in Nasiriyah city. This study is an attempt to tackle high-risk pregnancy in Nasiriyah city with the following objectives:

1- To determine the extent of risk factors among pregnant women

2- To describe the pattern of the most prevalent risk factor among pregnant women
3- To relate the occurrence of risk factors with socio-demographic characteristics
4- To use the data as a base line for similar studies in the governorate in the future

SUBJECTS & METHODS

Study design: A cross sectional epidemiological study including 1463 pregnant women in Nasseriyah center of Thi-Qar governorate extended from the 1st week of January 2009 until the last week of December 2010. The study covered pregnant women attending 6 primary health care centers randomly selected from a list containing all the health centers in the city at the time of the start of the study. The centers are Al-Habboby, Al-Sadder, Sumer, Arido, Al-Hussain and Al-Rasoul primary health care centers. About 336 pregnant women were with incomplete records, so they excluded from the study.

Sampling and tools of the study: A systematic sample of record- based was used selecting every 5th record with a random starting point(records of women who completed their antenatal care were used for the purpose of the study). For each woman data were sought on the following variables: Age, address, no. of visit, trimester of pregnancy, history of past medical illness, obstetrical and gynecological history, physical examination, vital signs and main anthropometric measurements. Also data were compiled on investigations routinely done for each clients attending the PHC center, including haemoglobin, general urine examination and random blood sugar

Pilot study: A pilot study was conducted first to test the feasibility of the study and the time required to complete it, in addition to having an idea about the possible number of items of record checked per unit of time. The results of the pre-test were studied. Then, the modifications and final decisions were made.

Official endorsement: Permission was sought from the Directorate General Health Services, Manager of Public Health Department in Thi-Qar on a verbal basis.

Variables: Age was classified into three groups {under 18 year, 18-35 yr and more than 35 years}, address {according to centers visited}, , no. of visit{ 1st , 2nd …..}, occupation {employed, not employed}, educational status {illiterate, primary, secondary and >12 years education}, trimester of pregnancy { 1st , 2nd,3rd}, history of past medical illness {negative, positive (type of disease)}, obstetrical and gynecological history {negative, positive (type of disease)}, Physical examination{normal, obvious abnormal physical sign}, vital signs{normal, abnormal} and main anthropometric measures{height (less than 5 f, above than 5 f), body weight (low, normal, obese)}, and lastly investigations which was routinely done for each clients attending the PHC center, include: hemoglobin {anaemia, normal}, general urine examination {normal, protein urea, sugar in urine and pyurea} and random blood sugar {hypoglycemia, normoglycemia and hyperglycemia}

Statistical analysis: Analysis of the data was done statistically by using computerized programme (Statistical Package for Social Sciences-SPSS version 15), by which the researcher estimate the numbers, their percentages, chi-square and P values.

Epidemiological analysis: Prevalence of each risk factor among the number of the women studied was estimated.

RESULTS

See the tables below.

DISCUSSION:

A descriptive cross sectional study was undertaken to estimate the prevalence of high risky pregnancy among women attending antennal care and to relate risk factors with selected socio-demographic characters. The sample is considered as a

representative sample of all pregnant women at a representative sample of primary health centers in the City of Nasiriyah and thus it might be possible to generalize the results to all pregnant women in the city. Anaemia looks the most frequent risk factors among the attending pregnant; the prevalence of anemia was 57.9%. In comparison to results of a comprehensive study carried in Iraq in 2007, the Iraq Family Health Survey (IFHS), which covered all areas of the country, our results, are higher than that was reported in IFHS) (10). The prevalence of anaemia was 40.8% in rural areas and 36% in urban areas. Sampling and other methodological issues may explain the differences but this high level of anaemia in Nasiriyah population could be truly higher than the national average. Poor socio-economic background and illiteracy was found to be associated directly with anaemia. That is, probably, because pregnant women are not oriented about taking prophylaxis of iron and folic acid supplement to overcome the risk of anaemia and other possible complications including preterm labour. More over the risk of abortion burden the pregnant women to attend antenatal care. The prevalence was 34.6%, which is so high in comparison the IFHS results which recorded a 9.7% of abortion (10). The difference is difficult to explain but again poverty, stressful life and malnutrition could explain part of the differentials. Also significant association was observed between abortion and heavy manual work, all these condition are interrelated and are proxies for low socio-economic status. High prevalence of caesarian section (17, 4%) is in accordance with the increasing worldwide trend but are leveling off in few countries reaching 23%, while for some East Mediterranean Region countries the average rate is almost around 10%. Data from Jordan and Saudi Arabia showed that most of the caesarean sections were due to risky pregnant women especially if the conception was associated with heart disease or uncontrolled blood sugar and other risky women such as primigravida and elderly primigravida. Furthermore, the result revealed that the prevalence of hypertension was 10.7% a rather high risk among pregnant women of such serious type of risk. A hospital based study in U.S.A in 2002 for the prevalence of hypertension found that the prevalence was 5.38%, with the majority of the patients (51.3%) were aged between 21-25 years. The exact cause for such difference is unknown but predisposing factors might be more frequent among women studied such as obesity, bad eating habit during conception, decreased physical activity and others. The study also re veiled that almost one in 10 (9.4%) of the pregnant women have got conceived within less than 2 years of previous conception 9.4%. It could reflect low level of education and lack of effective family planning practice. The prevalence of intrauterine death represented 8.7%; the cause might be association of pregnancy with other illnesses like hypertension, D.M, and toxic illnesses. Moreover, serious and severe problem, which is diabetes mellitus, was very prevalent and reported by 8.17% of pregnant women, it is considered as high percent when compared with other study carried out by the American Diabetes Mellitus Association on 2000 when gestational diabetes mellitus was reported in 3.2% only, this risk increase with the increment in age. This might be due to disorientation about what need to be eaten during pregnancy especially 2nd half during gestation or due to obesity, lack of exercises and physical activity. The reason might be that in the American study they refer to gestational diabetes, while in this study, include gestational and non-gestational cases of DM. Rh-ve was another risk factor (4.1%). Ante partum hemorrhage was other significant problem which representing 3.84% from the total number of the studied pregnant women, it might be associated with hypertension. The study also revealed 3.07% of women are at risk of multipara, who are prone to the accidents of labour and some diseases of pregnancy. This result was similar to a study in the north of Finland, which

estimates that 4.0% of the pregnant women were grand multipara. Despite their prone to undesirable events, multipara women made fewer antenatal visits than other pregnant women. The risky age in Iraqi health family survey 2007 shown 17.7% in 15-19 year and 25.2% in 40-45 years and only 8.7% in age of 25-29 years these do not end with live birth (10). Women who are marry before 16 years remain at highest risk for spontaneous abortion, fetal death and infant mortality. Although they high risky but in this study the percent of risk factors in this age is 26%, 2nd risky age is 25-35 years with the prevalence of 21.8%, which might be due to stressful working activities of this age group, or due to co existing medical factors such (D.M, HT). According to educational status the prevalence of risk factors was 18.7%, 17.17%, 65.13% respectively as mentioned in table 5. In IFHS shown non-educated 9.2%, secondary and higher education are equal to 14.5% (10). The risky women in this study was 34.6% while MCH center I Irbid city found that the prevalence of high risk pregnancy was 1%

TABLES

Table 1: Distribution of the pregnant women according to socio-demographic characteristics

characters	No. of cases	Percentages
PHC Centre		
Al-Haboby	176	15.61
Al-Sadr	211	18.72
Sumer	153	13.57
Aridu	256	22.73
Al-Rasoul	187	16.59
Al-Hussein	144	12.78
Age		
<15	3	0.26
15-	583	51.73
25-	393	34.87
>35	148	13.14
Occupation		
Employed	364	32.29
Self employed.	157	13.93
House wife	606	53.78
Education		
6 year or below	448	39.75
7-11	301	26.7
>12 years	378	33.54
Total	1127	100.0

Table 2:- Classification of risky pregnant women according to type of risk:

Type of risk factor	Number of pregnant women with risk	percent
anaemia	266	57.94
abortion	135	34.61
Ceserian section	68	17.43
hypertension	42	10.76
Birth interval less than 2 yr	37	9.48
IUD	34	8.71
DM	34	8.71
Rh incomptiblity	16	4.1
Ante partum haemorhge	15	3.84
Still birth	12	3.07
Multi para	9	2.3
Twin	3	0.76
Cervical cerculage	2	0.51
Allergy to penicillin	1	0.25
Appendicectomy	1	0.25

Table3:- Distribution of risk factors according to age

age	Risky	percent	Non risky	percent	No.
<15 yr	3	0.8%	0	0%	3
15-	149	38.2%	434	58.9%	583
25-	132	33.8%	261	35.4%	393
>35	106	27.2%	42	5.7%	148
total	390	100%	737	100%	1127

Chi-squared test = 109.48 df= 3 P<0.05

Table 4: Distribution according to occupation

Occupation	Risky	Percent	Non risky	percent	total	percent
Employed	189	48.47%	175	23.8%	364	32.3%
Self employed	67	17.18%	90	12.2%	157	13.9%
House wife	134	34.35%	472	64%	606	53.8%
Total	390	100% (34.605)	737	100% (65.395)	1127	100%

X^2 =95.2 df =2 P value <0.05

Table 5:-Distribution according to educational status

Educational status	risky.	Percent	Non risky	Percent	total	percent
Primary and illiterate	157	40.3%	291	39.5%	448	39.8
Secondary	91	23.3%	210	28.5%	301	26.7
More than 12 years	142	36.4%	236	32%	378	33.5
Total	390	100%	737	100%	1127	100

X^2 =3.419 df =2 P value > 0.05

Table 6:-Distribution according to number of risk factors

No. of risk factors	Number of pregnant women	percent
One risk factors	236	60.52%
Two risk factors	97	24.87%
Three risk factors	46	11.79%
More than three	11	2.82%
Total	390	100%

Table 7:-Type of risk by occupational status

Risk factors	Occupation			Total
	employed	Self employed	House wife	
Anaemia	128	25	73	226
Abortion	63	23	49	135
C.S	32	12	24	68
HT	19	13	10	42
B.I >2 years	4	7	26	37
IUD	5	18	11	34
DM	19	2	13	34
Rh incomp.	7	8	1	16
APH	6	3	6	15
Multi para	0	3	9	12
Still birth	5	4	0	9
Total	189***	67***	134***	390***

*** total refers to number of pregnant women, not of risk factors.

Table8:-Type of risk by educational status

Risk factors	Educational status			Total
	Illiterate and primary	Secondary	≥ 12 yr education	
Anaemia	83	48	95	226
Abortion	54	19	62	135
C.S	34	11	23	68
HT	11	14	17	42
B.I >2 years	21	9	7	37
IUD	9	17	8	34
DM	10	2	22	34
Rh incomp.	3	5	8	16
APH	2	6	7	15
Multi para	4	6	2	12
Still birth	3	2	4	9
Total	157	91	142	390

REFERENCES

1. Karen Wolfe, Pregnancy Risk Factors, http://www.healthopedia.com/pregnancy-risk-factors/
2. High-risk pregnancy, www.faqs.org/health/topics/3/High-risk-pregnancy.html
3. Pregnancy Risk Factors, www.activeforever.com/a-2086-pregnancy-risk-factors.aspx
4. Julie S. Moldenhauer, Fetus or Newborn Problems During Delivery, http://www.merckmanuals.com/home/sec22/ch258/ch258b.html
5. Smoking Cessation, quitsmoking.about.com/od/tobaccostatistics/a/
6. www.drgourmet.com/pregnancy/gestationaldiabetes.shtml
7. www.unsystem.org/scn/archives/npp19/ch08.htm
8. www.ispub.com/ostia/index.php?xmlFilePath=journals/ijgo/
9. www.boardcertified.com/default.aspx?section=glossaryandterm=40

10- Iraq Family Health Survey 2006/7, Ministry of Health / Iraq Central Organization for Statistics & Information Technology Ministry of Health/Kurdistan Kurdistan Regional Statistics Office In collaboration with WHO/Iraq

الحد من عوامل الخطر للنساء الحوامل في محافظة ذي قار في عام ٢٠١٠

د. علي عبد سعدون*

الخلاصة

دراسه مقطعيه متقاطعه وصفيه وبائيه تدْرسُ ١٤٦٣ من النِساءِ الحبلى في مركزِ الناصرية محافظةِ ذي قار امتدتَ مِنْ الإسبوعِ الأولِ مِنْ يناير/كانون الثّاني ٢٠٠٩ حتى الإسبوع الأخير مِنْ ديسمبر/كانون الأولِ ٢٠١٠. كَانَ تحت مَأْخُوذ للتخمينِ، مدى الخطرِ العالي في الحمل بين النساء الحوامل وتعَلُّق عواملِ الخطرِ مَع أوصاف الحواملِ غَطّتْ الدراسةُ النِساءَ الحبلى اللواتي يَحْضرنَ مراكزَ الرعاية الصحيةِ الأساسيةِ . ستة مراكز إختيرتْ بشكل عشوائي مِنْ قائمة تَحتوي على كُلّ المراكز الصحية في المدينةِ . أي عيّنة منظّمة مِنْ النِساءَ التي إستندتْ الى إخْتياَر واحدة من كُلّ خُمس سجّلاتَ للنِساءَ مَع نقطة بداية عشوائية. فقر الدم، الإجهاض، العملية القيصرية، إرتفاع ضغط الدم، فترة ولادةِ أقل مِنْ سنتين كَانت المخاطرَ الأكثر سيادة ي بين النِساءِ الحبلى اللائي حْضرنُ مراكزَ الرعاية الصحيةِ. كان هناك علاقة إيجابية قوية بين أوصاف الحواملِ الإجتماعية بعواملِ الخطرَ. الإنتشار العالي لعواملِ الخطرِ في هذه الدراسةِ مِنْ الدِراساتِ المقارنةِ الأخرى. تعليم صحةِ أكثرِ، تَحسين أوضاع لتسجيل الأنظمةِ، إنتباه أكثر لحملِ الخطرِ كَانتْ توصياتَ الدراسةِ.

* قسم طب المجتمع - كلية الطب - جامعة ذي قار