IMPACT OF ANXIETY AND STRESS DURING PREGNANCY UPON NEONATAL OUTCOME AT MATERNITY HOSPITALS IN BAGHDAD CITY

Raghad Z. Dosar, PhD[1,] Najmah M. meran [2]

[1]*Academic Nurse, Rofaida Nursing High School, Ministry of Health, raghd.Zqear
1103b@conursing.uobaghdad.edu.iq*

[2]*Assistant Professor, Obstetrics and Gynecology Department, College of medicine, University of
Baghdad, najmah@comed.uobaghdad.edu.iq*

ABSTRACT:

Objective: To assess the impact of anxiety and stress during pregnancy upon neonatal outcome

Methodology: A descriptive purposive study was used to assess the impact of anxiety and stress during pregnancy upon neonatal outcome. The study was conducted from (22nd \ September \ 2020 to 15th \ February \ 2021). A non-probability sample (purposive sample) was selected from 100 women. Data were collected through an interview with the mother in the counseling clinic, during the third trimester of pregnancy, as well as after childbirth in the labour wards to assess the outcome of pregnancy. Data were analyzed through descriptive statistics (frequency and percentages).

Results: The most important thing observed in this study was the negative pregnancy outcome for women suffering from stress there are positive significant relationships among stress with pregnancy outcomes of birth defect, premature baby, and low birth weight at p-value = .028, .001, and .050 respectively there is strong positive significant relationship between anxiety and "premature baby" outcome at p-value= .003, and there is reverse significant relationship between anxiety and "mode of delivery" outcome at p-value= .047.

Recommendations: The study recommends according to the results. We suggest that health care providers pay attention to the mental state of pregnant women. Providing training and scheduling support during pregnancy for mothers in order to identify risk factors and achieve skills and knowledge to support mothers, as well as providing a soothing atmosphere to ensure a peaceful environment for pregnant women.

Key word : Impact, Stress, Anxiety, pregnancy ,Neonatal, outcome.

I. INTRODUCTION :

Stress and affective states during pregnancy as predictors of specific pregnancy conditions and birth outcomes. The most commonly studied are PTB (<37 weeks gestation) and LBW≤2500 g). Both are of united states and international significance due to high incidence in many parts of the world and also consequences for infant mortality and morbidity [1]. The study shows that prenatal stress can have significant effects on pregnancy, maternal health and human development across the lifespan[2]. It is clear that that psychosocial, cultural and environmental stressors experienced during gestation can be detrimental to pregnancy and maternal and fetal health, and recent studies suggest that prenatal stress can have consequences that span generations. Prenatal stress can range from severe (e.g. trauma) to moderate (e.g. life event changes) to mild (e.g. experience of daily hassles), and although some early studies showed minimal stress effects on pregnancy [3]. Studies show that both psychosocial stress and pregnancy-specific stresses can have marked effects on pregnancy and human development. Anxiety is a feeling of worry or fear over things that might happen. If the worry a lot anyway, many things can stress during pregnancy. might worry that you won't be a good mother or that can't afford to raise a baby. State anxiety during pregnancy significantly predicted gestational age and/or PTB in seven of 11 studies recently reviewed[4].

It is not clear why `pregnancy anxiety' has such powerful effects on mothers and their babies. In fact, the nature of this concept has not yet received sufficient attention to be fully explicated [4]. Possibly what makes it potent is

that measures of pregnancy anxiety capture both dispositional characteristics, or traits, and environmentally influenced states. For example, women who are most anxious about a pregnancy seem to be more insecurely attached, of certain cultural backgrounds, more likely to have a history of infertility or to be carrying unplanned pregnancies, and have fewer psychosocial resources [1] . Anxiety in pregnancy is associated with shorter gestation and has adverse implications for fetal neurodevelopment and child outcomes. Anxiety about a particular pregnancy is especially potent. Chronic strain, exposure to racism. Antenatal anxiety may have long-term negative effects on pregnancy outcome. Antenatal anxiety can as well as be detrimental to maternal health during pregnancy [5] .   There were two outcomes that were amenable to meta-analysis. Antenatal anxiety was significantly associated with postpartum depression (PPD) measured within 6 months postpartum (pooled odds ratio [OR] = 2.64, 95% CI 2.02-3.46; 8 studies), regardless of restricting analyses to those studies controlling for prenatal depression (2.45, 1.77-3.39; 6 studies). Associations were also significant when PPD was measured at 1-3 months (2.57, 1.94-3.40; 7 studies) and 6-10 months (4.42, 1.45-13.49; 3 studies). Maternal anxiety was also associated with reduced odds of breastfeeding (0.63, 0.53-0.74; 5 studies). Antenatal anxiety is associated with PPD up to the first 10 months, independent of prenatal depression, and with lower odds of breastfeeding [6] . **Methodology:** A descriptive purposive study was used to assess the impact of pregnant women's depression state on their pregnancy outcomes. The study was conducted from (22nd \ September \ 2020 to 15th \ February \ 2021). A non-probability sample (purposive sample) was selected from 100 women   at Maternity Hospitals in Baghdad City,(Baghdad Teaching Hospital, AL-Elwya Maternity Teaching, Ibn Al Baladi Hospital, AL-Imamain AL-kadhmien Teaching Hospital, and AL-Karkh Maternity Hospital). Data were collected through an interview with the mother in the counseling clinic, during the third trimester of pregnancy, as well as after childbirth in the labour wards to assess the outcome of pregnancy and filled out the constructed questionnaire formats which designed for the purpose of the study . Validity through a panel of (10) experts and the reliability of the questionnaire is determined through the pilot study. Data were analyzed through the application of descriptive statistical approach (frequencies and percentages). **Inclusion Criteria include:** Women who have psychosocial factors of anxiety, stress, depression, marital satisfaction, and social support. History of depression or anxiety disorder, Prenatal depression, Psychotherapy,

Exclusion Criteria include: Women have chronic previous medical illness, Previous high risk pregnancy. An assessment tool is constructed in a form of questionnaire, and pregnancy outcome checklist. The study instrument comprised of five parts. Part One, Socio-demographic Characteristics. It is concerned with the identification of the sociodemographic characteristics of the study group, which include the following variables (age of wife and husband, level of education of wife and husband, occupation of wife and husband, general information, socioeconomic status, Part Two, Reproductive Status. It includes the following domains(women's age of married and date, gravida, Para ,abortion . Part Three psychosocial health of the mother. This part consists of (3) items concerned with stress, anxiety and depression They are responded by always,(scored 3), sometime,(scored 2), never,(scored 1). Part Four, social health of the mother. This part consists of (3) items concerned with social relationship, relation with husband and trend and tendencies towards pregnancy. They are responded by always,(scored 3), sometime,(scored 2), never,(scored 1). Part Five, evaluation of pregnancy outcome. This part consists of (10) items concerned with Newborn weight (less than 2500 kg,2500-3500 kg, more than 3500 kg). Number of newborns now(single, twin, triple and normal delivery). Birth defect category concerned of the congenital abnormalities , abortion less than 24 weeks ,stillbirth, Intrauterine growth restriction and big for gestational age. They are responded by Yes(correct answer, scored 1) No,(incorrect answer, scored 0). **Pilot Study:** A pilot study is carried out for the period of 5th October to the 29th October 2020 and it is conducted on (10) women of who are selected purposively from Baghdad Teaching Hospital.   A pilot study was carried out before starting the data collection for the following purposes: 1.To confirm the clarity and content adequacy of the instrument structure throughout the subjects understanding and to determine the required modification.

2. To enhance the validity of the questionnaire.

3. To estimate the average time needed for data collection for each woman

4- Identify the barrier that may be encountered the data collection process. The result of pilot study indicates that the questionnaire was clear for the participants, of the questionnaire takes(15- 20 min)for each women. The pilot study was excluded from the original sample of the study.

II.   RESULTS:

Table (1): Assessment of Stress' Level among Pregnant Women

Stress	f	%	M	SD
Mild	14	14		
Moderate	53	53		
Severe	33	33	2.19	.662
Total	*100*	*100*		

f: Frequency, %: Percentage, M: Mean, SD: Standard Deviation

Low= 13-21, Moderate= 22-30, High= 31-39

Table (1) presents the assessment of stress level, the subdomain pf psychological health that indicates the pregnant women are experiencing moderate to severe level of stress (moderate= 53% and severe= 33%)

Table (2): Correlation between Stress and Outcomes among Pregnant Women (N=100)

Stress Pregnancy outcomes	Pearson correlation	p-value	Sig
Normal delivery with single viable baby	-.136	.178	N.S
Normal delivery with twin viable babies	.082	.420	N.S
A term delivery (a pregnancy of more than 37weeks but less than 42 week)	-.164	.104	N.S
Birth defect	.220	.028	S
Stillbirth (intra uterine death)	.045	.654	N.S
Intrauterine growth restriction	-.119	.237	N.S
Large for date at birth	.059	.561	N.S
Premature baby	.323	.001	H.S
A low birth weight infant (infant weighting less than 2.500 grams at birth)	.197	.050	S
Mode of Delivery	-.179	.074	N.S

P: probability, Sig: Significance, N.S: Not Significant, S: Significant, H.S: High significant

This table indicates that there are positive significant relationships among stress with pregnancy outcomes of birth defect, premature baby, and low birth weight at p-value = .028, .001, and .050 respectively.

Table (3): Assessment of Anxiety' Level among Pregnant Women

Anxiety	f	%	M	SD
Mild	29	29		
Moderate	56	56		
Severe	15	15	1.86	.652
Total	*100*	*100*		

f: Frequency, %: Percentage, M: Mean, SD: Standard Deviation

Mild= 13-21, Moderate= 22-30, Severe= 31-39

Table (3) presents the assessment of anxiety level, the subdomain of psychological health that indicates the pregnant women are experiencing moderate to level of anxiety (56%).

Table (4): Correlation between Anxiety and Outcomes among Pregnant Women (N=100)

Anxiety Pregnancy outcomes	Pearson correlation	p-value	Sig
Normal delivery with single viable baby	-.088	.384	N.S
Normal delivery with twin viable babies	.021	.836	N.S
A term delivery (a pregnancy of more than 37weeks but less than 42 week)	-.188	.061	N.S
Birth defect	.133	.187	N.S
Stillbirth (intra uterine death)	.055	.589	N.S
Intrauterine growth restriction	-.127	.210	N.S
Large for date at birth	.055	.589	N.S
Premature baby	.292	.003	H.S
A low birth weight infant (infant weighting less than 2.500 grams at birth)	.158	.116	N.S
Mode of Delivery	-.200	.047	S

P: probability, Sig: Significance, N.S: Not Significant, S: Significant, H.S: High significant

This table depicts that there is strong positive significant relationship between anxiety and "premature baby" outcome at p-value= .003, and there is reverse significant relationship between anxiety and "mode of delivery" outcome at p-value= .047.

III.   DISCUSSION:

Discussion the impact of stress and anxiety during pregnancy upon neonatal outcome : **Discussion stress:** Table (1) presents the assessment of stress level, the subdomain of psychological health that indicates the pregnant women are experiencing moderate to severe level of stress (moderate= 53% and severe= 33%).Evidence of high exposure to stress in pregnancy is more widely available, at least for certain subgroups of women. For example, a recent study of a diverse urban sample found that 78% experienced low-to-moderate antenatal psychosocial stress and 6% experienced high levels Dunkel (2012)[1.]

Table (2) This table indicates that there are positive significant relationships among stress with pregnancy outcomes of birth defect, premature baby, and low birth weight at p-value = .028, .001, and .050 respectively. These result agree with Weber (2020) who reported an increased risk of low birthweight (RR: 1.8, 95%CI:1.1-2.7) and late preterm birth (RR: 1.5, 95%CI: 1.0–2.2). There were strong associations with stress[7]. On potential risk factor for preterm birth and low birthweight may be maternal psychosocial stress during pregnancy . Stress could affect fetal development through a variety of mechanisms, including impacts on thrombotic and inflammatory pathways, hypoxia, oxidative stress, placental development and uterine contractility Silvestro (2020)[8]. That's why a stressful pregnancy can lead to preterm labour and decrease the baby's head circumference and brain growth, resulting in negative consequences at birth Parvin (2017)[9] . These results support this hypothesis, which could explain some of the alternative there is significant correlation between psychosocial health and adverse pregnancy outcome.

Discussion of anxiety : Table (3) presents the assessment of anxiety level, the subdomain of psychological health that indicates the pregnant women are experiencing. Mild, moderate and severe level of anxiety (29%) (56%) (15%). Previous studies on pregnancy anxiety from different part of the world reported a high and diverse prevalence rate of 14–54%. However, most of these studies explored general pregnancy anxiety than pregnancy-specifi anxiety Girija(2015)[10]. Table(4) this table depicts that there is strong positive significant relationship between anxiety and "premature baby" outcome at p-value= .003, and there is reverse significant relationship

between anxiety and "mode of delivery" outcome at p-value= .047 . Results are consistent with a previous study Parvin (2017) who reported Anxiety pregnancy symptoms are associated with increased heart rate of the fetus, preterm labour, low birth weight, fetal distress, and congenital malformations[9]. Higher scores on anxiety scales are associated with a high probability of cesarean delivery and a reduction in the period of breast feeding Paul(2013)[11] . These results support this hypothesis, which could explain some of the alternative   there is significant correlation between psychosocial health and Adverse pregnancy outcome. **Conclusion:**

1-Women whose suffering from stress during pregnancy having birth defect, premature baby, and low birth weight.

2-strong positive significant relationship between anxiety and premature baby and cesarean section

Recommendation :

1. We suggest that health care providers pay attention to the mental state of   pregnant women.

2. Providing training and scheduling support during pregnancy for mothers in order to identify risk factors and achieve skills and knowledge to support mothers.

3. providing a soothing atmosphere to ensure a peaceful environment for pregnant women.

 4.Management of perinatal depression should, ideally, begin before gestation and should include consultation and planning.

5. Interventions that focus on increasing partner engagement and participation in antenatal support may help reduce adverse birth outcomes by enhancing maternal resilience.

6.study suggests that more attention should be paid to identifying the psychological risk factors in pregnancy in addition to providing suitable interventions for improving the lifestyle of pregnant women.

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