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Research Article

**STUDY ABOUT PREDICTIVE FACTORS OF DEPRESSION
DURING PREGNANCY**¹Dr. Faiza Younas, ²Dr. Iqra Ashfaq, ³Dr. Abdul Rafay¹ Women Medical Officer at Rural Health Centre Satrah, Sialkot² House Officer at DHQ Teaching Hospital, Gujranwala³ Medical Officer at Rural dispensary Rohra, Sheikhpura**Abstract:**

Introduction: Maternal health is one of the major goals of reproductive health. Changes in pregnancy make women susceptible to mood and psychological disorders. The purpose of this study is to investigate the prevalence of depression and predicting its related factors in pregnant women.

Materials and Methods: This descriptive, cross-sectional study was performed on 907 pregnant women who have visited to Gyn & Obst Ward of Services Hospital Lahore. Beck Depression Inventory (BDI) and demographic information were used as measurement tools. The data was analyzed by descriptive statistics, linear regression and Chi-square test.

Results: The mean age of subjects was 26.45 ± 4.49 . The prevalence rate of depression in pregnant women was 80.5%. The score of depression in the first, second and third pregnancy trimesters was 67.9%, 83.5%, 85.8%, respectively. It was found that depression was significantly increased with the progression of pregnancy ($p = 0.001$). The results of regression analysis showed that the risk factors for depression in pregnancy included female education (OR = 4.67 95% .CI = 1.97-11.07), spouse's education (OR = 4.67 95% .CI = 1.97-11.07), self-employed spouse (OR = 4.67 95% .CI = 1.97-11.07), an increase in the number of children (OR = 4.67 95% .CI = 1.97-11.07), an increase in the number of pregnancy (OR = 4.67 95% .CI = 1.97-11.07), history of abortion (OR = 4.67 95% .CI = 1.97-11.07).

Conclusion: According to the results, the prevalence of depression in pregnancy is very high and the factors of education, occupation, the number of children, and the number of pregnancies and history of abortion are considered as the variables affecting depression in pregnancy.

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INTRODUCTION:

Pregnancy is an important period in women's life during which brings a lot of emotional, physical and social changes takes place (1). According to WHO, depression disorder is one of the most important causes of women's disability in the world today and approximately 10–15% of women experience *depression during pregnancy*, which is a major risk factor for postpartum depression (2). Various physiological, psychological and social changes, hormonal changes, physical discomforts associated with pregnancy such as nausea, vomiting, and anxiety related to sonography, *anxiety* about the *baby's health* and even the type of delivery are affective in the development of mental disorders including depression during pregnancy (3 and 4).

Depression has negative effects on the mother and the developing fetus (5). Depression during pregnancy can lead to increased stress in pregnancy, self-neglect, lack of prenatal care(6), inadequate nutrition, smoking, pre-eclampsia (7), drug use which may cause low weight of child at the time of birth and preterm delivery (8 and 9). The first psychological symptom of depression includes a decline in physical activity and motivation resulting in decreased activity and efficiency, reduced life expectancy and decreased self-care.

Recent studies suggest that women are more susceptible to depression from the postpartum period than during the pregnancy. Therefore, despite of the relative awareness about the effect of postpartum depression on the child health, mother and family, the issue of depression during pregnancy has been relatively neglected (11). The timely diagnosis and management of pregnancy during depression is of particular importance. Thus, the aim of this study is to investigate the prevalence of depression and its related factors in pregnant women.

MATERIALS AND METHODS:

The study was descriptive and analytic which was performed on 907 pregnant women . The inclusion criteria was pregnant women without history of depression and psychiatric disorders before pregnancy, no history of the use of psychedelic drugs and alcohol and other drug addictions, no

close family death in recent months, no history of high risk pregnancy (history of hypertension, diabetes, history of previous fetal death etc.).

The data collection was divided into two sections: the first section consists of the personal characteristics of the subjects under study including age, education, occupation etc. Another questionnaire is the Beck Depression Inventory, which is standard one and has been used for pregnant women and its validity has also been confirmed. In this inventory, a score ranging from 0-15 indicates no depression (normal mean), (16-30) mild depression, (31-45) moderate to severe depression, and (46-63) severe depression (12). The data was analyzed by SPSS 18 and Chi square, as well as linear regression was used for prediction of factors associated with depression.

RESULTS:

The pregnant women aged between 17-45 years with a mean of 27.07 ± 4.88 years. The average age of marriage was 21.18 ± 4.08 . 76.2% of the samples lived in urban areas. The majorities of women (42.7%) had high school degree and were housewives (90.3%). 80.5% of the spouses were self-employed, and most of them (39%) had high school degree. 50.4% of women had a child and 47.7% experienced their first trimester of pregnancy, while 45.9% had their third trimester of pregnancy. 86% of women got pregnant naturally and 59.9% had a natural childbirth history. The frequency of depression in pregnant women showed that 46.1% of women had mild depression and (27.2%) moderate and (7.2%) severe and only 19.5% had no depression.

In comparing the results of depression between third trimesters of pregnancy using Chi-square test, it was found that there was a significant difference between the progression of pregnancy and increasing depression (Table 1).

The results of linear regression analysis among independent variables (male and female education, husband's job, number of children, number of pregnancies and previous abortion history) and depression showed that these variables are regarded as factors affecting depression during pregnancy; their results are shown in Table 2.

Table .1- The Prevalence of depression during pregnancy between tree trimesters.

pregnancy Trimmers	n=907				P value
	YES		NO		
	N	%	N	%	
First trimester	171	67.9	81	32.1	P=0000 Df=2 X ² =33.88
Second trimester	193	83.5	38	16.5	
Tried trimester	351	85.8	58	14.2	
Total depression	730	80.5	177	19.5	

Table 2- Factors Related to Depression in pregnant women

	N (%)	B	Std. Error	p	OR	95%CI
Educational level					2.12	2.22-3.68
Uneducated	8(0.9)	0.75	0.28	0.007		
Primary school	190(20.9)					
Secondary school	387(42.7)					
College or University	322(35.5)					
Husband's Educational level					1.24	0.3-5.24
Uneducated	13(1.4)	-0.04	0.02	0.01		
Primary school	306(33.7)					
Secondary school	353(38.9)					
College or University	235(25.9)					
Husband Employment status						
Unemployment	731(80.6)	0.73	13.91	0.000	15.57	3.68-65.89
Employed	176(19.4)					
Number of child						
0	470(51.9)			0.02		
1-3	414(45.5)	-1.34	0.60		0.7	0.7-1.2
>3	23(2.5)					
Number of pregnancy						
First pregnancy	440(48.5)	1.25	0.48	0.006	2.81	1.37-5.79
Second pregnancy	337(37.2)					
Tried pregnancy	130(14.3)					
Previous abortion						
Yes	204(22.5)	-	0.24	0.000	3.96	2.22-7.06
No	703(77.5)					

DISCUSSION:

The results of this study indicate that the prevalence rate of depression in pregnant women is 80.5%. In the study by Baghie et al. (2013), the prevalence of depression during the pregnancy in Iranian women has been reported to be 32.9% (13). In addition, in the study by Modabbernia, the prevalence was found 25% (14). In other countries, the rate of depression in pregnancy has been estimated at 5-17% (15 and 16). The prevalence of depression in pregnant women in our country is much higher than the rest of the world, which can be attributed to a different lifestyle, sampling instrument, sampling location, and special conditions for pregnant women. The results of this study

showed that the mean score of depression increased with progression of pregnancy. Moreover, the results of a study by Malacoty and Kamali showed a significant difference between different periods of pregnancy in terms of depression symptoms and the prevalence of depressive symptoms in the third trimester was also low (17). On the other hand, the findings of the study by Edward et al and Hosseini Sazi were consistent with our study (18). The low depression score in the first trimester may be attributed to the lack of exposure to pregnancy complications and difficulties increased in the second and third trimesters due to the progression of pregnancy as well as complications and problems of pregnancy

and childbirth. However, there are few studies on the prevalence of depression in pregnancy trimesters and it requires further studies. Regarding the correlation of depression with the studied variables, the results indicate that there is a significant relationship between depression and educational status of women and their husbands. Low educational status of pregnant women increases the risk of depression by 1.2%. Additionally, in the study by Rahmanie et al., (2011), a significant relationship was found between maternal education and depression (19). Also, the highest percentage of depression was reported in women with elementary education in the study by Hosseini (20). These results when compared with the findings of our study were in line. High educational level raises maternal awareness of their social rights, promotes understanding and cooperation, and provided better and easier access to information resources (13). In the present study, mothers with a history of abortion had a higher prevalence of depression (3.9%). Similarly, in a study by Black et al., the history of abortion has a significant relationship with depression in pregnancy (21).

Furthermore, a study by Lolaie et al. (2007) discovered, mothers with abortion history were 2.94 times as likely to be depressed in pregnancy compared with mothers without a history (22). Women with a history of abortion are at increased risk of depression. The results of the study also show that the number of children and the number of previous pregnancies increased 0.7 and 2.8 times the risk of depression. The study of Hosseini et al. showed that there was a significant statistical difference between depression and gravity that was consistent with the results of the study by Ross and Moddaberian (16, 20, 23).

Furthermore, Rahmani et al. found in their study that there is a significant relationship between the number of children with depression during pregnancy (19); the result was in line with the result of our study.

The results indicated that the frequency of depression is high in women who experienced their first trimester, which could be attributed to the fear and excitement of women who have not yet experienced childbirth and are scared and anxious of being a mother and baby care. The results of all these studies were in line with our research. On the other hand, our study suggests the relationship between the employment status of spouses and depression; depression in pregnancy is higher (15.5%) among women with husbands that are self-employed. Therefore, considering its significant

effect on the mental and psychological well-being of pregnant women, it is important to specially pay attention to the employment of the spouses.

CONCLUSION:

High prevalence of depression was found in this study, and it is imperative paying attention to the diagnosis of mothers at risk of depression by health care providers. Pregnancy screening for mental and psychological issues in pregnant women should be considered as a part of routine care in pregnancy.

Conflict of interest

All authors declare no conflict of interest.

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