**ORIGINAL ARTICLE**

# Frequency of Depression among Hospitalized Pregnant Females for Obstetrics Risk

SAIMA GHAFFAR, SARWAT RIZVI, GHAZALA SAEED, *SYED MUHAMMAD H. JAFRI, ANUM JAFRI, RUBAR HAIDER*

## ABSTRACT

**Aim:** To assess the frequency of depression among pregnant females with obstetric risk presenting in a tertiary care hospital.
**Setting:** Department of Obstetrics and Gynaecology, Lady Willington Hospital, Lahore
**Duration:** Six months from July 2014 to December 2014
**Study Design:** Cross sectional study
**Sample Size;** Sample size of 230 patients is calculated with 95% confidence level, 5% margin of error and taking expected percentage of prenatal depression i.e., 18% among pregnant females with obstetric risk.
**Sampling Technique:** Non probability, purposive sampling
**Procedure** Pregnant females fulfilling the inclusion criteria were included in the study. An informed consent was taken. Demographic details were obtained and the females were interviewed by using EPDS questionnaire. Patients were marked as positive for depression at EPDS score $\geq$11. The information was recorded on proforma and data was stratified for obstetrics risks i.e. PIH, preeclampsia, PROM, gestational diabetes etc.
**Results:** In the study the mean age of the pregnant women was 28.03±7.11 years. The mean gestational age was 26.37±7.67 weeks. Most of (23.5%) the patients presented were para 2. The mean EPD score of 230 patients was 14.88±8.64 with minimum and maximum values of 1 & 30 respectively. Out of 230 patients the depression was observed in 60% patients with obstetric risk. Hypertension was found in 53.48%, pre-eclampsia in 9.6% patients, gestational diabetes in 46.96% patients and PROM was observed in 80.43% patients.
**Conclusion:** In our study results the depression was found in maximum number of patients who had obstetrics risk. Now in future, we will plan to avoid such risks to avoid depression.
**Keywords:** Antenatal care, Pregnancy, Obstetric risk, Hypertension, Depression

## INTRODUCTION

Depression is an emotional or affective state where a person may feel sad, lonely, or miserable with a "lack of interest" in their usual pleasurable activities. Antenatal depression is a form of clinical depression that can affect a woman during pregnancy and post partum period. Almost 9.9% percent of pregnant women are affected by this condition[1].

Mental health is not yet recognized as an integral component of practice in prenatal care. Women with depression during pregnancy are at increased risk for preterm birth, low birth weight and intrauterine growth restriction[2]. It can be a precursor to postpartum depression[3,4], exaggerated pain in the early postpartum period[5] and decreased breastfeeding initiation[6].

*Department of Obstetrics and Gynaecology Lady Willington hospital Lahore*
*Correspondence to Dr. Sarwat Rizvi, Assistant Professor, Email: ramss_1 yahoo, cell 0333-4339755*

Prenatal depression negatively affects fetal development and neonatal outcome. It can have an adverse effect on cognitive, behavioral, and psychomotor development[7].

Rationale of this study was to find out the frequency and magnitude of the symptoms of depression among pregnant females. No local study is available upon which we can rely and update our guidelines accordingly. By early recognition of maternal depression and early referral to psychiatry department for treatment, we can avoid adverse obstetric and neonatal outcomes.

The objective of this study is to assess the frequency of depression among pregnant females with obstetric risk presenting in a tertiary care hospital.

**Obstetrical Risk:** It will be labeled as if pregnant female had PIH (BP$\geq$140/90mmHg), preeclampsia (PIH with protein urea +1 on dipstick) or eclampsia (convulsions with or without preeclampsia), cervical incompetence, preterm labour, pre mature rupture of membranes (on clinical evaluation), gestational

diabetes (GTT>7mmol/L), multiple pregnancy (on USG) and placenta previa (on USG).

**Prenatal depression:** It was measured as if pregnant female had EPDS (Edinburgh Postnatal Depression Scale) score of ≥11)

## MATERIAL AND METHODS

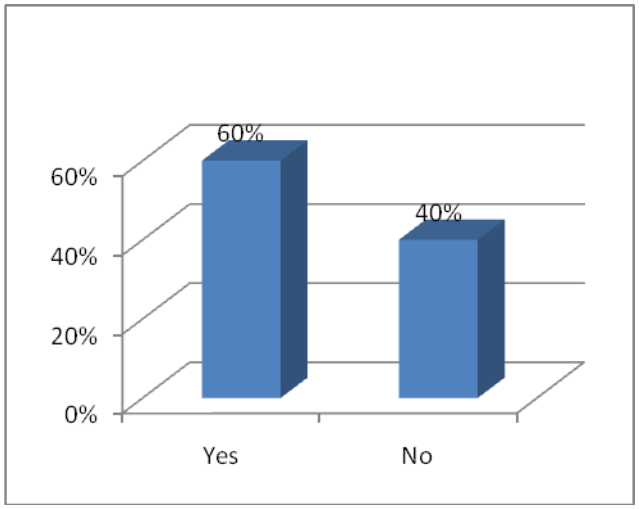
This cross sectional study was conducted at Department of Obstetrics and Gynaecology Lady Willington hospital Lahore for six months from July 2014 to December 2014. 230 females fulfilling selection criteria were enrolled from antenatal clinic by non-probability purposive sampling technique . Pregnant females 16-40 years, with parity <5with gestational age of >12 weeks (on LMP and USG) presenting with obstetrics risk were included in the study. An informed consent for using their data in research was taken. Demographic details were obtained and then females were interviewed by using EPDS questionnaire. Patients were marked as positive for depression when their EPDS score was ≥11. All this information was recorded on Proforma. Data was stratified for obstetrics risk (as per operational definition).

The patients with cognitive impairment, not expected to remain hospitalized for > 72 hours and with chronic hypertention , diabetes , deranged LFTs , RFTs before pregnancy were excluded from the study.

The collected data was entered in SPSS version 20.0 and analyzed through statistical package. Quantitative variables like age and gestational age was calculated as mean and standard deviation. Qualitative variables like parity, obstetric problem at time of presentation and depression was calculated as frequency and percentage. Data was stratified for obstetric risk i.e. PIH, preeclampsia, Eclampsia, cervical incompetence, preterm labour, PROM, gestational diabetes, multiple pregnancy and placenta previa.

## RESULTS

In the study, mean age of the patients was 28 years with the youngest patient being 16 and the oldest being 40 years of age. The mean gestational age of the patients was 26.37 weeks with minimum being 13 weeks and maximum 40 weeks. Out of 230 patients included in the study, 52(22.6%) were primigravidas, 49(21.3%) were para one, 54 (23.5%) were para two, 39(17%) were para three and 36(15.7%) patients were para four. Hypertension was found in 53.48% and preeclampsia in 22(9.6%) patients. The study results showed that the eclampsia was seen in 27(11.7%) patients and gestational diabetes in 46.96% patients whereas it was not found in 53.04% patients. Incompetent cervix was observed in 76(33%) patients and PROM in 80(43%) patients. 47(20.4%) patients had multiple pregnancy and 52(22.6%) patients were found to be with the pre-term labour. Placenta previa was observed in 42(18.3%) patients. The mean EPDS score of 230 patients was 14.88±8.64 with minimum and maximum values of 1 & 30 respectively.




**Distribution about Depression:**

Out of 230 patients the depression was observed in 60% patients while it was not observed in 40% patients.

Table 1: Distribution about depression in accordance with Hypertension

| Depression | Hypertension | | Total |
|---|---|---|---|
| | No | Yes | |
| Yes | 54 | 84 | 138 |
| No | 53 | 39 | 92 |
| Total | 107 | 123 | 230 |

Chi value=7.57 p-value = 0.006 (Significant)

Table 2: Distribution about depression in accordance with Pre-eclampsia

| Depression | Preeclampsia | | Total |
|---|---|---|---|
| | No | Yes | |
| Yes | 127 | 11 | 138 |
| No | 81 | 11 | 92 |
| Total | 208 | 22 | 230 |

Chi value=1.01 p-value = 0.314 (Insignificant)

Table 3: Distribution about depression in accordance with Eclampsia

| Depression | Eclampsia | | Total |
|---|---|---|---|
| | No | Yes | |
| Yes | 121 | 17 | 138 |
| No | 82 | 10 | 92 |
| Total | 203 | 27 | 230 |

Chi value=0.112 p-value = 0.738 (Insignificant)

Table 4: Distribution about depression in accordance with Gestational Diabetes

| Depression | Gestational diabetes | | Total |
|---|---|---|---|
| | No | Yes | |
| Yes | 77 | 61 | 138 |
| No | 45 | 47 | 92 |
| Total | 122 | 108 | 230 |

Chi value=1.05 p-value = 0.305 (Insignificant)

Table 5: Distribution about depression in accordance with incompetent cervix

| Depression | Incomplete cervix | | Total |
|---|---|---|---|
| | No | Yes | |
| Yes | 98 | 40 | 138 |
| No | 56 | 36 | 92 |
| Total | 154 | 76 | 230 |

Chi value=2.56 p-value = 0.109 (Insignificant)

Table 6: Distribution about depression in accordance with PROM

| Depression | PROM | | Total |
|---|---|---|---|
| | No | Yes | |
| Yes | 107 | 31 | 138 |
| No | 78 | 14 | 92 |
| Total | 185 | 45 | 230 |

Chi value=1.84 p-value = 0.170 (Insignificant)

Table 7: Distribution about depression in accordance with multiple pregnancies

| Depression | Multiple pregnancy | | Total |
|---|---|---|---|
| | No | Yes | |
| Yes | 111 | 27 | 138 |
| No | 72 | 20 | 92 |
| Total | 183 | 47 | 230 |

Chi value=0.16 p-value = 0.680 (Insignificant)

Table 8: Distribution about depression in accordance with Pre-term labour

| Depression | Preterm labour | | Total |
|---|---|---|---|
| | No | Yes | |
| Yes | 103 | 35 | 138 |
| No | 75 | 17 | 92 |
| Total | 178 | 52 | 230 |

Chi value=1.49 p-value = 0.220 (Insignificant)

Table 9: Distribution about depression in accordance with placenta previa

| Depression | Placenta previa | | Total |
|---|---|---|---|
| | No | Yes | |
| Yes | 115 | 23 | 138 |
| No | 73 | 19 | 92 |
| Total | 188 | 42 | 230 |

Chi value=0.58 p-value = 0.440 (Insignificant)

## DISCUSSION

Studies to date have not directly examined the utility of screening for antenatal depression in obstetrics settings for appropriate treatment. However, the U.S. Preventive Task Force concluded recently that screening for depression in adults in primary care can improve rates of detection and treatment[8].

Depressed mood in pregnancy was reported, in a study, by 39% of mothers. The EPDS demonstrated good internal reliability, with a cronbach's alpha of 0.87[9].

In a Norwegian study, psychological distress was reported by 37% of the mothers and severe distress symptoms were reported by 9% of the mothers[10] whereas in our study the reported incidence is 60%. According to our study results the hypertension is a significant obstetric risk factor of antenatal depression i.e. p-value = 0.006. The other risk factors in our study observed were insignificant.

Several studies showed their results which supports findings of our study. Gla´ucia Rosana Guerra Benute et al showed that major depressive disorder was diagnosed in 29 cases (9%). The prevalence of major depression was as follows: 7.1% for preeclampsia or chronic hypertension, 12.1% for cardiac disorder, 7.1% for diabetes mellitus, 6.3% for maternal anemia, 8.3% for collagenosis and 12.5% for a high risk of premature delivery[11].

Manikkam et al concluded in their study that of the participants 42.2% had high / medium risk pregnancies (e.g. twins, previous caesarean section, diabetes or hypertension) and 20.2% had low-risk pregnancies; in the remaining 37.6% the reason for referral to the psychiatric clinic was unknown. Sixty-nine per cent were in their third trimester, with a mean gestational age for the sample of 28.6 weeks (range 2-41 weeks, SD 8.4)[12]. These results are similar to our study.

In our study the mean EPD score of 230 patients was 14.88±8.64 with minimum and maximum values of 1 & 30 respectively. Whereas Thiagayson P et al, have reported the incidence of about 18%[13] while another reported as 60% that indicated depression among females with obstetrics risk using EPDS scoring criteria[14].

In a cross-sectional study conducted in Lahore. Out of 506 antenatal attendees 126(24.9%) had no depression (EPDS scores < 10), 53(10.5%) scored 10–12 and 327(64.6%) had EPDS scores >12. Depression scores (≥10) were more common in mothers aged < 20 years (93.7%) than those aged >35 years (55%)[15].

## CONCLUSION

Depression is a significant public health concern. In our study results the depression was found in 60% patients and hypertension in antenatal women had significant effect on depression. Major depression

during pregnancy in women with a medical disorder should routinely be investigated.

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Edinburgh Postnatal Depression Scale (EPDS) Form

| Sr# | Question | In the past 7 days | | | |
|---|---|---|---|---|---|
| 1. | I have been able to laugh and see the funny side of things | 100% as before | 50% as before | 25% as before | 0% |
| 2. | I have looked forward with enjoyment to things | 100% as before | 50% as before | 25% as before | 0% |
| *3. | I have blamed myself unnecessarily when things went wrong | >75% | 50-75% | <25% | 0% |
| 4. | I have been anxious or worried for no good reason | Never | 1days / week | 2-3 days / week | 5-6days / week |
| 5. | I have felt scared or panicky for no very good reason | 5-6days / week | 3-4days / week | One / week | Never |
| 6. | Things have been getting on top of me | 5-6days / week | 3-4days / week | One / week | Never |
| 7. | I have been so unhappy that I have had difficulty sleeping | 5-6days / week | 3-4days / week | One / week | Never |
| 8. | I have felt sad or miserable | 5-6days / week | 3-4days / week | One / week | Never |
| 9. | I have been so unhappy that I have been crying | 5-6days / week | 3-4days / week | One / week | Never |
| 10. | The thought of harming myself has occurred to me | 5-6days / week | One / week | Never | |

**SCORING**: Questions 1, 2, and 4 (without an *) are scored 0, 1, 2, or 3, with the top box scored as a 0 and the bottom box scored as a 3.Questions 3 and 5-10 (marked with an *) are reverse-scored, with the top box scored as a 3 and the bottom box scored as 0.Maximum score: 30

**Possible depression: 11 or highe**