Association of Antenatal Depression with Fetal Gender

[*]Mansour Ghanaie M (MD)[1]- Soleimani R (MD)[2]- Kazemnejad E (PhD)[3]- Samadi Sophi E (MD)[4]- Asgari Galebin SM (MD)[4]

***Corresponding Address:** Reproductive Health Research Center, Alzhra Hospital, School of Medicine, Guilan University of Medical Sciences, Rasht, Iran.

Email:m_ghanaei@gums.ac.ir

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Abstract

Introduction: Multiple risk factors are associated with depression during pregnancy, but so far the effect of fetal sex on depression in pregnancy has not been investigated in Iran.

Objective: Frequency survey and depression – related factors with emphasis on relationship between depression and fetal sex in pregnant women referred to Al-Zahra Rasht.

Materials and Methods: This analytical cross-sectional study was done within a period of two months (June and July 2013) on 500 pregnant women referred (more than 20 weeks of pregnancy) to prenatal care of Al-Zahra hospital. The questionnaire consistingof two demographic data and midwifery sections and Beck standard depression inventory were completed by patients who had the inclusion criteria.

Results: The prevalence of depression in 500 pregnant women was found to be 27.4%. Factors associated with depression in pregnancy using multiple Logistic regression models, maternal employment status, number of children, same sex of fetus with previous children, duration of notice from fetus sex, family history of depression, stressful event and satisfaction from spouse, and were identified as the most powerful variables affecting theincidence of depression in pregnancy. There was no significant relationship between depression and fetal gender.

Conclusion: The high prevalence of depression among pregnant women in this study, compared with global studies suggests the need for more reviews and principal interventionalstudies in this field. The same gender of fetus with previous child and duration of knowledge of fetal sex had a significant relationship with depression during pregnancy. According to the results of this study, screening of the groups at risk of depression is recommended.

Conflict of interest: non declared

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1. Reproductive Health Research Center, Alzhra Hospital, School of Medicine, Guilan University of Medical Sciences, Rasht, Iran.
2. Kavosh Cognitive Behaviour Sciences and Addiction Research Center,Psychiatry Department, Shafa educational–remedial Hospital, Guilan University of Medical Sciences, Rasht, Iran.
3. Departement of Biostatictis, School of Nursing and Midwifery, Guilan University of Medical Sciences, Rasht, Iran.
4. School of Medicine, GuilanUniversity of Medical Sciences, Rasht, Iran.

Extended Abstract

Introduction: Depression is the fourth global health mortality related issue (1).More than 40% of women suffer from depressive symptoms during pregnancy and postpartum (2) There are few studies on the relationship between fetal gender and depression during pregnancy (3) Studies in Western countries found no association between postpartum depression and gender of the infant, but in studies from China, India, Pakistan, Turkey and Nigeria, the birth of a baby girl was associated with postpartum depression (8-4).

Objective: This study was designed to investigate and screen for depression in a population of pregnant women referred to the prenatal clinic and to find out its relationship with fetal gender.

Materials and Methods: This analytical cross-sectional study was performed on 500 pregnant women (over 20 weeks) referred to prenatal care clinic of Azzahra hospital in a 2-month period (June and July 2013).

A questionnaire consisting of demographic and midwifery information and Beck depression inventory was completed by individuals with inclusion criteria.

A total of 520 questionnaires were completed by clients, eliminating 20 questionnaires because they were incomplete.

Inclusion criteria were: pregnant women over 20 weeks of gestation, not known history of depression and related drug use over the past 6 months, mother's awareness of fetal gender using ultrasound at 18-20 weeks, no chronic illness, infection, diabetes, hypertension, no complications of pregnancy (bleeding, placenta previa, etc.), and ability to read and write.

Exclusion criteria were: non-cooperation in completing the questionnaire and incomplete questionnaire. Beck depression questionnaire comprises 21 multiple-choice questions with adequate validity and reliability demonstrated in several studies. Internal consistency coefficient was 87% and its validity and reliability were 0.74 and 0.77, respectively (9).

Symptom severity is rated on a 4-point scale from 0 to 3 in questionnaires. Scores range from at least 0 to a maximum of 63 and based on this score, the respondent's condition is assessed in terms of depression as follows:

0-15 (normal), 16-30 (mild depression), 31-46 (mild depression), 47-63 (severe depression).

Frequency table, percentage, mean and standard deviation were used to report the results. Chi-Square test was used to compare the results and significance level was set at 0.05.

Logistic regression statistical model was used to estimate matched odds ratios to control for underlying variables and to determine the independent effect of fetal gender on depression. Statistical analysis was performed by SPSS 16 software.

Results:A total of 500 pregnant women were assessed by Beck Depression questionnaire with a threshold above 16:

137 (27.4%) had depression, of which 115 (83.9%) had mild depression, 20 (14.6%) had moderate depression, and 2 (1.5%) had severe depression. The average Beck depression score in our study population was 11.60 ± 9.05. The frequency of depression with 95% confidence interval was 23.48-31.32.

25/3% of women experiencing their first pregnancy were depressed. This difference was 34.4% in the second pregnancy, 28% in the third pregnancy and 3.33% in the fourth pregnancy, which were not statistically significant (p=0.405). In the first pregnancy 7.24% of mothers with male fetus and 26% with female fetus were depressed. In the second pregnancy these values were 32.7% and 36.4% and it was 19.2% and 37.5% in the third pregnancy and 30% and 36.4% in the fourth pregnancy, respectively. Depression was not observed in the five cases experiencing their fifth and sixth pregnancies.

Employment status of mother, number of children, fetal sex similarity, duration of fetal information, family history of depression, stressful accident occurrence and marital satisfaction were identified as the most effective variables in depression.

The odds of depression in housewives are 3.4 times higher than those of working mothers(p:0.026) (OR=3.43, 95% CI: 1.16-10.08). As the number of offspring increases, the chance of depression decreases (OR= 0.525 and95% CI: 0.263-1.049).

In mothers who were aware of the sex of their child, the odds of depression were 2.8 times (OR=2.79 and 95% CI: 1.07-7.32, p = 0.036).

The longer the period of knowledge of the fetus increased, the lower the risk of depression (p=0.046, OR=0.873 and 95% CI: 0.746- 0.998).

Family history of depression was associated with pregnancy depression (p=0.037, OR=2.5 and 95% CI: 1.06-6.36).

People who had changed places of residence had a higher risk of depression than people who had no

accident history(p:0.006, OR=2.49 and 95% CI: 1.3-4.77).

And if one has a severe illness, the risk of depression increases (p=0.007, OR= 2.9 and 95% CI: 1.335-6.306).

Increased satisfaction with marriage reduces chances of depression (OR= 0.585and 95% CI: 0.452-0.758)

Conclusion: The prevalence of pregnancy depression in our study (27.4%) was consistent with most studies in Iran (21-33%) (10). This is higher than in the developed countries (7-15%) and developing countries (19-25%)(11). The cause of the difference is the prevalence of depression, differences in socio-demographic characteristics in populations, study methods and gestational age.

In the present study in univariate analysis, unwanted pregnancy was associated with depression, but after regression analysis, it did not directly affect depression and was influenced by depression through other variables.

There is son preference in many cultures in south and east Asia and Africa (5,7,12). Family preference for male sex has been associated with pregnancy depression(5,7,9)

The gender of the fetus was similar to the previous child and the duration of awareness of the fetus had a significant relationship with depression during pregnancy. According to the results of this study, groups at risk for depression can be identified for screening.

Although the gender of the fetus was not significantly associated with depression in this study, the high prevalence of depression in pregnant women in our study compared to global studies, is suggestive of further investigations and principal interventions in this field.

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