Depression Common in Early Pregnancy and Correlates with Poor Quality of Life

[1]Sandeep Kour, [2]Gurmeet Singh

[1]Department of Obstetrics and Gynecology, [2]Department of Medicine
Acharaya Sri Chander College of Medical Sciences, Sidhra, Jammu,
Jammu & Kashmir, India

Received: 12 Jan 2019
Accepted: 1 May 2019
DOI: https://doi.org/10.3126/njog.v14i1.26636

ABSTRACT

Aims: To look for prevalence of depression in patients with early pregnancy and see the effect of depression on quality of life (QOL).

Methods: Patients in early pregnancy with gestational age <12 weeks were enrolled into the study. Depression was assessed with Center for epidemiologic studies depression (CES-D) scale. QOL was measured using the World Health Organization QOL BREF (WHOQOL BREF).

Results: Out of 74 patients were enrolled in the study 51(68%) patients had depression, 52 (70%) had vomiting and 15(20.2%) had unplanned pregnancy. Patients with depression had higher prevalence of vomiting (78% versus 52%, P =0.022) and lower prevalence of unplanned pregnancy (13% versus 34% P=0.037) as compared to patients without depression. Patients with depression had significantly lower scores for physical , psychological and environmental domains of QOL. There was no difference in the age, gestational age, previous preterm delivery, previous miscarriage, previous pregnancies and social domain of QOL between patients with and without depression. Depression score had significant negative correlation with physical (r= -0.588,p<0.001), psychological (r= -0.561, p <0.001) and environmental (r= -0.313, p=0.007) domains of WHOQOL-BREF.

Conclusions: Depression is common in patients with early pregnancy and correlates with lower QOL of life. Depressed patients were more likely to have vomiting and poor QOL.

Key Words: depression, early pregnancy, quality of life, vomiting.

INTRODUCTION

Women have a two times higher lifetime risk of depression as compared to men.[1,2] This risk is more during the reproductive years and may be mediated by the hormonal fluctuations during the reproductive years.[3] Pregnancy is a stressful period in the life of a female. Prevalence of maternal depression have been found to be higher in females from developing countries as compared to the developed countries.[4] Depression has a negative effect on the quality of life (QOL) in pregnancy and patients with more depressive symptoms having worse QOL.[5] A study from China reported the prevalence of depression to be 40% in pregnant women with depressed patients having significantly lower QOL.[6] Another study reported that presence of depression was associated with decrease scores in all the domains of QOL.[7] Surprisingly the husband as well as the pregnant female both may have depressive symptoms and decreased QOL during the pregnancy.[8]

There is a paucity of data for prevalence of depression and its effect on QOL from India. One study from India reported 39% prevalence of psychological symptoms and 3.8% prevalence of depression in antenatal patients.[9] However the effect of psychological symptoms or depression on QOL was not studied. Thus we planned this study to see the effect of depression on QOL in early pregnancy.

METHODS

Patients in early pregnancy with gestational age <12 weeks were enrolled into the study. The demographic parameters of the patients were noted. Center for Epidemiologic Studies Depression (CES-D) Scale

CORRESPONDENCE

Gurmeet Singh
Department of Medicine, Government Medical College, Jammu,
Jammu & Kashmir, India
Phone: +91-9469002243
Email: gurmeet06@gmail.com

was used to assess the presence of depression.[10] Patients with a CESD score of 16 or greater was taken to be having depression. QOL was measured using the World Health Organization QOL BREF (WHOQOL BREF).[11] WHOQOL BREF consists of 26 questions with a possible score of 1–5 for each question. The instrument covers physical, psychological, social and environmental domains. The scores for each domain are added separately and transformed to a score of 0–100. Higher scores reflect better QOL. A validated Hindi version of WHOQOL BREF was used for Hindi speaking patients.[12] Hindi and English version of WHOQOL BREF and English versions of CESD were used. Patients not conversant with Hindi and English were assisted by the investigators.

The data were analyzed using OpenStat software. The means of continuous variables were compared by Student's "t test", and the categorical variables were compared by Fisher's exact test. A value of $p<0.05$ was considered significant for Student's "t test" and Fisher's exact test. Pearson's correlation coefficient was calculated between depression and QOL. For correlations, $p<0.01$ was considered statistically significant. The study was approved by the Institution Ethics Committee.

RESULTS

We enrolled 74 patients in our study. Mean age of the patients was 24.4±3 years. All the patients were married with a mean of 3.9±2.5 years post marriage. Mean gestational age was 8.7±2 weeks. 52 (70%) patients had vomiting, 15 (20%) patients had unplanned pregnancy and 51 (68%) had depression [Table-1].

Table-1: Demographic features and disease variables in patients (N=74)

Variables	Value
Age (years) Mean± SD	24.4±3
Married(years) Mean± SD	3.9±2.5
Gestational Age (weeks) Mean± SD	8.7±20
Vomiting (%)	52 (70.2)
Unplanned Pregnancy (%)	15 (20.2)
Previous Preterm Delivery(%)	7(9.4)
Use of Vitamins(%)	39(52.7)
Previous Miscarriage(%)	21(28.3)
Previous Pregnancies(%)	45(60.8)
Physical Health(Mean±SD)	49.5± 18.2
Psychological Health(Mean±SD)	57.6±19.7
Social Relationships(Mean±SD)	77.1±19.4
Environment Health(Mean±SD)	69.8±15.5
Depression Score (Mean±SD)	22.6±10.2
Depression	51(68.9)

SD: Standard Deviation

Patients with depression and without depression were compared. There was no difference in the age, years' post marriage or gestational age between patients with and without depression. Patients with depression had higher prevalence of vomiting (78% versus 52%,P =0.02) and lower prevalence of unplanned pregnancy (13% versus 34% p=0.037) as compared to patients without depression. There was no difference in the prevalence of previous preterm delivery, use of vitamins, previous miscarriage or previous pregnancies between the two groups. Patients with depression had significantly lower scores for physical health, psychological health and environmental domains of QOL. There was no significant difference in the social relationship domain between the two groups [Table-2].

Table-2: Comparison of patients with and without depression

Variables	Depression (51)	No Depression (23)	p-value
Age (years) Mean±SD	24.59 ±2.95	24.00 ±3.13	0.439
Years Post Marriage Mean±SD	4.06±2.55	3.63 ±2.48	0.496
Gestational Age (weeks) Mean±SD	8.67± 2.10	9.00±2.07	0.528
Vomiting (%)	40(78.4)	12(52.1)	0.022
Unplanned pregnancy (%)	7 (13.7)	8 (34.7)	0.037
Previous Preterm Delivery (%)	3 (5.8)	4(17.3)	0.117
Use of Vitamins (%)	25(49.0)	14 (60.8)	0.344
Previous miscarriage (%)	17(33.3)	4 (17.3)	0.159
Previous pregnancies (%)	32 (62.7)	13 (56.5)	0.999
Depression Score (Mean±SD)	28.25±6.77	10.26±3.29	<0.0001
Physical Health (Mean±SD)	43.04±14.54	64.40±17.64	<0.0001
Psychological (Mean±SD)	51.31 ± 19.01	71.83 ±13.03	<0.0001
Social relationships (Mean±SD)	75.75±19.50	80.39±19.21	0.343
Environment Health (Mean±SD)	66.73±14.95	76.70±14.82	0.009

SD: Standard deviation, NS: Not significant

All the domains of WHOQOL Depression scores had significant negative correlation with physical (r= -0.588, p<0.001), psychological (r= -0.561, p <0.001) and environmental (r= -0.313, p=0.007) domains of WHOQOL-BREF. There was a weak and non significant correlation of depression score with social domain (r=0.182, p=0.121) [Figures: 1-4].

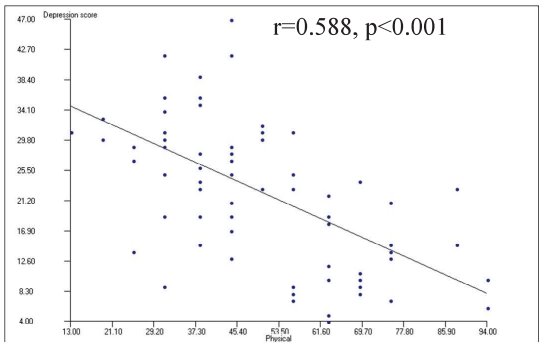

Figure-1: Correlation between depression score and physical health scores

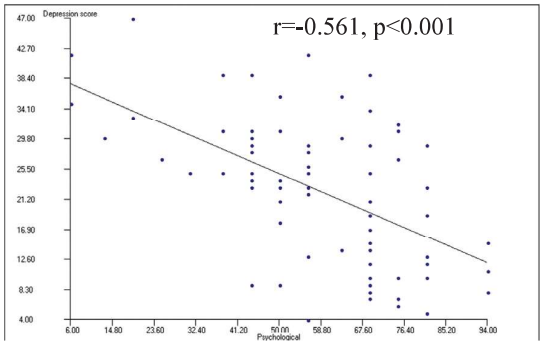

Figure-2: Correlation between depression score and psychological health scores

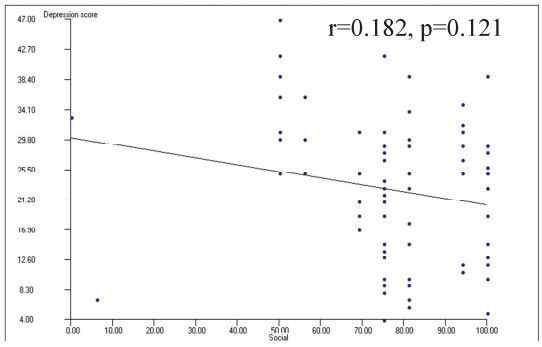

Figure-3: Correlation between depression score and social health scores

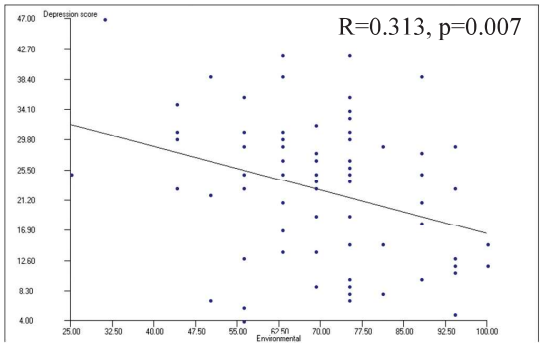

Figure-4: Correlation between depression score and environment health scores

DISCUSSION

The patients in early pregnancy had a high prevalence of depression with two thirds of the patients having depression in this study. Studies from the western literature have reported the prevalence of depression from 13% to as high as 48 %.[13-16] Even in these studies, patients from South Asia, Middle East and ethnic minorities had higher prevalence of depression during pregnancy as compared to Caucasian patients.[13-16] One of the reason for higher prevalence of depression in our study could be use of generic CES-D scale as compared to the Edinburgh Postnatal Depression Scale (EPDS) used in those studies. Other reason could be the difference in the socioeconomic background of our patients. Patients in underdeveloped countries such as India have poor access to the health care facilities as compared to the western world and thus have a poor antenatal care and poor understanding of the process of pregnancy and child birth . This increases the impending anxiety and distress in the minds of future mothers and could be a cause for higher prevalence of depression in our population.

The depressed patients were more likely to have vomiting and less likely to have unplanned pregnancy. Patients with vomiting have higher prevalence of having depression and poor QOL have been shown in many studies.[17-19] The severity of nausea and vomiting has been shown to be higher in patients with higher depression levels.[20] What we found unusual was that patients who had unplanned pregnancy were less likely to have depression as compared to patients who had planned pregnancy (13% versus 34% P=0.037). Most of the studies show that women with unplanned pregnancy are more likely to have depression, poor

quality of life and psychological distress.[21-23] But there are studies that show that planned or unplanned pregnancy does not have any bearing on depression during the pregnancy.[24] Another study showed that pregnancy timing ("Do you think this is a good time for you to be pregnant?") was better predictor or psychological stress as compared to pregnancy planning ("Was this pregnancy planned? Yes/ No").[25] One reason that our patients with unplanned pregnancy had less depression than patients with planned pregnancy could be the social support that our patients get from the joint family structure and extended family during the course of pregnancy and post natal period. Pregnancy in the Indian context is considered as a gift from God and is taken as a blessing. Also having high fertility in a women in Indian context is seen as a virtue and increases the worth of the females in the society. As most of our patients were homemakers (data not shown), they were likely to be staying at home and getting good social and family support in the antenatal period. This is opposite to what is seen in the western societies where the females live in nuclear families and both the husband and the wife are working to earn their living and unplanned pregnancy is seen as a burden on the western lifestyle.

The patients with depression had poor QOL. All the domains of QOL except social relationship had significant negative correlation with presence of depression. A recent systematic review has reported that physical component of QOL decreased over the duration of pregnancy and depended on various factors such as nausea, vomiting, obesity, back pain.[26] Another study has shown that the QOL in pregnancy is inversely related to depression, physical activity, insomnia and higher pregestational body mass index. Sports and exercise had significant positive correlation with QOL domains.[7] So patients with underlying depression need to be made aware of the importance of physical activity during the pregnancy.

One of the limitation of our study was absence of a control group, so we could not compare the prevalence of depression and QOL of our patients with the a group of non pregnant females. Also some of the differences in the depressed and non depressed patients did not reach significance levels due to limitation of sample size.

CONCLUSIONS

Two-thirds of the patients in early pregnancy had depression. Patients with depression were more likely to have vomiting, less likely to have unplanned pregnancy and had poor QOL. We need to actively look for depression in our patients in early pregnancy so that timely intervention in the form of pharmacological and non pharmacological interventions might be instituted in these patients.

REFERENCES

1. Bromet E, Andrade LH, Hwang I, Sampson NA, Alonso J, de Girolamo G et al . Cross-national epidemiology of DSM-IV major depressive episode. BMC Med. 2011;26:9:90.
2. Kessler RC, McGonagle KA, Swartz M, Blazer DG, Nelson CB. Sex and depression in the National Comorbidity Survey: Lifetime prevalence, chronicity and recurrence. J Affect Disord. 1993;29:85-96.
3. Soares CN, Zitek B. Reproductive hormone sensitivity and risk for depression across the female life cycle: a continuum of vulnerability? J Psychiatry Neurosci. 2008;33:331-43.
4. Biaggi A, Conroy S, Pawlby S, Pariante CM. Identifying the women at risk of antenatal anxiety and depression: A systematic review. J Affect Disord. 2016;191:62-77.
5. Nicholson WK, Setse R, Hill-Briggs F, Cooper LA, Strobino D, Powe NR. Depressive symptoms and health-related quality of life in early pregnancy. Obstet Gynecol. 2006;107:798-806
6. Li J, Mao J, Du Y, Morris JL, Gong G, Xiong X. Health-related quality of life among pregnant women with and without depression in Hubei, China. Matern Child Health J. 2012;16:1355-63.
7. Mourady D, Richa S, Karam R, Papazian T, Hajj Moussa F, El Osta N et al. Associations between quality of life, physical activity, worry, depression and insomnia: A cross-sectional designed study in healthy pregnant women. PLoS One. 2017;12(5).
8. Abbasi M, van den Akker O, Bewley C. Persian couples' experiences of depressive symptoms and health-related quality of life in the pre- and perinatal period. J Psychosom Obstet Gynaecol. 2014;35(1):16-21.
9. Johnson AR, George M, Goud BR, Sulekha T. Screening for Mental Health Disorders among Pregnant Women Availing Antenatal Care at a Government Maternity Hospital in Bengaluru City. Indian J Psychol Med. 2018;40:343-8.
10. Radloff LS. 'The CES-D scale: A self report depression scale for research in the general population'. Applied Psychological Measurement. 1977;1:385-401.
11. The World Health Organization quality of life assessment (WHOQOL): Position paper from the world health organization. Soc Sci Med. 1995;41:1403-9.
12. Saxena S, Chandiramani K, Bhargava R. WHOQOL-Hindi: A questionnaire for assessing quality of life in health care settings in India. World Health Organization Quality of Life. Natl Med J India. 1998;11:160-5.
13. Shakeel N, Eberhard-Gran M, Sletner L, Slinning K, Martinsen

EW, Holme I et al. A prospective cohort study of depression in pregnancy, prevalence and risk factors in a multi-ethnic population. BMC Pregnancy Childbirth. 2015;24:15:5.

14. Coll CVN, da Silveira MF, Bassani DG, Netsi E, Wehrmeister FC, Barros FC et al. Antenatal depressive symptoms among pregnant women: Evidence from a Southern Brazilian population-based cohort study. J Affect Disord. 2017;209:140-6.

15. Husain N, Cruickshank K, Husain M, Khan S, Tomenson B, Rahman A. Social stress and depression during pregnancy and in the postnatal period in British Pakistani mothers: a cohort study. J Affect Disord. 2012;140:268-76.

16. Shah SM, Bowen A, Afridi I, Nowshad G, Muhajarine N. Prevalence of antenatal depression: comparison between Pakistani and Canadian women. J Pak Med Assoc. 2011;61:242-6.

17. Yilmaz E, Yilmaz Z, Cakmak B, Karsli MF, Gultekin IB, Guneri Dogan N et al. Nausea and Vomiting in Early Pregnancy of Adolescents: Relationship with Depressive Symptoms. J Pediatr Adolesc Gynecol. 2016;29:65-8.

18. Kramer J, Bowen A, Stewart N, Muhajarine N. Nausea and vomiting of pregnancy: prevalence, severity and relation to psychosocial health. MCN Am J Matern Child Nurs. 2013;38:21-7.

19. Kjeldgaard HK, Eberhard-Gran M, Benth JŠ, Vikanes ÅV. Hyperemesis gravidarum and the risk of emotional distress during and after pregnancy. Arch Womens Ment Health. 2017;20:747-56.

20. Sahin S, Ozdemir K, Unsal A, Cevrioglu AS, Beydag KD. Evaluation of frequency of nausea and vomiting as well as depression level in pregnant women. Clin Exp Obstet Gynecol. 2016;43:691-7.

21. Abajobir AA, Maravilla JC, Alati R, Najman JM. A systematic review and meta-analysis of the association between unintended pregnancy and perinatal depression. J Affect Disord. 2016;192:56-63.

22. Faisal-Cury A, Menezes PR, Quayle J, Matijasevich A. Unplanned pregnancy and risk of maternal depression: secondary data analysis from a prospective pregnancy cohort. Psychol Health Med. 2017;22:65-74.

23. Yanikkerem E, Ay S, Piro N. Planned and unplanned pregnancy: effects on health practice and depression during pregnancy. J Obstet Gynaecol Res. 2013;39:180-7.

24. Gariepy A, Lundsberg LS, Vilardo N, Stanwood N, Yonkers K, Schwarz EB. Pregnancy context and women's health-related quality of life. Contraception. 2017;95:491-9.

25. Gariepy AM, Lundsberg LS, Miller D, Stanwood NL, Yonkers KA. Are pregnancy planning and pregnancy timing associated with maternal psychiatric illness,psychological distress and support during pregnancy? J Affect Disord. 2016;205:87-94.

26. Lagadec N, Steinecker M, Kapassi A, Magnier AM, Chastang J, Robert S et al. Factors influencing the quality of life of pregnant women: a systematic review. BMC Pregnancy Childbirth. 2018;23:18:455.