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A Study to Assess the Level of Depression Among Mothers with Postnatal GDM at Nerkundram-OPD

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Abstract: *The current study aims to assess the level of depression among postnatal mothers with gestational diabetes mellitus at nerkundram. The quantitative approach with Experimental descriptive research design was adopted for the present study. A total of 100 postnatal who met the inclusion criteria was selected by Non- probability purposive sampling technique. This study has been conducted for a interval of 3 weeks .The demographic and the existing level of depression data was collected by self-structured questionnaire and the duration of 30 minutes was given for completing the questionnaire . The Hamilton Depression Rating Scale was used to assess the level of depression and the collected data were tabulated and analysed by using descriptive and inferential statistics. The results revealed that variable such as religion had significant association with level of depression .*

Keywords: *Depression , Gestational Diabetes Mellitus, Postnatal Mothers*

I. INTRODUCTION

Physical and emotional changes are associated with pregnancy. Some women are more prone to experiencing depression symptoms during the postpartum period, which typically start 4 weeks after giving birth and last up to 3 months[1]. In 2015, 322 million people worldwide were reportedly impacted by depression. There will likely be a 22.5% increase in depression. 57 million Indians (18%) suffer from depression.

In 2013, 37% of Disability Adjusted Life Years (DALY) were attributable to depression. Depression will be the third-most incapacitating condition worldwide by 2025[2]. In south-eastern Nigeria and Karachi, 34.6 percent of women suffer from PPD. 30.3 percent in Nepal.

PPD prevalence in low- and middle-income nations ranged from 11 to 40%[3]. 4. 17% of healthy women have postpartum depression. In comparison to Western nations, the Middle East and Asia have the highest frequency[4]. Studies from the National Institute of Mental Health show that a woman's lifelong risk of depression is highest during the childbearing years. [4] After giving birth to a child, about 15% of all women will develop PPD[5].

Biological, psychological, social, and interpersonal etiological variables are separated apart. The abrupt change in reproductive hormone levels, prior and family history of depressive disorder, and changes in sleep patterns are biological variables for postpartum psychiatric problems.

In the Indian context, gender bias, including a preference for a male kid, domestic violence, financial constraints, prior psychiatric illness, and inadequate spousal support, are the most prevalent psychological and interpersonal variables for PPD. Endocrine changes, alterations in body image, the triggering of unconscious psychological conflicts, and intrapsychic realisation of becoming a mother are some of the additional causes[6].

The entrance of the placenta during pregnancy causes the maternal hypothalamic-pituitary-adrenal axis to experience profound changes.

Dysregulation of the hypothalamic-pituitary-adrenal axis and placenta during pregnancy are risk factors for postpartum depression. Increased placental corticotropin-releasing hormone levels are linked to altered anterior pituitary cortisol sensitivity and possibly reduced central corticotropin-releasing hormone secretion. is a risk factor for postpartum depression development[7].

Postnatal depression symptoms include depressed mood, decreased interest in or enjoyment from activities, diminished interest in food, disturbed sleep, physical agitation, fatigue, feelings of worthlessness or excessive or inappropriate guilt, decreased concentration or ability to make decisions, or recurrent thoughts of death or suicidal ideation, according to the World Health Organization[8].

Among non-pregnant people, the phenotypes of depression and glucose intolerance are very closely related. The development of hyperglycemia is potentially influenced by metabolic disturbances such as increased oxidative stress, ongoing inflammation, and insulin resistance that are positively related with depression.

Women are more susceptible to depression and reduced glucose tolerance during and after pregnancy, which affects not only the health and wellbeing of the mother but also her unborn children[9]. GDM, often known as glucose, indicates a person's risk of developing type 2 diabetes in the future.

While glucose tolerance usually returns to normal in the first few weeks following delivery, women with GDM have a 20–70% chance of developing type 2 diabetes during the first ten years of giving birth[10].

The emergence or identification of poor glucose metabolism during pregnancy is known as gestational diabetes (GD). In the United States, GD complicates about 6% of pregnancies; trends suggest that prevalence has increased recently. According to the American Heart Association, GD increases the risk of cardiovascular disease (CVD) in women[11].

Obesity, excessive pregnancy weight gain, westernised diet, ethnicity, genetic polymorphisms, advanced maternal age, intrauterine environment (low or high birthweight), family and personal history of GDM, and other diseases of insulin resistance, such as polycystic ovarian syndrome (PCOS), are all risk factors for GDM. Each of these risk factors has a connection to decreased β -cell function and/or insulin sensitivity, either directly or indirectly[12].

Early postpartum is a time when women are at a higher risk of developing a depressive episode. Although perinatal depression (PND), an unique subtype of major depressive disorder, and major depressive disorder share many features, women with PND experience higher rates of anxiety, obsessive-compulsive symptoms, and thoughts of harming their unborn child[13].

Depression and diabetes It is considered that the patient's sentiments of helplessness and pessimism caused by the self-care demands of diabetes, together with awareness of the diagnosis of diabetes and its complications, led to depression. In addition, unhealthy behaviours that promote obesity, such as inactivity and poor eating habits, have been linked to an increased prevalence of diabetes in patients with depression[14].

In the first two to six months after giving birth, 10% to 12% of new moms have postpartum depression. Although the prevalence of depression is comparable in pregnant, postpartum, and nonpregnant women, the perinatal period is when new depression is more likely to start.

Untreated prenatal and postpartum depression can have long-lasting detrimental repercussions on the woman, the mother-child bond, the development of the kid, the marriage, and the partner of the woman who is affected[15].

II. MATERIALS AND METHODS

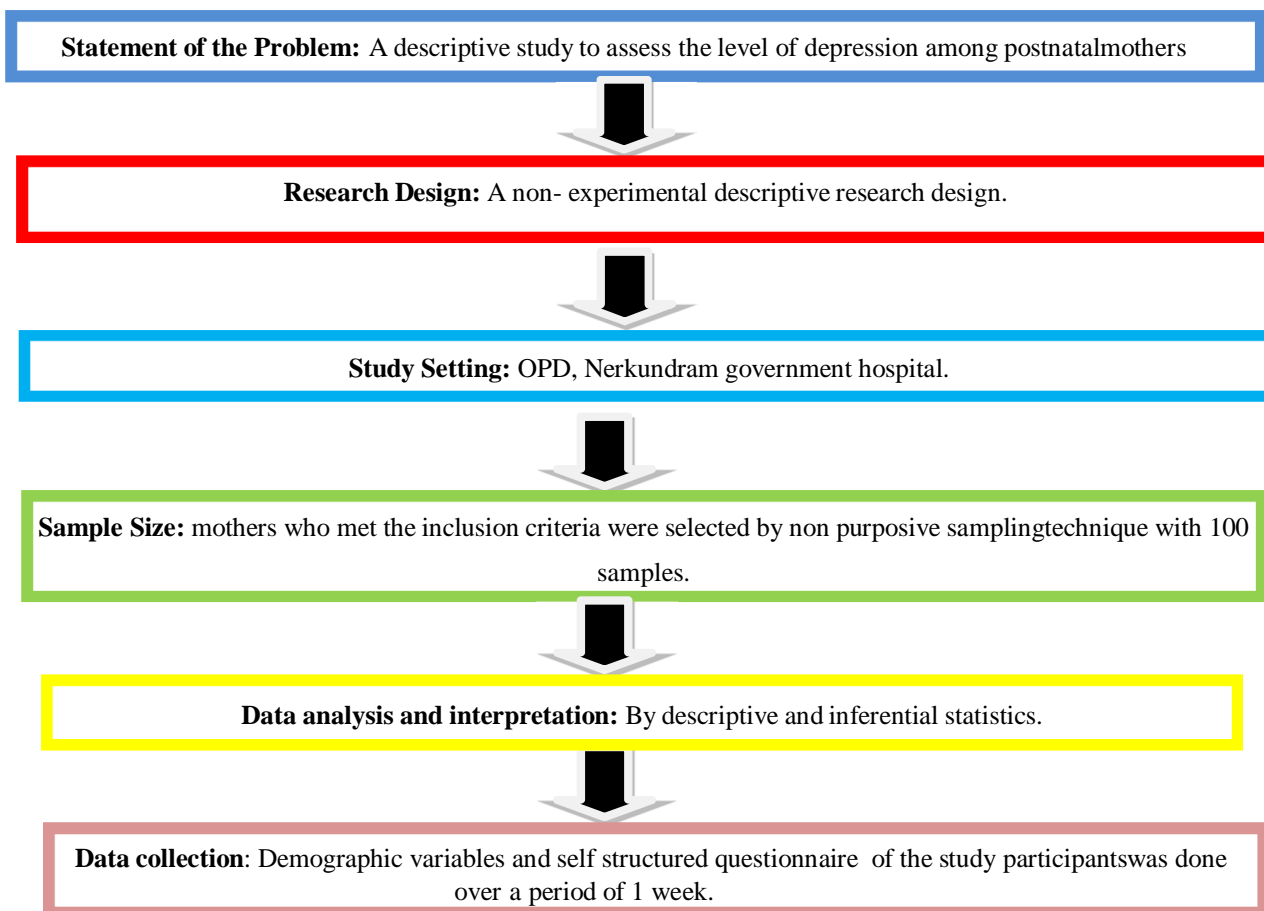
The study was conducted in Nerkundram (Primary Health Centre), Thiruvallur district. The research approach used for this study was quantitative approach and Experimental descriptive research design.

The total study sample was 100 postnatal mothers were selected by Non-purposive sampling technique with the inclusion criteria of Postnatal mothers between the age group of less than 50 years. who are willing to participate the present study. who can read, write and understand English and Tamil. mothers who are not willing to participate the present study who are not available during the study period.

Who cannot read, write and understand English and Tamil are excluded. The study was conducted for the interval of 3 weeks. The permission letter was obtained from the medical officer in selected health centre and approved by the ethics committee of the institution. Informed consent was obtained by the investigator from the study samples and explained the purpose of the study to ensure better cooperation.

The demographic and the existing level of depression data was collected by self-structured questionnaire and the duration of 30 minutes was given for completing the questionnaire. The Hamilton Depression Rating Scale was used to assess the level of depression.

Fig:1 Schematic Representation Of Research Plan



III. RESULTS AND DISCUSSION

| Demographic Variables | No. | % |
|-----------------------|-----|------|
| Age in years | | |
| 12 to 25 years | 17 | 17.0 |
| 26-35 years | 52 | 52.0 |
| 38-49 years | 31 | 31.0 |
| Marital status | | |
| Married | 51 | 51.0 |
| Unmarried | 16 | 16.0 |
| Widow | 14 | 14.0 |
| Divorce | 19 | 19.0 |
| Religion | | |
| Hindu | 22 | 22.0 |
| Muslim | 34 | 34.0 |
| Christian | 36 | 36.0 |
| Others | 8 | 8.0 |
| Educational status | | |
| Primary | 12 | 12.0 |
| Secondary | 23 | 23.0 |
| High secondary | 15 | 15.0 |
| Degree | 26 | 26.0 |
| Illiterate | 24 | 24.0 |
| Occupational status | | |

| Demographic Variables | No. | % |
|-------------------------|-----|------|
| Employed | 16 | 16.0 |
| Unemployed | 57 | 57.0 |
| Business | 22 | 22.0 |
| Laborer | 5 | 5.0 |
| Composition of family | | |
| Nuclear | 17 | 17.0 |
| Joint | 46 | 46.0 |
| Extended | 37 | 37.0 |
| Type of diet | | |
| Vegetarian | 17 | 17.0 |
| Non vegetarian | 56 | 56.0 |
| Mixed | 27 | 27.0 |
| Mode of delivery | | |
| Normal vaginal delivery | 23 | 23.0 |
| Cesarean delivery | 53 | 53.0 |
| Instrumental delivery | 24 | 24.0 |
| Area of residency | | |
| Urban | 32 | 32.0 |
| Rural | 58 | 58.0 |
| Others | 10 | 10.0 |
| Socio economic status | | |
| Lower | 32 | 32.0 |

| Demographic Variables | No. | % |
|-----------------------|-----|------|
| Middle | 38 | 38.0 |
| Upper | 30 | 30.0 |

The table shows that maximum of them were in the age group of 26-35 years , about 51% of the women were married , 36% were Christian, 26% of them had gained degree qualification , 46% of them are living in joint family ,56% were non vegetarian ,53% of them had c-section delivery ,58% of them residing in urban area and 38% were from middle socio economic status

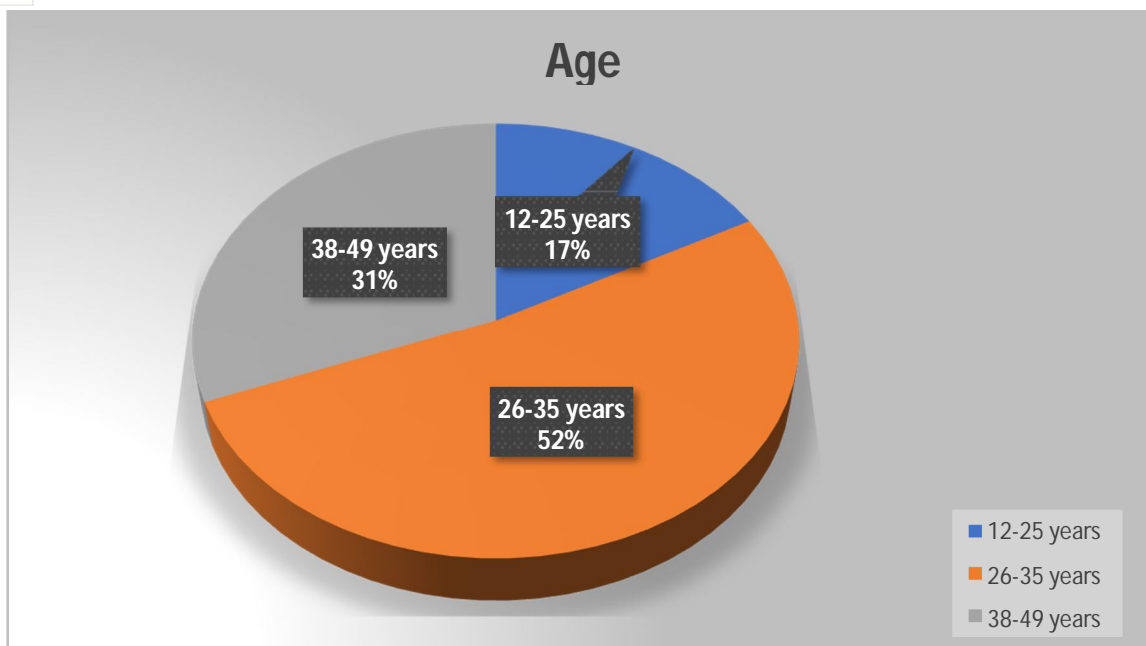


Figure1: Percentage distribution of age

1) Section B: Assessment of level of depression among mothers with gestational diabetes mellitus

Table 2: frequency and percentage level of depression among mothers with gestational diabetes mellitus

| Variables | Mild | | Moderate | | Severe | |
|---------------------|------|------|----------|------|--------|------|
| | F | % | f | % | f | % |
| Level of depression | 32 | 32.0 | 28 | 28.0 | 40 | 40.0 |

The table depicts that, about (40.0%) of them had severe depression, (28.0%) of them had moderate depression and (32%) of them had mild depression.

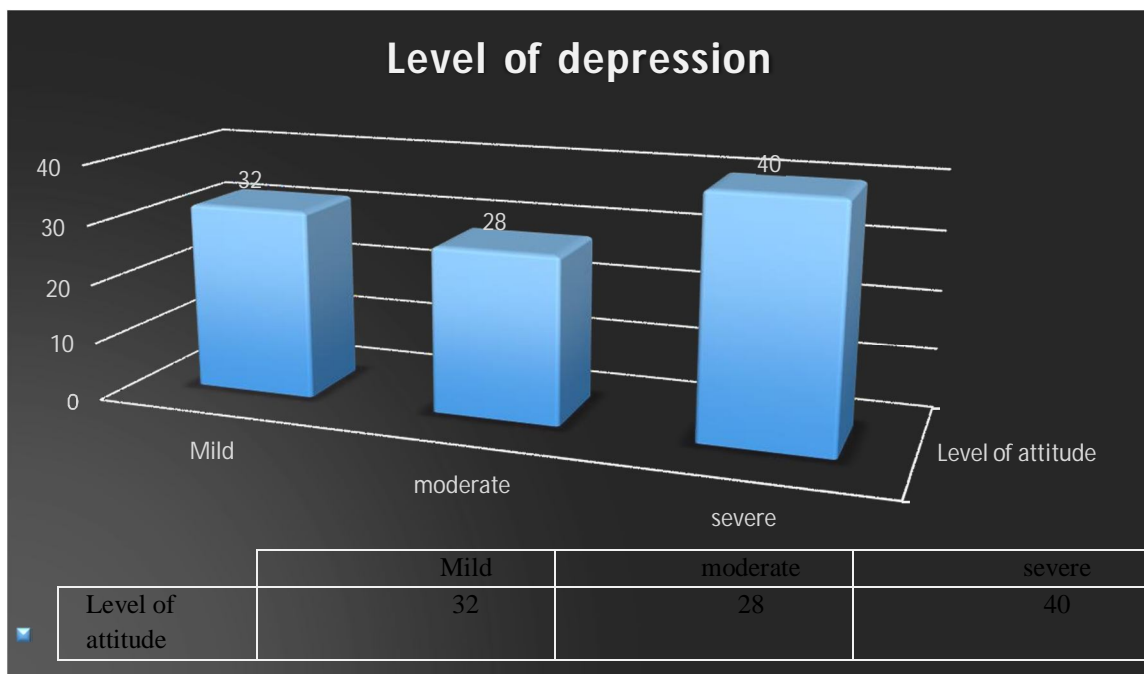


Figure2: Percentage distribution of level of depression

Table 3: Assessment of scores of level of depression

N = 100

| Depression | Mean |
|--------------------|-------|
| Minimum Score | 6.0 |
| Maximum Score | 18.0 |
| Mean | 15.72 |
| Standard Deviation | 4.45 |

The table shows that minimum score 6.0 , maximum score is 18.0 , mean is 15.72, and standard deviation is 4.45 for symptoms of pelvic inflammatory disease

- 2) *Section D:* Association of level of depression with selected demographic variables among the mothers with gestational diabetes mellitus .

Table 4: association of level of depression with selected demographic variables among the mothers with GDM

| Demographic Variables | mild | | moderate | | severe | | Chi-Square Value |
|-----------------------|------|------|----------|------|--------|-----|--|
| | No. | % | No. | % | No. | % | |
| Age in years | | | | | | | $\chi^2=2.823$ d.f=3 p = 0.420 N.S |
| 12 to 25 years | 18 | 18.0 | 10 | 10.0 | 7 | 7.0 | |
| 26-35 years | 12 | 12.0 | 7 | 7.0 | 8 | 8.0 | |
| 38-49 years | 10 | 10.0 | 24 | 24.0 | 4 | 4.0 | |
| Marital status | | | | | | | $\chi^2=2.447$ d.f=1 p = 0.118 N.S |
| Married | 4 | 4.0 | 17 | 17.0 | 2 | 2.0 | |
| Unmarried | 12 | 12.0 | 4 | 4.0 | 4 | 4.0 | |
| Widow | 8 | 8.0 | 16 | 16.0 | 6 | 6.0 | |
| Divorce | 16 | 16.0 | 4 | 4.0 | 7 | 7.0 | |
| Religion | | | | | | | $\chi^2=8.971$ d.f=3 p = 0.030 S* |
| Hindu | 20 | 20.0 | 17 | 17.0 | 5 | 8.3 | |
| Muslim | 12 | 12.0 | 6 | 6.0 | 8 | 8.0 | |
| Christian | 4 | 4.0 | 14 | 14.0 | 2 | 2.0 | |
| Others | 4 | 4.0 | 4 | 4.0 | 4 | 4.0 | |

| Demographic Variables | mild | | moderate | | severe | | Chi-Square Value |
|-------------------------|------|------|----------|------|--------|------|---|
| | No. | % | No. | % | No. | % | |
| Educational status | | | | | | | $\chi^2=0.077$ d.f=1 p = 0.781N.S |
| Primary | 6 | 6.0 | 20 | 20.0 | 7 | 7.0 | |
| Secondary | 2 | 2.0 | 2 | 2.0 | 2 | 2.0 | |
| High secondary | 6 | 6.0 | 3 | 3.0 | 2 | 2.0 | |
| Degree | 2 | 2.0 | 6 | 6.0 | 5 | 5.0 | |
| Illiterate | 24 | 24.0 | 10 | 20.0 | 3 | 3.0 | |
| Occupational status | | | | | | | $\chi^2=1.247$ d.f=3 p = 0.742N.S |
| Employed | 9 | 9.0 | 11 | 11.0 | 5 | 5.0 | |
| Unemployed | 11 | 11.0 | 6 | 6.0 | 1 | 1.0 | |
| Business | 12 | 12.0 | 21 | 21.0 | 11 | 11.0 | |
| Laborer | 8 | 8.0 | 3 | 3.0 | 2 | 2.0 | |
| Composition of family | | | | | | | $\chi^2=6.188$ d.f=3 p = 0.103N.S |
| Nuclear | 3 | 3.0 | 14 | 14.0 | 3 | 3.0 | |
| Joint | 12 | 12.0 | 11 | 11.0 | 5 | 5.0 | |
| Extended | 25 | 25.0 | 16 | 16.0 | 11 | 11.0 | |
| Type of diet | | | | | | | $\chi^2=3.947$ d.f=2 p = 0.139N.S |
| Vegetarian | 23 | 23.0 | 10 | 10.0 | 7 | 7.0 | |
| Non vegetarian | 15 | 15.0 | 9 | 9.0 | 7 | 7.0 | |
| Mixed | 2 | 2.0 | 22 | 22.0 | 5 | 5.0 | |
| Mode of delivery | | | | | | | $\chi^2=7.245$ |
| Normal vaginal delivery | 13 | 13.0 | 17 | 17.0 | 6 | 6.0 | |

| Demographic Variables | mild | | moderate | | severe | | Chi-Square Value |
|-----------------------|------|------|----------|------|--------|-----|---|
| | No. | % | No. | % | No. | % | |
| Cesarean delivery | 12 | 12.0 | 6 | 6.0 | 7 | 7.0 | d.f=3 p = 0.064N.S |
| Instrumental delivery | 20 | 20.0 | 18 | 18.0 | 6 | 6.0 | |
| Area of residency | | | | | | | $\chi^2=3.038$ d.f=1 p = 0.081N.S |
| Urban | 15 | 15.0 | 25 | 25.0 | 7 | 7.0 | |
| Rural | 5 | 5.0 | 10 | 10.0 | 9 | 9.0 | |
| Others | 20 | 20.0 | 6 | 6.0 | 3 | 3.0 | |
| Socio economic status | | | | | | | $\chi^2=3.038$ d.f=1 p = 0.081N.S |
| Lower | 5 | 5.0 | 15 | 15.0 | 8 | 8.0 | |
| Middle | 30 | 30.0 | 10 | 10.0 | 2 | 2.0 | |
| Upper | 5 | 5.0 | 16 | 16.0 | 9 | 9.0 | |

*p<0.05, S – Significant, N.S – Not Significant

The table depicts that, variable such as religion had significant association with level of depression.

IV. CONCLUSION

Based on the findings of the current study it was evident that variable such as religion had significant association with level of depression.

V. ACKNOWLEDGMENT

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VI. CONFLICT OF INTEREST

Authors declare no conflict of interest.

VII. FUNDING SUPPORT

None.

REFERENCES

- [1] Mak, J. K., Lee, A. H., Pham, N. M., Tang, L., Pan, X. F., Binns, C. W., & Sun, X. (2019). Gestational diabetes and postnatal depressive symptoms: a prospective cohort study in Western China. *Women and Birth*, 32(3), e427-e431.
- [2] Leahy-Warren, P., & McCarthy, G. (2017). Postnatal depression: prevalence, mothers' perspectives, and treatments. *Archives of psychiatric nursing*, 21(2), 91-100.
- [3] [Singh, D. R., Sunuwar, D. R., Adhikari, S., Singh, S., & Karki, K. (2021). Determining factors for the prevalence of depressive symptoms among postpartum mothers in lowland region in southern Nepal. *Plos one*, 16(1), e0245199.
- [4] Shorey, S., Chee, C. Y. I., Ng, E. D., Chan, Y. H., San Tam, W. W., & Chong, Y.
- [5] S. (2018). Prevalence and incidence of postpartum depression among healthy mothers: a systematic review and meta-analysis. *Journal of psychiatric research*, 104, 235-248.
- [6] Mahishale, A. V., & Bhatt, J. A. (2017). Comparison of level of depression among mothers with lower segment cesarean section and vaginal delivery: a cross-sectional study. *Journal of the Scientific Society*, 44(1), 15.
- [7] Randhawa, A., Chaudhary, N., Brar, M. S., Verma, V., & Munder, S. P. (2021). A community-based cross-sectional study to assess the prevalence of postpartum depression: Why are the mothers depressed?. *Journal of family medicine and primary care*, 10(12), 4536.
- [8] Glynn, L. M., Davis, E. P., & Sandman, C. A. (2013). New insights into the role of perinatal HPA-axis dysregulation in postpartum depression. *Neuropeptides*, 47(6), 363-370.
- [9] Yusuff, A. S. M., Tang, L., Binns, C. W., & Lee, A. H. (2015). Prevalence and risk factors for postnatal depression in Sabah, Malaysia: A cohort study. *Women and Birth*, 28(1), 25-29.



- [10] Hinkle, S. N., Buck Louis, G. M., Rawal, S., Zhu, Y., Albert, P. S., & Zhang, C. (2016). A longitudinal study of depression and gestational diabetes in pregnancy and the postpartum period. *Diabetologia*, 59(12), 2594-2602.
- [11] Kramer, C. K., Campbell, S., & Retnakaran, R. (2019). Gestational diabetes and the risk of cardiovascular disease in women: a systematic review and meta-analysis. *Diabetologia*, 62(6), 905-914.
- [12] Tobias, D. K., Stuart, J. J., Li, S., Chavarro, J., Rimm, E. B., Rich-Edwards, J., ... & Zhang, C. (2017). Association of history of gestational diabetes with long-term cardiovascular disease risk in a large prospective cohort of US women. *JAMA internal medicine*, 177(12), 1735-1742.
- [13] Plows, J. F., Stanley, J. L., Baker, P. N., Reynolds, C. M., & Vickers, M. H. (2018). The pathophysiology of gestational diabetes mellitus. *International journal of molecular sciences*, 19(11), 3342.
- [14] Galea, L. A., & Frokjaer, V. G. (2019). Perinatal depression: embracing variability toward better treatment and outcomes. *Neuron*, 102(1), 13-16.
- [15] Holt, R. I., De Groot, M., Lucki, I., Hunter, C. M., Sartorius, N., & Golden, S. H. (2014). NIDDK international conference report on diabetes and depression: current understanding and future directions. *Diabetes care*, 37(8), 2067-2077.
- [16] Kozhimannil, K. B., Pereira, M. A., & Harlow, B. L. (2009). Association between diabetes and perinatal depression among low-income mothers. *Jama*, 301(8), 842- 847.



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