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Psychiatric Emergencies in Perinatal Women: A Retrospective Analysis

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Abstract

Objective

The perinatal period represents a critical juncture in a woman's life marked by profound emotional, social, and physical changes. During this phase, there is a propensity for the exacerbation of pre-existing psychiatric symptoms or the emergence of new ones. Notably, there is often an uptick in psychiatric emergencies and presentations to emergency psychiat-ric departments among women in the perinatal period. This study aimed to retrospectively evaluate women accessing emergency psychiatric departments during pregnancy and the postpartum period, focusing on their presenting complaints, diagnoses, clinical trajectory, and factors influencing the decision for inpatient treatment.

Material and Method

A retrospective review was conducted on the records of 11,419 women aged 18 to 45 who sought care at the Psychiatric Emergency Department of Bakirkoy Prof. Dr. Mazhar Osman Research and Training Hospital between July 2015 and July 2016.

Results

Among them, the records of 163 women who were either pregnant or within one year postpartum were analyzed. Of the women accessing services during the perinatal period, 46% were pregnant, while 54% were in the postpartum phase. Additionally, 38.7% of these women presented to the psychiatric department for the first time. Distress and anxiety emerged as the most common reasons for seeking help. Interestingly, no significant differences were observed between the pregnancy and postpartum periods regarding presenting complaints and clinical progression. However, the incidence of psychotic disorders was notably higher during the postpartum period compared to pregnancy. Through logistic regression analysis involving pregnancy status, presenting complaints, and diagnoses, it was determined that the nature of the presenting complaint significantly influenced the decision for inpatient treatment. Notably, scepticism, agitation, and suicidal ideation were identified as the most prevalent complaints among women who required inpatient care.

Conclusion

Mental health challenges during the perinatal period not only jeopardize the well-being of the woman but also impact the health of the infant. Detecting and addressing emergent psychiatric issues during this phase are pivotal for timely intervention and preventive measures.

Keywords: Pregnancy, postpartum, perinatal psychiatry, emergency psychiatry

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Introduction

The perinatal period is recognized as a pivotal phase in a woman's life, characterized by notable emotional, social, and physical changes (1). Variability in experiences during this period is observed based on individual social contexts and cultural backgrounds. (2). Mental disorders in the perinatal period are acknowledged by the World Health Organization (WHO) as a significant public health concern, with data indicating that at least one in 10 women encounter severe mental health issues during pregnancy or within a year postpartum (3). Guidance from the American College of Obstetricians and Gynecologists (ACOG) Committee recommends mental disorder screening for women at least once during both pregnancy and the postpartum period (4).

During the perinatal period, there is an elevated risk of psychiatric disorders (5). Depression and anxiety are prevalent mental health concerns during this phase, with perinatal depression ranging from 4% to 19% in prevalence and anxiety disorders affecting over 15% of women (6–8). Studies tracking the course of mood disorders in this period indicate relapses in 23% of women diagnosed with bipolar disorder during pregnancy and 52% postpartum (9).

Although the prevalence of pregnancy in patients with psychotic disorders is lower compared to other conditions, an acute psychotic episode arising during pregnancy is deemed a psychiatric and obstetric emergency (10–12)

Many women perceive negative emotions as a natural aspect of the perinatal process, believing they can manage these symptoms independently (13). Despite the heightened risk of mental disorders compared to the general population, research indicates that even within standard healthcare systems, diagnosis rates and access to treatment remain around 50% (14). It's understood that perinatal mental disorders can negatively impact both maternal and infant health, potentially affecting the long-term emotional, cognitive, and social development of the child (15,16).

Moreover, only 10-15% of women diagnosed with a mental disorder or seeking treatment receive adequate care (13,16). For women in the perinatal period not undergoing regular monitoring and treatment, there may be an increased likelihood of experiencing emergency psychiatric conditions and visits to the emergency department.

Psychiatric emergencies, as per the definition by the American Psychiatric Association, encompass disturbances in thought, behaviour, mood, and social interactions necessitating immediate intervention by the patient, family, or community (17). Assessing and managing psychiatric emergencies during pregnancy necessitates collaborative efforts among emergency physicians, psychiatrists, and obstetricians. Establishing a comprehensive support system during this phase involves evaluating the health status of both the woman and the baby (18). Accurately identifying and treating life-threatening mental disorders in the perinatal period is crucial for mitigating maternal mortality rates and addressing this significant public health concern (19,20).

Our study aimed to retrospectively describe the complaints, diagnoses and clinical course of pregnant and postpartum women admitted to the emergency psychiatry service, while also exploring the factors influencing decisions for inpatient treatment during the perinatal period. In this period of many changes and role transitions in women's lives, it is important that psychiatric complaints can be intervened quickly and effectively. Our study aims to contribute to clinicians by identifying the important points in the management of psychiatric disorders in the perinatal period by defining the emergencies in women who need psychiatric support in the perinatal period and the situations requiring inpatient treatment.

Material and Method

This study was conducted following approval from the Ethics Committee of Bakirkoy Prof. Dr. Mazhar Osman Research and Training Hospital Hospital, with a decision dated 07.02.2017 and numbered 627. The study period was determined as between March 2017 and June 2017.

The hospital files of women admitted to the Psychiatry Emergency Department of a Hospital, the largest psychiatric hospital in Turkey, between July 2015 and July 2016 were included in the study. During this period, 11,419 women between the ages of 18 and 45 years were admitted to the emergency psychiatry service of our hospital.

A retrospective analysis of the medical records of 11,419 women revealed that 163 women were admitted to the psychiatric emergency department during pregnancy or within a year of giving birth.

The socio-demographic characteristics, admission complaints, previous psychiatric disorders and treatment histories, psychiatric evaluations, diagnoses

and treatment methods performed at the time of admission were extracted and recorded from the patient's files. In cases where patients reported more than one complaint, the first and most important complaint was prioritized for analysis.

Statistical Analysis

Socio-demographic characteristics, presenting complaints, psychiatric evaluations, diagnoses, and treatment modalities were extracted and recorded from the patients' files. In cases where patients reported multiple complaints, the first and most significant complaint was prioritized for analysis.

Data analysis was conducted using SAS Studio 3.71 software. Descriptive statistics, including mean and standard deviation for continuous variables, and frequency (n) and percentages (%) for categorical variables, were calculated. The Shapiro-Wilk test was employed to assess compliance with normal distribution. Group comparisons were conducted using the Mann-Whitney U-Test for two groups. The distribution of categorical variables between groups was assessed using the Chi-Square test or Fisher's Exact Test. Post hoc evaluation was performed using the Bonferroni test if a significant difference was detected. Binary logistic regression analysis was employed to identify factors predicting the decision for hospitalization. Results were deemed statistically significant if the p-value was less than 0.05.

Results

Between July 2015 and 2016, Bakirkoy Prof. Dr. Mazhar Osman Research and Training Hospital Hospital Psychiatry Emergency Department admitted a total of 11,419 women, of whom 163 were in the perinatal period. Among these perinatal cases, 46% were preg-

Table 1 Socio-Demographic Characteristics of Women in Perinatal Period Admitted to the Psychiatric Emergency Department

	Pregnancy period		Postpartum Period		
	n/Mean	%/SD	n/Mean	%/SD	p
Age	29.79	5.50	29.91	4.83	0.889
Week	17.73	9.77	14.83	12.49	0.069
Smoking					
No	40	53.3%	55	62.5%	0.386
Yes	7	9.3%	9	10.2%	
Unknown	28	37.3%	24	27.3%	
Usage of PAS & Alcohol					
No	42	56%	60	68.2%	0.272
Yes	4	5.3%	3	3.4%	
Unknown	25	28.4%	29	53.7%	
History of Suicidal Attempt					
No	27	36%	33	37.5%	0.972
Yes	11	14.7	12	13.6%	
Unknown	37	49.3%	43	48.9%	
History of Psychiatric Hospitalization					
No	57	76%	61	69.3%	0.368
Yes	13	17.3%	23	26.1%	
Unknown	5	6.7%	4	4.5%	

PAS: Psychoactive substance

nant, and 54% were in the postpartum phase. Notably, eight women had multiple admissions during this period. The mean age of these admitted women was 28.85±5.13 years. Additionally, 38.7% of the women sought care at the psychiatry department for the first time. Socio-demographic characteristics of women in the perinatal period admitted to the psychiatric emergency department are shown in Table 1.

Regarding complaints of women admitted to the psychiatric emergency department during pregnancy and the postpartum period, distress and anxiety emerged as the most prevalent reasons for admission (26.7% and 26.14% respectively). No significant difference was observed between the pregnancy and postpartum periods concerning admission complaints ($p>0.05$). However, a statistically significant difference was noted between the two groups regarding admission diagnoses ($p<0.05$). Further post-hoc analyses revealed a significantly higher prevalence of psychotic disorder diagnoses during the postpartum period, as depicted in Table 2.

Upon analyzing the clinical characteristics of women deemed appropriate for hospitalization, it was observed that both the diagnosed condition and the

Table 2 Clinical Characteristics of Women in Perinatal Period Admitted to the Psychiatric Emergency Department

	Pregnancy period		Postpartum Period		p
	n/Mean	%/SD	n/Mean	%/SD	
Admission Complaints					
Distress & Anxiety	26.67% (20)		26.14%(23)		0.543
Nervousness & Agitation	14.67% (11)		12.50% (11)		
Insomnia	18.7% (14)		7,95% (7)		
Suicidal Thought/Attempt	10.67% (8)		9.09% (8)		
Unhappiness & Crying	5.3% (4)		13.64% (12)		
Somatic complaints	6,7%(5)		9.1%(8)		
Suspiciousness	5.3%(3)		9.1%(8)		
Manic/hypomanic symptoms	4%(3)		2.3%(2)		
Other	8%(6)		10.2%(9)		
Diagnosis					
No Diagnosis	32% (24)		19.3%(17)		0.022*
Bipolar Disorder	22.67% (17)		12.50% (11)		
Depressive Disorder	12% (9)		21,6% (19)		
Anxiety Disorder	10.67% (8)		9.1% (8)		
Psychotic Disorder	4% (3)		18.2% (16)		
Adjunct Disorder	6,7%(5)		4.5%(4)		
Other	12%(9)		14.8%(13)		
Clinical Outcomes					
Outpatient control was recommended by giving psychoeducation	55.7% (39)		41.2%(35)		0.155
A prescription was given, control visit was recommended	25.7% (18)		29.4% (25)		
Hospitalized	18.6% (13)		29.4% (25)		

presenting complaint significantly differed ($p<0.05$), as illustrated in Table 3.

Binary logistic regression analysis was conducted to assess factors predicting the decision for hospitalization. Pregnancy status, admission complaint, and admission diagnosis were included as variables in the model. The analysis revealed that the admission complaint significantly predicted the decision for hospitalization, as depicted in Table 4. The distribution of admission complaints by hospitalization decision is shown in Figure 1.

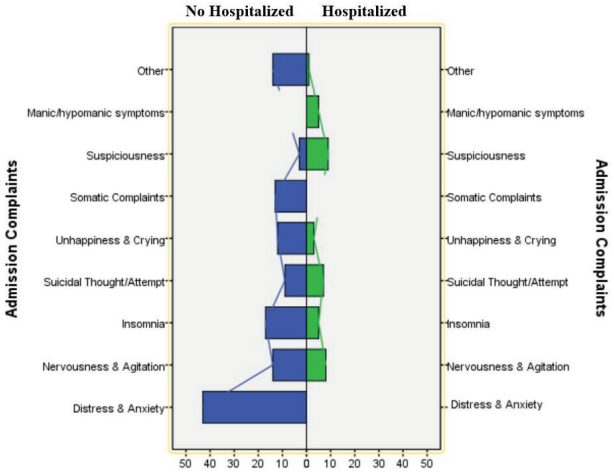

Figure 1:
Admission Complaints by Hospitalization Decision

Table 3 Clinical Characteristics of Women Hospitalized in The Perinatal Period

	No Hospitalized		Hospitalized		p
	n/Mean	%/SD	n/Mean	%/SD	
Age	29.86	5.163	29.84	5.097	0.882
Pregnancy Status					
Pregnancy	62	49.6%	13	34.2%	0.069
Postpartum	63	50.4%	25	65.8%	
Admission complaints					
Distress & Anxiety	43	34.4%	0	0%	
Nervousness & Agitation	14	11.2%	8	21.1%	
Insomnia	17	13.6%	5	13.2%	
Suicidal Thought/Attempt	9	7.2%	7	18.4%	
Unhappiness & Crying	12	9.6%	3	7.9%	<0.001*
Somatic complaints	13	10.4%	0	0%	
Suspiciousness	3	2.4%	9	23.7%	
Manic/hypomanic symptoms	0	0%	5	13.2%	
Other	14	11.2%	1	2.6%	
Diagnosis					
No Diagnosis	41	32.8%	0	0%	
Bipolar Disorder	12	9.6%	16	42.1%	
Depressive Disorder	20	16%	8	21.1%	
Anxiety Disorder	16	12.8%	0	0%	<0.001*
Psychotic Disorder	6	4.8%	13	34.2%	
Adjunct Disorder	9	7.2%	0	0%	
Other	21	16.8%	1	2.6%	

Table 4 Logistic regression Analysis of Hospitalization Decision

		B	S.E.	Wald	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Step 1[a]	Admission complaints	.184	.071	6.739	.009	1.201	1.046	1.380
	Diagnosis	.000	.094	.000	1.000	1.000	.832	1.202
	Pregnancy status	-.581	.398	2.128	.145	.559	.256	1.221
	Constant	-1.718	.544	9.981	.002	.179		
Step 2[a]	Admission complaints	.184	.070	6.787	.009	1.201	1.047	1.379
	Pregnancy status	-.581	.394	2.169	.141	.559	.258	1.212
	Constant	-1.718	.403	18.137	.000	.179		
Step 3[a]	Admission complaints	.190	.070	7.360	.007	1.209	1.054	1.386
	Constant	-1.987	.368	29.095	.000	.137		
Variable(s) entered on step 1: Admission complaints Diagnosis, Pregnancy status. Nagelkerke R2 Step 1 =.087 Step 2= .087 Step 3 =.068								

Discussion

In our study, the objective was to examine the sociodemographic characteristics, complaints, diagnoses, and clinical course of women in the perinatal period who sought assistance from the psychiatric emergency department, as well as to analyze the clinical characteristics of women who were recommended for inpatient treatment. It was observed that anxiety and distress were the prevailing reasons for seeking care at the emergency psychiatric department during both pregnancy and the postpartum period.

Upon reviewing admission diagnoses during pregnancy and the postpartum period, a significantly higher incidence of psychotic disorder diagnosis was noted in the postpartum phase compared to the pregnancy period. Additionally, it was established that the complaints voiced by women presenting to the psychiatric emergency department were predictive of their inclination towards inpatient treatment. Notably, scepticism, agitation, and suicidal thoughts emerged as the most common complaints among those recommended for inpatient care. Regarding reasons for presenting to the psychiatric emergency department, it was evident that distress and anxiety were the leading causes during both pregnancy and the postpartum period. Furthermore, insomnia was prevalent, accounting for 18.7% of cases during pregnancy, while reports of unhappiness were documented in 13.64% of cases during the postpartum period.

Distress is defined as a notably adverse emotional state characterized by persistent arousal and impaired functioning (21,22). Within the perinatal context, distress is also delineated as the emotional response of women to the transitional process into motherhood, encompassing changes in their bodies, societal roles, and social circumstances (23). Given the relevant literature, anxiety, depression, and stress appear as the most common mental distress conditions in studies on perinatal mental health (24,25). In our study, anxiety & distress emerged as the predominant complaint leading to emergency psychiatric admission during both pregnancy and the postpartum period, aligning with findings from existing literature.

The second most common complaint during pregnancy was identified as insomnia, accounting for 18.7% of cases. It is well-documented that insomnia is more prevalent during pregnancy compared to the general population. In a meta-analysis conducted by Sedov and colleagues, they reported a prevalence of 38.2% for insomnia during pregnancy (26). Biological changes such as increased body temperature, nasal congestion, and frequent urination during pregnancy are cited as factors that may disrupt sleep patterns (27). Given that anxiety symptoms during pregnancy can contribute to sleep disturbances, it is advisable to screen women experiencing insomnia for signs of stress and anxiety (28).

In our study, upon examining the diagnoses of admission to the emergency department, it was

noted that a certain number of women who sought care during both periods did not receive a specific diagnosis. Additionally, when comparing admission diagnoses between pregnancy and the postpartum period, a significantly higher prevalence of psychotic disorder diagnosis was observed in the postpartum phase. This finding aligns with existing literature, which indicates that the rate of antepartum psychosis is lower than the rate of postpartum psychosis (29). The increased risk of admission diagnoses of psychotic disorder in the postpartum period compared to pregnancy in our study may be attributed to several factors. Firstly, the protective effect of high estrogen levels during pregnancy is known to mitigate the risk of psychotic symptoms. However, the rapid decline in estrogen levels postpartum removes this protective effect, potentially increasing vulnerability to psychotic episodes. Additionally, the combination of factors such as insomnia, which is common during the postpartum period, and the profound psychological impact of transitioning to motherhood may exacerbate existing vulnerabilities or precipitate psychotic symptoms in susceptible individuals. Moreover, the availability of high levels of medical care and social support during pregnancy may serve as protective factors, whereas the sudden reduction in support systems postpartum may contribute to increased stress and exacerbation of underlying psychiatric conditions. Taken together, these factors likely contribute to the higher prevalence of psychotic disorder diagnoses in the postpartum period observed in our study compared to the pregnancy period (30).

When assessing the factors influencing the decision to undergo inpatient treatment during the perinatal period, our analysis reveals that admission complaints serve as a significant predictor. Specifically, when examining the frequency of complaints among women who were recommended for hospitalization, scepticism, agitation, and suicidal thoughts emerge as the predominant factors, respectively. Complaints of scepticism and agitation frequently co-occur with severe mental illnesses (31,32). Conditions like postpartum psychosis and mood disorders often manifest with symptoms such as irritable mood, severe behavioural disturbances, and disordered thinking. Delusional beliefs regarding the baby can elevate the risk of infanticide and physical aggression towards the infant. Furthermore, in depressive disorders, where the risk of suicide is heightened, the presence of psychotic symptoms or feelings of hopelessness may pose a risk of harm to the baby as well (33). With the enhancement of obstetric care protocols globally, there have been notable reductions in maternal mortality rates attributed to general medical conditions. Nevertheless, maternal mental health emerges as a significant factor in maternal and infant mortality (34). It is crucial to consider the option of inpatient treatment for high-risk complaints closely linked to the health of both the mother and the baby, such as scepticism, agitation, and suicidal thoughts/attempts.

The analysis in terms of smoking, alcohol, and psychoactive substance (PAS) use revealed that 9.33% of pregnant women smoked, while 5.33% used PAS. The most commonly used PAS was identified as synthetic cannabinoids, accounting for 60% of cases. Comparatively, in the study by Gressier et al., the prevalence of smoking during pregnancy was reported as 37.5% (35). Additionally, the prevalence of PAS use during pregnancy was found to range between 10% and 15%, with cannabis being the most commonly used PAS (36). In our study, the rates of smoking and PAS use during pregnancy were lower than those reported in the literature. However, it is estimated that 44% of pregnant women who use PAS do not seek healthcare services. Therefore, the rates of smoking and PAS use during pregnancy may be higher than those detected in our study (37). It is speculated that the low rates of smoking and PAS use observed in our study may be attributed to limited healthcare service utilization or may be related to the retrospective nature of the study and potential data loss.

Our study aimed to explore the factors influencing the decision for inpatient treatment in the perinatal period and to compare clinical features between pregnancy and the postpartum period. Specifically, we sought to identify differences in clinical course and diagnosis related to psychiatric symptoms in women during these periods, to develop more effective approaches for managing and treating psychiatric complaints in this critical timeframe. By diagnosing urgent mental health concerns and situations requiring inpatient treatment early on, it becomes feasible to implement timely preventive measures using protective approaches, thus safeguarding the mental health of both the mother and the baby.

Despite its contributions, our study has several limitations, including its retrospective nature, lack of follow-up, and potential data loss. Our study is valuable in that it examines women presenting to psychiatric emergency services during pregnancy and the postpartum period, an important group that few studies have focused on. This study provides valuable information for the identification, management and prevention of situations that lead to acute psychiatric crises requiring emergency intervention. Strengths of the study include the identification of differences

between pregnancy and the postpartum period, and the identification of complaints and psychiatric disorders that may require inpatient treatment and consisting of data from the largest psychiatric hospital in our country.

Future longitudinal studies could examine in more detail how psychiatric symptoms and disorders in women in the perinatal period change over time. In addition, comparisons of perinatal psychiatric conditions in different societies may help to understand the role of cultural factors and to develop culture-specific intervention strategies. Such research can help to develop more effective health policies and clinical practices for the health of women and infants in the perinatal period.

Conflict of Interest Statement
The authors have no conflicts of interest to declare.

Ethical Approval
This study was conducted following approval from the Ethics Committee of Bakirkoy Prof. Dr. Mazhar Osman Research and Training Hospital, with a decision dated 07.02.2017 and numbered 627. This study was conducted by the principles of the "Helsinki Declaration".

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Availability of Data and Materials
Data is available on request from the authors.

Authors Contributions
KŞM: Conceptualization; Project administration; Data curation; Formal analysis; Investigation; Methodology; Validation; Visualization; Resources; Writing-original draft, Writing-review & editing

AİÜ: Data curation; Formal analysis; Investigation; Resources; Visualization; Writing-review & editing

PÇA: Conceptualization; Project administration; Investigation; Methodology; Writing-review & editing.

References

1. Jones I, Chandra PS, Dazzan P, Howard LM. Bipolar disorder, affective psychosis, and schizophrenia in pregnancy and the postpartum period. The Lancet 2014;384(9956):1789–99.
2. Read J. Sexual problems associated with infertility, pregnancy, and ageing. Br Med J 2004;329(7465):559–61.
3. Mathers C, Doris MF, Jan TB. The Global Burden of Disease: 2004 update. Vol. 13, World Health Organization 2008.
4. American College of Obstetricians and Gynecologists. ACOG Practice Bulletin: Clinical Management Guidelines for Obstetrician-Gynecologists Number 76, October 2006: postpartum hemorrhage. Vol. 108, Obstetrics and Gynecology 2006. 1039 p.
5. Bennett HA, Einarson A, Taddio A, Koren G, Einarson TR. Prevalence of depression during pregnancy: systematic review. Obstetrics & Gynecology 2004;103(4):698–709.
6. Gavin NI, Gaynes BN, Lohr KN, Meltzer-Brody S, Gartlehner G, Swinson T. Perinatal depression: a systematic review of prevalence and incidence. Obstetrics & Gynecology 2005;106(5, Part 1):1071–83.
7. Fisher J, Mello MC de, Patel V, Rahman A, Tran T, Holton S, et al. Prevalence and determinants of common perinatal mental disorders in women in low-and lower-middle-income countries: a systematic review. Bull World Health Organ 2012;90(2):139–49.
8. Fairbrother N, Janssen P, Antony MM, Tucker E, Young AH. Perinatal anxiety disorder prevalence and incidence. J Affect Disord 2016;200:148–55.
9. Viguera AC, Tondo L, Koukopoulos AE, Reginaldi D, Lepri B, Baldessarini RJ. Episodes of mood disorders in 2,252 pregnancies and postpartum periods. American Journal of Psychiatry 2011.
10. Howard LM. Fertility and pregnancy in women with psychotic disorders. European Journal of Obstetrics & Gynecology and Reproductive Biology 2005;119(1):3–10.
11. Kendell RE, Chalmers JC, Platz C. Epidemiology of puerperal psychoses. The British Journal of Psychiatry 1987;150(5):662–73.
12. Watkins ME, Newport DJ. Psychosis in pregnancy. Obstetrics & Gynecology 2009;113(6):1349–53.
13. Goodman JH, Tyer-Viola L. Detection, treatment, and referral of perinatal depression and anxiety by obstetrical providers. J Womens Health 2010;19(3):477–90.
14. Vesga-Lopez O, Blanco C, Keyes K, Olfson M, Grant BF, Hasin DS. Psychiatric disorders in pregnant and postpartum women in the United States. Arch Gen Psychiatry 2008;65(7):805–15.
15. Moshki M, Baloochi Beydokhti T, Cheravi K. The effect of educational intervention on prevention of postpartum depression: an application of health locus of control. J Clin Nurs 2014;23(15–16):2256–63.
16. Woolhouse H, Brown S, Krastev A, Perlen S, Gunn J. Seeking help for anxiety and depression after childbirth: results of the Maternal Health Study. Arch Womens Ment Health. 2009;12(2):75–83.
17. Wheat S, Dschida D, Talen MR. Psychiatric emergencies. Primary Care: Clinics in Office Practice 2016;43(2):341–54.
18. Wilson MP, Nordstrom K, Shah AA, Vilke GM. Psychiatric emergencies in pregnant women. Emergency Medicine Clinics 2015;33(4):841–51.
19. Oates M. Perinatal psychiatric disorders: a leading cause of maternal morbidity and mortality. Br Med Bull 2003;67(1):219–29.
20. Knight M, Nair M, Tuffnell D, Kenyon S, Shakespeare J, Brocklehurst P, et al. Saving Lives, Improving Mothers' Care: Surveillance of maternal deaths in the UK 2012-14 and lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2009-14. Oxuniprint 2016.
21. Rallis S, Skouteris H, McCabe M, Milgrom J. The transition to motherhood: towards a broader understanding of perinatal distress. Women and Birth 2014;27(1):68–71.
22. Lovibond PF, Lovibond SH. The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventory. Behaviour Research and Therapy 1995;33(3):335–43.
23. Emmanuel E, St John W. Maternal distress: a concept analysis. J Adv Nurs 2010;66(9):2104–15.
24. Dunkel Schetter C, Tanner L. Anxiety, depression and stress in pregnancy: implications for mothers, children, research, and practice. Curr Opin Psychiatry [Internet] 2012;25(2):141–8. Available from: http://www.pubmedcentral.nih.gov/articleren-

der.fcgi?artid=4447112&tool=pmcentrez&rendertype=abstract
25. Liou SR, Wang P, Cheng CY. Longitudinal study of perinatal maternal stress, depressive symptoms and anxiety. Midwifery 2014;30(6):795–801.
26. Sedov ID, Anderson NJ, Dhillon AK, Tomfohr-Madsen LM. Insomnia symptoms during pregnancy: A meta-analysis. J Sleep Res 2021;30(1):e13207.
27. Mindell JA, Jacobson BJ. Sleep disturbances during pregnancy. Journal of Obstetric, Gynecologic, & Neonatal Nursing 2000;29(6):590–7.
28. Van der Zwan JE, de Vente W, Tolvanen M, Karlsson H, Buil JM, Koot HM, et al. Longitudinal associations between sleep and anxiety during pregnancy, and the moderating effect of resilience, using parallel process latent growth curve models. Sleep Med 2017;40:63–8.
29. Ortega MA, Pekarek T, Fraile-Martinez O, García-Montero C, Pekarek L, Rodriguez-Martín S, et al. A review: integrative perspectives on the features and clinical management of psychotic episodes in pregnancy. J Clin Med 2023;12(2):656.
30. Rochon-Terry G, Gruneir A, Seeman M V, Ray JG, Rochon P, Dennis CL, et al. Hospitalizations and emergency department visits for psychiatric illness during and after pregnancy among women with schizophrenia. J Clin Psychiatry 2016;77(4):541–7.
31. Zeller SL, Nordstrom KD, Wilson MP. The diagnosis and management of agitation. Cambridge University Press; 2017.
32. Overall JE, Hollister LE, Pichot P. Major psychiatric disorders: A four-dimensional model. Arch Gen Psychiatry 1967;16(2):146-51.
33. Chandra PS, Venkatasubramanian G, Thomas T. Infanticidal ideas and infanticidal behaviour in Indian women with severe postpartum psychiatric disorders. J Nerv Ment Dis 2002;190(7):457–61.
34. Bharadwaj B, Endumathi R, Parial S, Chandra PS. Management of psychiatric disorders during the perinatal period. Indian J Psychiatry 2022;64(2):S414–28.
35. Gressier F, Guillard V, Cazas O, Falissard B, Glangeaud-Freudenthal NMC, Sutter-Dallay AL. Risk factors for suicide attempt in pregnancy and the post-partum period in women with serious mental illnesses. J Psychiatr Res 2017;84:284–91.
36. Williamson CS. Nutrition in pregnancy. Nutr Bull 2006;31(1):28–59.
37. Oates M, Cantwell R. Deaths from psychiatric causes. Centre for Maternal and Child Enquiries Mission Statement 2011;132.