Original Article

Screening of Perinatal Depression in Women at Tabuk Military Hospital: A Cross-Sectional Study

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ABSTRACT

Background: Perinatal depression is a serious mental health problem affecting women during pregnancy and postpartum, with adverse consequences for mother and child. Data on its prevalence in Saudi military hospitals are limited.

Objective: To determine the prevalence of perinatal depression among women attending Tabuk Military Hospital and assess the Edinburgh Postnatal Depression Scale (EPDS) in this population.

Methods: This cross-sectional study recruited 50 pregnant and postpartum women from obstetrics and gynecology departments of King Salman Armed Forces Hospital and King Khalid Armed Forces Hospital, Tabuk. Participants completed the EPDS, a validated 10-item screening tool. Women with psychiatric diagnoses or low literacy were excluded. Prevalence of perinatal depression according to different EPDS was calculated at cutoffs ≥10 for possible depressive symptoms and ≥13 for probable major depression, with descriptive statistics.

Results: Mean EPDS score was 3.70 (SD=4.44); median 2 (IQR 1.00–3.75). At cutoff ≥10, 7 participants (14.0%; 95% CI 5.8–26.7%) screened positive for possible depressive symptoms; at ≥13, 5 (10.0%; 95% CI 3.3–21.8%) screened positive for probable major depression. Anxiety was the most endorsed symptom (mean 1.20, SD 0.86), followed by reduced enjoyment (mean 0.58, SD 0.86). One participant (2.0%) reported self-harm thoughts, requiring immediate attention. Prevalence was lower than global and regional rates, possibly due to exclusion of women with psychiatric history and cultural underreporting.

Conclusions: Clinically significant perinatal depression symptoms were identified, supporting systematic screening implementation. Longitudinal studies with diagnostic interviews are needed to confirm prevalence and guide interventions in Saudi military healthcare.

Keyword: Perinatal depression, Screening, Pregnancy, Postpartum period, Military hospital, Saudi Arabia.

Introduction

Perinatal depression, often called postpartum depression, affects women during pregnancy or after birth, impacting about one in seven women and causing significant adverse outcomes for mother and child [1]. Screening is essential for early identification and intervention, given its long-term implications for maternal mental health and child development [2].

Screening typically uses standardized questionnaires administered by obstetricians, midwives, or mental health professionals during routine prenatal or postpartum visits [3], aiming to identify at-risk individuals and enable appropriate interventions [4]. Risk factors include history of depression or anxiety, inadequate social support, financial instability,

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pregnancy or childbirth complications, and hormonal fluctuations. Screening tools help identify at-risk women, allowing early support and treatment [5,6]. Multiple risk factors may increase susceptibility, including clinical history of depression or anxiety, insufficient social support, financial instability, complications, and hormonal fluctuations. The tool has been validated across languages and cultures, making it versatile worldwide [7]. Screening improves outcomes for mothers and children. Early identification and timely intervention reduce symptom severity, enhance maternal-infant bonding and parenting efficacy, and prevent long-term mental health complications, positively impacting child development and well-being [8-10]. Despite benefits, barriers remain. Some providers lack mental health training or resources for follow-up treatment. Cultural stigma can prevent women from seeking help or disclosing symptoms [9]. Healthcare systems must prioritize perinatal mental health and provide training and resources. Perinatal depression is widespread but underdiagnosed [8]. Limited empirical data exist on prevalence at Tabuk Military Hospital. The absence of systematic screening may cause missed diagnoses and delayed treatment, impacting maternal and child well-being. This study aims to evaluate perinatal depression prevalence among women receiving care at Tabuk Military Hospital.

Methods

Study Design: This study utilized a cross-sectional design, gathering data at a single temporal point from women receiving antenatal or postnatal care at King Saud Al-Faisal Hospital (KSAFH) and King Khalid Al-Faisal Hospital (KKAFH). Study Area: The study was conducted in KSAFH and KKAFH, Tabuk City, Saudi Arabia. Study Settings: Participants were recruited from the OB-GYN Department (inpatient ward) at both KSAFH and KKAFH. Data collection occurred through structured interviews and administration of the EPDS. Study Population: The study population comprised pregnant and postpartum women admitted to the Obstetrics and Gynecology Departments at KSAFH and KKAFH.

Inclusion Criteria:

• Females in the childbearing age (typically between 18 and 45 years old).

• Currently pregnant or in the postpartum period (up to 1 year after childbirth).

Exclusion Criteria:

• Illiterate or with only primary school education (due to potential challenges understanding the EPDS).

• Previous diagnosis of any psychiatric disorder (to isolate the effects of perinatal depression).

• Sudden pregnancy complications (which may require immediate medical attention and overshadow depression symptoms).

Sample Size: The sample size was calculated using Cochran's formula ($n = z^2pq/e^2$). Eligible participants were recruited from different hospitals in the Eastern region of the kingdom using the convenience sampling method.

Data Collection: A structured questionnaire collected sociodemographic data (age, marital status, education level, military service branch of spouse (if applicable), etc.) and clinical information (parity, gestational age for pregnant women, time since childbirth for postpartum women, etc.). Trained research assistants administered the EPDS to all participants following informed consent procedures. The Edinburgh Postnatal Depression Scale (EPDS) is a validated 10-item self-report instrument utilized to evaluate depressive symptoms experienced over the preceding week. Respondents rate the frequency of each symptom using a 4-point scale, yielding a total score between 0 and 30, with higher scores signifying an increased probability of depression. Ethical Considerations: Before the study commenced, the necessary ethical clearances were secured from the review boards of both KSAFH and KKAFH. To ensure transparency and voluntary participation, each participant provided their informed consent prior to the initiation of data collection. This consent was based on a thorough understanding of the study's objectives, methods, potential risks, and benefits, as well as the freedom to exit the study at their discretion at any point in time. Participant confidentiality was maintained throughout the study. Data were anonymized and stored securely. The study was conducted in accordance with the Declaration of Helsinki. Duration of Study: The study was conducted over 2 years.

Data Analysis

Sociodemographic and clinical characteristics of the study participants were summarized using descriptive statistics. The prevalence of perinatal depression was determined by the proportion of participants exceeding the established cut-off score on the Edinburgh Postnatal Depression Scale (EPDS). Common cut-offs included scores ≥ 10 or ≥ 13. To uncover the factors linked to perinatal depression, researchers relied on statistical methods like chi-square tests and logistic regression. This approach allowed them to delve into the relationships between

various characteristics - such as age, marital status, and branch of military service, and the likelihood of experiencing perinatal depression.

Results

(Table 1) The study provides an overview of the average and distribution of Edinburgh Postnatal Depression Scale scores for the 50 individuals involved. The average score was 3.70 (SD = 4.44) with a median of 2 (IQR = 1.00–3.75), spanning 0 to 15. The data were right-skewed, and the Shapiro–Wilk test showed a significant deviation from normality ($W = 0.757$, $p < 0.001$), so both the mean and median are presented. (Figure 1) summarizes the prevalence of perinatal depression according to different EPDS cutoff scores. Using the standard cutoff of ≥10, 7 out of 50 participants (14.0%) screened positive for possible depressive symptoms (exact 95% CI: 5.8%–26.7%). With the more specific cutoff of ≥13, 5 participants (10.0%) screened positive for probable major depression (exact 95% CI: 3.3%–21.8%). One participant (2.0%) scored in the 11–12 range, indicating mild-to-moderate distress. Additionally, one participant (2.0%) reported non-zero self-harm thoughts on Q10, requiring immediate clinical attention. Table 2 displays the item-level descriptive statistics for the 10 EPDS items. The highest mean score was observed for Q4 (Anxiety) at 1.20 (SD = 0.86), followed by Q1 (Happiness) at 0.58 (SD = 0.86). The lowest mean scores were for Q10 (Self-harm thoughts) at 0.04 (SD = 0.28) and Q5 (Fear/Panic) at 0.08 (SD = 0.44). Median scores were 0 for most items, except Q4 with a median of 1.

Discussion

When compared with global prevalence rates, our rate of 14.0% (EPDS ≥10) is much lower than the pooled prevalence of 26.3% reported by Al-Abri et al. [9]. In their review of 128 systematic reviews, prevalence was greater for self-reported measures and vulnerable populations, with key factors including past mental health experiences, traumatic life events, lack of support, history of abuse, relationship problems, and ongoing physical health issues. This may be due to exclusion of women with prior psychiatric diagnoses and the relatively uniform sociodemographic characteristics of our military hospital sample. Cultural factors may also have limited disclosure due to stigma or social desirability. A review of 32 studies with 10,975 participants found approximately 45% and 30% of Saudi women met EPDS thresholds of ≥10 and ≥13, respectively [11], significantly higher than ours, reflecting regional and methodological differences. A Riyadh cross-sectional study reported 50.3% postpartum depression prevalence using EPDS [12], while another Riyadh study reported 2.5% in pregnant women [13]. This range reflects timing (antenatal vs. postnatal), cutoff value, and sampling strategy. Our prevalence of ≥13 was 10.0%, similar to the lower end of literature ranges. A systematic review of 13 studies with 6,074 postpartum women estimated 27% prevalence in Middle Eastern countries using EPDS [14]. A Syrian study found 28.2% of 1,105 respondents scored ≥13 at 30–45 days postpartum [14]. The Lebanon Arabic EPDS validation study reported 31% at risk of depression [15]. Confidence intervals overlap with some regional estimates but may be lower due to our military hospital sample. A Tunisian study found 76.1% of 389 working pregnant women had major depressive symptoms, with family income and work posture strongly linked to major depressive disorder [6]. A rural Bihar study of 564 women reported 23.9% prevalence, with physical illness, previous abortion, financial difficulties, and mistreatment by in-laws associated with miscarriage [10]. Overall, socioeconomic vulnerability and life stressors significantly increase perinatal depression risk, possibly accounting for lower prevalence in our more stable sample. The EPDS performed differently at various cutoffs. Levis et al.'s meta-analysis of 58 studies found highest combined sensitivity and specificity at cutoff ≥11, while ≥13 was more specific but less sensitive [8]. In our sample, ≥10 identified 7 cases (14.0%) and ≥13 identified 5 (10.0%), a typical trade-off. A recent machine-learning validation study reported sensitivity ≥84.4% and specificity ≥76.9% at EPDS ≥10, and ≥75.3% and ≥80.6% at ≥13 [16]. The cost of missing a woman needing mental health services typically outweighs further evaluation of low-risk women, encouraging a lower threshold (e.g., ≥10) for routine screening with appropriate referral systems. Acceptability is a key implementation issue. Trinh et al.'s survey of 732 second-trimester women found screening helpful, easy, and not uncomfortable, with higher usefulness ratings among those with prior mental health concerns or obstetric risks [7]. All 50 participants completed the EPDS without missing items, suggesting high acceptability. Literature indicates screening uptake improves when part of a comprehensive program offering diagnostic referral and treatment linkage [17]. Key challenges from a systematic review included timing and frequency differences versus guidelines, limited mental health resources, and lack of provider knowledge [18].

Table 1: Descriptive Statistics of EPDS Total Scores (N = 50)**.**

Statistic	Value
N	50
Mean ± SD	3.70 ± 4.44
Median	2
25th percentile (Q1)	1.00
75th percentile (Q3)	3.75
IQR	1.00–3.75
Minimum	0
Maximum	15

IQR = interquartile range

Table 2: Item-Level Descriptive Statistics of the EPDS (N = 50).

EPDS Item	Mean	SD	Median	Min	Max
Q1 Happiness	0.58	0.86	0	0	2
Q2 Looking forward	0.30	0.76	0	0	3
Q3 Self-blame	0.24	0.74	0	0	3
Q4 Anxiety	1.20	0.86	1	0	3
Q5 Fear/Panic	0.08	0.44	0	0	3
Q6 Overwhelmed tasks	0.38	0.90	0	0	3
Q7 Sleep difficulty	0.40	0.83	0	0	3
Q8 Miserable	0.34	0.75	0	0	2
Q9 Crying	0.14	0.40	0	0	2
Q10 Self-harm thoughts	0.04	0.28	0	0	2

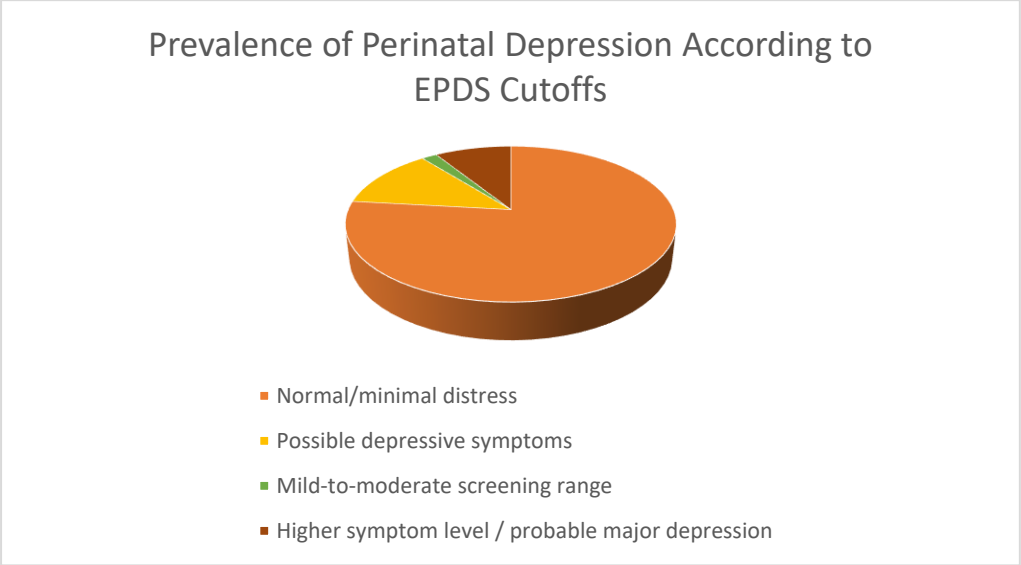

Figure1: Prevalence of Perinatal Depression According to EPDS Cutoffs (N = 50)

EPDS = Edinburgh Postnatal Depression Scale.

Cultural sensitivity, language difficulties, and viewing screening as a one-time checklist without follow-up were barriers in primary care and community settings [19]. This is especially important in Saudi Arabia, where mental health stigma may hinder reporting and help-seeking. Literature risk factors help interpret our results. Al-Abri et al. identified factors significantly associated with perinatal depression: personal mental health history, stressful life events, inadequate social support, abuse, marital discord, postpartum blues, childcare stress, chronic health conditions, pregnancy complications (preeclampsia, gestational diabetes), passive smoking, and sleep disruptions [9]. Anxiety was the most prominent symptom domain in our sample, consistent with high anxiety disorder rates in perinatal populations, often concurrent with depression. The Saudi meta-analysis noted lack of emotional support, unsupportive partner, and unexpected new baby greatly increase postpartum depression risk [11]. These were not systematically collected, but high anxiety and sleep-related symptoms suggest relevance for future interventions. Future studies should include validated measures of social support, marital satisfaction, and pregnancy intentions to delineate risk profiles of military hospital attendees. Several limitations apply. The sample size of 50 was small, limiting precision and statistical power. The snapshot approach precluded certainty about cause and effect. Convenience sampling from two military hospital limits generalizability. Selection bias may exist due to exclusion of women with prior psychiatric disorders or poor literacy. No confirmatory interviews were conducted; EPDS was a screening tool. Underreporting may reflect cultural stigma. Data on socioeconomic status, social support, and obstetric history were lacking.

Conclusion

In conclusion, 14.0% screened positive at EPDS ≥10 and 10.0% at ≥13. On average, participants reported a score of 3.70 on the EPDS, with a standard deviation of 4.44, and the predominant symptom endorsed was anxiety. One woman said that she had thoughts of harming herself and needed urgent medical care. Despite lower than many global and regional estimates, results support systematic screening for this setting. There is a need for larger, more longitudinal studies with diagnostic interviews. Routine screening and referral pathways, along with provider training, can help enhance maternal mental health in Saudi Arabia.

Conflict of Interest

None

Funding

None

References

1. ACOG Committee Opinion No. 757: Screening for perinatal depression. Obstet Gynecol. 2018; 132(5):e208-e212.
2. Yeaton-Massey A, Herrero T. Recognizing maternal mental health disorders: Beyond postpartum depression. Curr Opin Obstet Gynecol. 2019; 31(2):116-119.
3. Bydlowski S. Les troubles psychiques du post-partum: dépistage et prévention après la naissance: recommandations [Postpartum psychological disorders: Screening and prevention after birth. Guidelines for clinical practice]. J Gynecol Obstet Biol Reprod (Paris). 2015; 44(10):1152-1156.
4. Rowan C, Bick D, Bastos MH. Postnatal debriefing interventions to prevent maternal mental health problems after birth: exploring the gap between the evidence and UK policy and practice. Worldviews Evid Based Nurs. 2007; 4(2):97-105.
5. Dagher RK, Bruckheim HE, Colpe LJ, Edwards E, White DB. Perinatal depression: Challenges and opportunities. J Womens Health (Larchmt). 2021; 30(2):154-159.
6. Jihed A, Ben Rejeb M, Said Laatiri H, Zedini C, Mallouli M, Mtiraoui A. Prevalence and associated factors of perinatal depression among working pregnant women: A hospital-based cross-sectional study. Libyan J Med. 2022; 17(1):2114182.
7. Trinh TG, Schwarze CE, Müller M. Implementing a perinatal depression screening in clinical routine: Exploring the patient's perspective. Geburtshilfe Frauenheilkd. 2022; 82(10):1082-1092.
8. Levis B, Negeri Z, Sun Y, Benedetti A, Thombs BD. DEPRESsion Screening Data (DEPRESSD) EPDS Group. Accuracy of the Edinburgh Postnatal Depression Scale (EPDS) for screening to detect major depression among pregnant and postpartum women: Systematic review and meta-analysis of individual participant data. BMJ. 2020; 371:m4022.

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9. Al-Abri K, Edge D, Armitage CJ. Prevalence and correlates of perinatal depression. Soc Psychiatry Psychiatr Epidemiol. 2023; 58(11):1581-1590.
10. Raghavan V, Khan HA, Seshu U. Prevalence and risk factors of perinatal depression among women in rural Bihar: A community-based cross-sectional study. Asian J Psychiatr. 2021; 56:102552.
11. Zarroug M, Altaf MF, Shaikh S, Tidjani A, Bashir O, Ayash MI, *et al.* The prevalence and risk factors of postpartum depression among Saudi Arabian women—A systematic review and meta-analysis. Healthcare (Basel). 2025; 13(16):2040.
12. Alshahrani M, Alqarni NOT, Aldughar SS, Asiri ST, Alharbi RI. The prevalence and risk factors of postpartum depression among mothers in Najran City, Saudi Arabia. Healthcare (Basel). 2024; 12(10):986.
13. Alturaymi MA, Alsupiany A, Almadhi OF, Alduraibi KM, Alaqeel YS, Alsubayyil M, *et al.* Prevalence and correlates of depression among pregnant women at King Abdulaziz Medical City: A Tertiary Hospital in Riyadh, Saudi Arabia. Cureus. 2024; 16(3):e56180.
14. Taifour W, Bahsass R, Ranjous Y, Taifour D, Adwan D. Postpartum depression during the Syrian conflict, economic crisis, and COVID-19 outbreak in Syria. Womens Health (Lond). 2025; 21:17455057251367145.
15. Chaaya M, Campbell OM, El Kak F, Shaar D, Harb H, Kaddour A. Postpartum depression: prevalence and determinants in Lebanon. Arch Womens Ment Health. 2002; 5(2):65-72.
16. Griffin J, Talbot BH, Larsen L, Grimm B. Multimodal acoustic—linguistic machine learning for postpartum depression screening using the Edinburgh Postnatal Depression Scale. Womens Health Rep. 2026; 7:26884844261465152.
17. Venkatesh KK, Nadel H, Blewett D, Freeman MP, Kaimal AJ, Riley LE. Implementation of universal screening for depression during pregnancy: Feasibility and impact on obstetric care. Am J Obstet Gynecol. 2016; 215(4):517.e1-517.e8.
18. Wang T, Yang Y, Zhang S, Yuan Y, Guo H, Fang S, *et al.* Stakeholders and their perspectives on perinatal depression screening: A systematic review. Gen Hosp Psychiatry. 2024; 91:194-203.
19. Puttemans F, Hompes T, Jansen L, Andreou V, Bruffaerts R, Lannoo L, *et al.* Equitable and culturally sensitive perinatal mental health screening and referral for all: Experiences and needs from primary care and community-based healthcare providers. BMC Health Serv Res. 2026; 26(1):468.