International Journal of Advance Scientific Research
(ISSN – 2750-1396)
VOLUME 06 ISSUE 09 Pages: 01-10
OCLC – 1368736135

Journal Website: http://sciencebring.com/index.php/ijasr

Research Article

Structured Postnatal Education Model for Early Identification and Management of Postpartum Depression Using the Edinburgh Scale

Submission Date: July 06, 2026, **Accepted Date:** August 03, 2026,
Published Date: September 01, 2026

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Abstract

Postpartum depression (PPD) represents a clinically important postnatal mental health problem with consequences extending beyond maternal psychological well-being to infant health, family functioning, and continuity of postnatal care. Although screening instruments such as the Edinburgh Postnatal Depression Scale (EPDS) can support early identification, screening alone does not necessarily ensure appropriate interpretation, education, referral, or subsequent management. This article develops a structured postnatal education model integrating EPDS-guided assessment with systematic maternal education and an organized response pathway. A research-oriented conceptual framework was developed through critical synthesis of the provided literature addressing risk factors, epidemiology, screening validity, clinical characteristics, interventions, infant outcomes, and interpersonal nursing theory. The proposed model links assessment, risk interpretation, individualized education, referral, follow-up, and evaluation into a continuous postnatal care process. The literature indicates that PPD is multifactorial and that screening effectiveness depends substantially on the clinical context in which assessment results are interpreted and acted upon. The model therefore positions education as a functional component of early detection rather than as an independent information-giving activity. Its principal contribution is a practical framework for translating screening information into patient-centered postnatal support while maintaining appropriate clinical referral for mothers requiring further evaluation. The framework may assist hospitals and maternal-health services in standardizing postnatal depression assessment and educational delivery, although prospective validation is required before broad implementation.

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(ISSN – 2750-1396)
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OCLC – 1368736135

ISSN-2750-1396

KEYWORDS

Postpartum depression, Edinburgh Postnatal Depression Scale, postnatal education, maternal mental health, early identification, screening, nursing model, structured intervention, postnatal care.

INTRODUCTION

Postpartum depression is a significant condition occurring during a period characterized by substantial biological, psychological, interpersonal, and social adjustment. Its importance extends beyond the mother because maternal depressive symptoms may be associated with adverse infant health outcomes and broader difficulties in postnatal functioning (Dadi, Miller and Mwanri, 2020). Contemporary evidence also demonstrates that postpartum depression should not be regarded as a uniform disorder that can be understood exclusively through reproductive timing. Batt et al. (2020) emphasized the need to distinguish the characteristics of depression occurring during the perinatal period while recognizing substantial overlap with depression occurring outside that period.

The epidemiology of postpartum depression reflects considerable variation across populations and settings. Hahn-Holbrook, Cornwell-Hinrichs and Anaya (2018) identified socioeconomic and health-related factors as important predictors of national postpartum depression prevalence, reinforcing the view that maternal mental health is embedded within broader determinants of health. Agrawal, Mehendale and Malhotra (2022) similarly described multiple risk factors associated with postpartum depression, indicating that assessment should extend beyond the presence or absence of depressive symptoms.

The early recognition of symptoms is therefore an important component of postnatal care. However, screening has limited practical value when an identified risk is not followed by appropriate communication, education, clinical interpretation, or referral. Park and Kim (2022) demonstrated the relevance of the Edinburgh Postnatal Depression Scale and other screening instruments through their systematic examination of predictive validity. This supports the use of standardized assessment while simultaneously raising an implementation question: how can screening information be transformed into a structured clinical and educational response?

The present article addresses this question by proposing a structured postnatal education model based on EPDS-guided identification and management of postpartum depression. The objective is not to position the EPDS as a diagnostic substitute, but to integrate standardized screening into a broader care pathway in which maternal education, interpersonal support, clinical decision-making, and follow-up operate as connected components.

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The scope of the model is hospital-based postnatal care, with particular relevance to settings where routine maternal education can provide an opportunity for early recognition and intervention.

Literature Review

1 Epidemiological and Clinical Basis

The literature establishes postpartum depression as a multifactorial condition rather than an outcome attributable to a single cause. Agrawal, Mehendale and Malhotra (2022) identify a range of risk factors, while Hahn-Holbrook, Cornwell-Hinrichs and Anaya (2018) demonstrate that prevalence is influenced by economic and health predictors across countries. These findings have direct implications for structured postnatal education because a uniform educational message may not adequately address different levels of psychosocial vulnerability.

Ji and Wang (2025) further characterize postpartum depression through its epidemiology, pathophysiology, and intervention landscape. Their systematic review supports an integrated understanding in which identification and intervention should be considered components of a broader clinical pathway. This perspective is particularly relevant to the proposed model because the objective of EPDS-guided assessment is not simply to generate a numerical score; rather, the assessment should inform the intensity and direction of subsequent support.

2 Screening and Early Identification

The EPDS provides a standardized approach to identifying women who may require further assessment for depressive symptoms. Park and Kim (2022), through a systematic review and meta-analysis of the predictive validity of the EPDS and other screening tools, provide an evidence base for considering structured screening within pregnancy and postpartum services. Nevertheless, screening instruments should be interpreted as assessment aids rather than autonomous diagnostic mechanisms.

This distinction is central to the proposed educational model. A woman with concerning screening findings may require additional clinical evaluation, while a woman without substantial symptoms may still benefit from preventive education and information concerning warning signs. Consequently, the model separates screening from diagnosis and places professional interpretation between the assessment result and management decision.

3 Consequences for Mothers and Infants

The importance of early recognition is reinforced by evidence concerning infant outcomes. Dadi, Miller and Mwanri (2020) reported an association between postnatal depression and adverse infant health outcomes in low- and middle-income countries. This relationship strengthens the rationale for incorporating maternal mental health into routine postnatal education rather than treating it as an isolated psychiatric concern.

Suryawanshi and Pajai (2022) similarly emphasize the broad clinical significance of

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(ISSN – 2750-1396)
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postpartum depression in their comprehensive review. Andrews-Fike (1999) also established postpartum depression as a clinically important condition requiring recognition within primary and postnatal care contexts. Collectively, these sources support a preventive and early-identification orientation.

4 Interventions and Educational Approaches

Intervention evidence indicates that postpartum depression requires more than identification alone. Lumley and Austin describe interventions that may reduce postpartum depression, while Ji and Wang (2025) review intervention strategies within the wider epidemiological and pathophysiological context. The implication for postnatal nursing practice is that educational interventions should be connected to available clinical pathways rather than delivered as isolated informational sessions.

Peplau's interpersonal relations framework provides an appropriate theoretical foundation because postnatal care involves continuous interpersonal interaction between nurses and mothers. The theory positions the nurse-patient relationship as a meaningful component of nursing practice (Peplau, 1992). Within the proposed model, education is consequently understood as an interactive process involving communication, assessment, clarification, emotional support, and appropriate referral.

5 Research Gap

The reviewed literature provides substantial evidence regarding risk factors, prevalence, screening validity, consequences, and interventions. However, these components are frequently addressed as separate dimensions. A practical gap remains in translating EPDS-guided assessment into a standardized postnatal educational pathway that specifies how assessment findings should influence education, referral, and follow-up.

The proposed model addresses this gap by creating an integrated sequence linking screening, interpretation, individualized education, management planning, and reassessment. Ji and Wang (2025) particularly support the need for an integrated approach to epidemiology, pathophysiology, and intervention, providing an important conceptual basis for the framework.

METHODOLOGY

1 Research Design

This article adopts a conceptual model-development approach based exclusively on critical synthesis of the provided literature. Rather than reporting primary patient-level data, the methodology organizes established concepts into a structured hospital-based framework for postnatal depression identification and management.

The model was constructed through five analytical domains: assessment, risk interpretation, education, management/referral, and follow-up. Each domain was evaluated according to its functional relationship with

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postpartum depression screening and postnatal nursing care. The methodological objective was to create a coherent pathway that can subsequently be tested through prospective observational or interventional research.

2 Theoretical Foundation

The framework is primarily informed by interpersonal nursing theory. Peplau's conceptualization of interpersonal relations emphasizes the therapeutic significance of interaction between nurse and patient (Peplau, 1992). In postnatal depression care, this relationship can facilitate disclosure of emotional difficulties, improve comprehension of screening results, reduce stigma associated with depressive symptoms, and support appropriate help-seeking.

The model also incorporates the multifactorial understanding of postpartum depression demonstrated across the reviewed literature. Risk-factor evidence (Agrawal, Mehendale and Malhotra, 2022), epidemiological evidence (Hahn-Holbrook, Cornwell-Hinrichs and Anaya, 2018), and intervention evidence (Ji and Wang, 2025) collectively indicate that assessment should not be interpreted independently of contextual and clinical factors.

3 Proposed Structured Postnatal Education Model

The first component is EPDS-guided assessment. During the postnatal encounter, the mother completes the standardized assessment under appropriate professional supervision. The purpose is to identify depressive symptom patterns that warrant further attention.

The second component is clinical interpretation. The EPDS result is interpreted alongside maternal history, observed behavior, reported concerns, risk factors, and the broader clinical context. This stage prevents a numerical screening result from being treated as a definitive diagnosis. Park and Kim (2022) provide the principal literature basis for this screening-oriented component.

The third component is risk-stratified education. Education should be adjusted according to the mother's identified needs. General education may cover recognition of depressive symptoms, emotional changes, available support, and when to seek professional assistance. Mothers with greater concerns require more individualized communication and closer linkage to clinical assessment.

The fourth component is management and referral. Screening results that raise clinical concern should initiate appropriate professional evaluation rather than terminate at educational counselling. The model therefore establishes referral as a formal output of assessment rather than an optional activity.

The fifth component is follow-up and reassessment. Postnatal mental health status may change over time; therefore, a single assessment should not be considered sufficient for continuing surveillance. Follow-up enables healthcare professionals to determine whether symptoms have improved, persisted, or intensified and

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whether the educational and clinical response requires modification.

4 Functional Logic of the Model

The model can be represented conceptually as:

EPDS Assessment → Clinical Interpretation → Risk Stratification → Structured Education → Referral/Management → Follow-up → Reassessment

This sequence is intentionally cyclical. The final reassessment can generate a new assessment state and thereby prevent the model from becoming a one-time screening protocol. Ji and Wang (2025) support this broader intervention-oriented interpretation of postpartum depression management.

A hypothetical hospital application illustrates the model. A postnatal mother completes an EPDS assessment and reports persistent low mood and difficulty coping. Rather than providing generic educational material alone, the nurse interprets the assessment in relation to the mother's reported experience, provides targeted information, facilitates clinical evaluation, and documents a follow-up plan. If symptoms remain problematic at reassessment, escalation can occur through the established clinical pathway.

5 Educational Content and Delivery

The educational component should address symptom recognition, emotional self-awareness, available social and professional support, appropriate help-seeking, and the importance of follow-up. Communication should be interactive rather than purely didactic. Peplau's interpersonal framework supports this approach by emphasizing the therapeutic role of nurse-patient interaction (Peplau, 1992).

Education should also avoid implying that postpartum depression is a personal failure or simply a consequence of inadequate maternal adjustment. The multifactorial evidence summarized by Agrawal, Mehendale and Malhotra (2022) and Hahn-Holbrook, Cornwell-Hinrichs and Anaya (2018) supports communication that recognizes biological, psychological, social, and contextual influences.

6 Evaluation Strategy

For future empirical validation, model effectiveness could be examined using changes in knowledge, screening completion, appropriate referral, follow-up adherence, and maternal symptom trajectories. A hospital-based prospective study could compare outcomes before and after implementation of the structured model.

Evaluation should distinguish process outcomes from clinical outcomes. Improved screening completion, for example, would demonstrate operational effectiveness but would not alone establish improved maternal mental health. Clinical outcomes must therefore be evaluated separately, while referral and follow-up indicators can assess whether the model successfully connects identification with subsequent care.

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Results

The conceptual synthesis generated a five-stage structured postnatal education model integrating assessment, interpretation, education, management, and follow-up. The first finding is that EPDS-guided screening is most meaningful when embedded within a broader clinical process. Evidence concerning predictive validity supports standardized screening, but screening results require professional interpretation before management decisions are made (Park and Kim, 2022).

The second finding is that postpartum depression should be approached as a multifactorial condition. Risk factors identified in the literature indicate that maternal vulnerability cannot be adequately represented by a single symptom score (Agrawal, Mehendale and Malhotra, 2022). Economic and health determinants further demonstrate that contextual factors influence postpartum depression prevalence (Hahn-Holbrook, Cornwell-Hinrichs and Anaya, 2018). Accordingly, the proposed model incorporates contextual assessment alongside standardized screening.

The third finding concerns the relationship between maternal mental health and infant outcomes. The association reported by Dadi, Miller and Mwanri (2020) strengthens the argument for early identification and proactive education. The proposed framework consequently treats maternal mental health as an integral component of postnatal care rather than a secondary service.

The fourth finding is that education should be risk-sensitive and action-oriented. Generic information may improve awareness, but the model requires education to lead toward appropriate help-seeking, clinical evaluation, or follow-up when indicated. This interpretation is consistent with the intervention-oriented perspective described by Ji and Wang (2025).

The fifth finding is theoretical. Peplau's interpersonal framework provides a practical basis for delivering the model because successful assessment depends on communication and therapeutic interaction (Peplau, 1992). Thus, the nurse's role extends beyond administering an assessment instrument to facilitating understanding, emotional disclosure, and connection with care.

Overall, the synthesis indicates that the major contribution of the model is integration. It connects screening validity, risk assessment, patient education, intervention, and follow-up into a single operational pathway. The model does not claim that education independently treats postpartum depression; rather, it establishes education as a mechanism through which screening information can be converted into informed and timely care.

Discussion

The proposed model responds to an important limitation in conventional screening-centered

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approaches: identification without a sufficiently structured response pathway. The literature demonstrates that postpartum depression has multifactorial origins, variable prevalence, clinically relevant consequences, and established screening approaches. However, these elements have greater practical value when organized into a continuous care process.

The first theoretical implication concerns the role of screening. Park and Kim (2022) support the predictive validity of the EPDS and other screening tools, but the proposed framework deliberately avoids treating screening as diagnosis. This distinction protects against both overinterpretation and under-response. A positive screening result should trigger appropriate professional assessment, whereas a lower score should not eliminate the value of preventive education and continuing observation.

The second implication concerns the role of education. The model conceptualizes education as an intervention interface between assessment and behavior. Its effectiveness depends on whether the mother understands symptoms, recognizes when additional assistance is needed, and can access an appropriate care pathway. This approach is consistent with the interpersonal emphasis of Peplau (1992), in which communication is not merely an administrative activity but a central element of nursing care.

The third implication relates to population-level determinants. Hahn-Holbrook, Cornwell-Hinrichs and Anaya (2018) indicate that national postpartum depression prevalence is associated with economic and health predictors, while Agrawal, Mehendale and Malhotra (2022) identify individual-level risk factors. The model therefore has to remain adaptable to differences in maternal circumstances. A rigid educational package may be less effective than structured content delivered through individualized communication.

The fourth implication is clinical continuity. Ji and Wang (2025) emphasize intervention within the broader landscape of postpartum depression. The proposed framework extends this principle by explicitly incorporating follow-up. This is important because postpartum mental health status is not static, and a single hospital encounter may not capture subsequent symptom development.

The potential benefits must nevertheless be balanced against limitations. First, the model is conceptually derived rather than empirically validated. Its proposed sequence requires prospective testing to establish whether implementation improves maternal outcomes. Second, the provided literature does not establish a single universally optimal educational curriculum or follow-up interval. Consequently, these elements should be adapted to institutional clinical protocols. Third, screening performance may vary according to population and context, meaning that implementation should not rely on EPDS scores alone.

Another limitation concerns the distinction between education and treatment. The

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framework does not imply that educational intervention can replace psychological, psychiatric, medical, or multidisciplinary management when clinically indicated. Rather, education functions as an enabling component that may improve recognition, communication, and engagement with appropriate care. This distinction is essential given the clinical complexity described across the literature (Batt et al., 2020; Ji and Wang, 2025).

The model also has implications for hospital quality improvement. Standardizing assessment documentation, education delivery, referral criteria, and follow-up could reduce variability in postnatal mental health care. However, implementation should preserve clinical judgment and interpersonal sensitivity rather than convert maternal mental health assessment into a purely procedural checklist.

Conclusion

Postpartum depression requires an integrated approach in which early identification is connected to meaningful education, clinical interpretation, referral, and follow-up. The literature reviewed in this article demonstrates the multifactorial nature of postpartum depression, the relevance of standardized screening, the consequences for mothers and infants, and the importance of intervention-oriented care.

The proposed Structured Postnatal Education Model integrates these dimensions through a continuous pathway: EPDS-guided assessment, clinical interpretation, risk stratification, structured education, management or referral, and follow-up reassessment. Its principal contribution is conceptual and operational: it transforms screening from an isolated activity into a component of a broader postnatal care system.

The framework is particularly compatible with nursing practice because interpersonal communication is positioned as a central mechanism for education and support. Nevertheless, the model should be regarded as a framework for empirical investigation rather than a validated clinical protocol. Future research should evaluate its feasibility, acceptability, referral effectiveness, educational outcomes, and influence on maternal mental health outcomes in hospital-based postnatal populations. Comparative prospective studies may further determine whether structured EPDS-linked education provides measurable advantages over routine postnatal education.

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