RESEARCH PAPER

Integrated Nursing Care for Mental Health and Cardiac Complications in Pregnancy: An Evidence-Based Review

Monika Bhatia[1*], Sirisha Chelva[2], Kajal K. Solanki[3], Prof. Amol Mukundrao Ramteke[4], Kiran Negi[5], Prof. Beaulah Mercy Mary. T[6], Dr. Snehlata Yadav[7], Priyanka Jigar Bhatt[8]

[1*]Associate Professor, Department of Nursing Education, Mandsaur University, Mandsaur, Madhya Pradesh | Email: Monikabhatia32@gmail.com (Corresponding Author)

[2]Lecturer in Nursing, Govt College of Nursing, Visakhapatnam, Andhra Pradesh

[3]Assistant Professor, Dr. Subhash University School of Nursing, Junagadh, Gujarat

[4]Principal, Dr. Rajendra Gode Nursing Institute, Buldana, Maharashtra

[5]Assistant Professor, Sparsh Himalaya University, Dehradun, Uttarakhand

[6]Principal, Vatsalya Institute of Nursing & Paramedical Sciences (A unit of CFI Charitable Trust), Shillong, Meghalaya

[7]Vice Principal, Pink City College of Nursing, Jaipur, Rajasthan

[8]Associate Professor, Bhagwan Mahavir School of Nursing, BMU, Surat, Gujarat

ABSTRACT

Pregnancy is a complex physiological condition that may be complicated by both mental health disorders and cardiovascular diseases, significantly affecting maternal and fetal outcomes. Anxiety, depression, stress-related disorders, and severe psychiatric illnesses frequently coexist with cardiac complications such as hypertensive disorders, congenital heart disease, cardiomyopathy, and arrhythmias. The interaction between psychological distress and cardiovascular dysfunction can increase maternal morbidity, mortality, preterm birth, low birth weight, and poor neonatal outcomes. This evidence-based review examines current literature regarding integrated nursing care approaches for managing mental health and cardiac complications during pregnancy. Databases including PubMed, CINAHL, Scopus, and Web of Science were reviewed for studies published between 2019 and 2025. Evidence highlights the importance of multidisciplinary collaboration, early screening, patient-centered interventions, psychosocial support, cardiovascular monitoring, and continuity of care. Nurses play a pivotal role in assessment, education, counseling, risk reduction, and coordination of services. Integrated nursing care models improve treatment adherence, psychological well-being, maternal cardiovascular stability, and pregnancy outcomes. The review emphasizes the need for evidence-based protocols and specialized training to enhance comprehensive maternal healthcare.

Keywords: Pregnancy, Mental Health, Cardiac Complications, Integrated Nursing Care, Perinatal Mental Health, Maternal Health, Evidence-Based Practice.

How to cite this article: Bhatia M, Chelva S, Solanki KK, Ramteke AM, Negi K, Beaulah Mercy Mary T, Yadav S, Bhatt PJ. Integrated Nursing Care for Mental Health and Cardiac Complications in Pregnancy: An Evidence-Based Review. Int J Drug Deliv Technol. 2026;16(55s): 394-402. DOI: 10.25258/ijddt.16.55s.43

Source of support: Nil.

Conflict of interest: None.

Introduction

Pregnancy is a unique physiological state characterized by profound anatomical, hormonal, cardiovascular, and psychological changes that support fetal growth and development. Although pregnancy is generally considered a normal life event, it can become complicated by various medical and psychological conditions that significantly affect maternal and fetal health. Among these complications, mental health disorders and cardiovascular diseases have emerged as major contributors to maternal morbidity and mortality worldwide. The coexistence of mental health challenges and cardiac complications during pregnancy presents complex clinical situations that require comprehensive and integrated healthcare approaches. Nurses, as frontline healthcare professionals, play a critical role in identifying, monitoring, and managing these interconnected conditions throughout the antenatal, intrapartum, and postpartum periods. Mental health disorders are among the most common complications of pregnancy and childbirth. The World Health Organization estimates that approximately 10–20% of pregnant women experience mental health problems, with anxiety and depression being the most prevalent conditions. In low- and middle-income countries, the prevalence may be even higher due to socioeconomic stressors, limited healthcare access, gender inequality, and inadequate mental health services. Pregnancy-related anxiety, depressive disorders, stress-related conditions, and severe psychiatric illnesses can negatively influence maternal behaviors, treatment adherence, self-care practices, and overall pregnancy outcomes. Untreated mental health disorders have been associated with increased risks of preterm birth, low birth weight, impaired maternal-infant bonding, postpartum depression, and long-term developmental problems in children. Simultaneously, cardiovascular disease has become one of the leading causes of maternal mortality globally. Advances in medical care have enabled more women with congenital and acquired heart diseases to reach reproductive age and successfully conceive. However, pregnancy places substantial physiological demands on the cardiovascular system, including increased blood volume, cardiac output, heart rate, and oxygen consumption. These changes may exacerbate pre-existing cardiac conditions or contribute to the development of pregnancy-related cardiovascular complications such as hypertensive disorders, arrhythmias, heart failure, and peripartum cardiomyopathy. Hypertensive disorders of pregnancy,

including gestational hypertension, preeclampsia, and eclampsia, remain major causes of maternal and neonatal morbidity, particularly in developing countries. Emerging evidence suggests a strong bidirectional relationship between mental health disorders and cardiovascular complications during pregnancy. Psychological distress can activate neuroendocrine and inflammatory pathways that contribute to hypertension, endothelial dysfunction, arrhythmias, and adverse cardiovascular outcomes. Chronic stress, anxiety, and depression increase sympathetic nervous system activity and cortisol secretion, which may adversely affect cardiovascular regulation. Conversely, women diagnosed with cardiac complications often experience significant emotional distress due to concerns regarding maternal survival, fetal well-being, treatment requirements, and pregnancy outcomes. Fear, uncertainty, and prolonged hospitalization frequently contribute to anxiety, depression, and reduced quality of life among women with cardiovascular disease during pregnancy.The coexistence of mental health and cardiac complications creates unique challenges for healthcare providers. Women experiencing both conditions often require frequent monitoring, complex medication management, psychological support, lifestyle modifications, and coordinated multidisciplinary care. Traditional healthcare models frequently address physical and psychological health separately, resulting in fragmented services and missed opportunities for comprehensive care. Fragmented healthcare systems may delay diagnosis, reduce treatment adherence, increase healthcare costs, and contribute to poorer maternal and neonatal outcomes. Therefore, there is increasing recognition of the need for integrated care models that address both mental and physical health needs simultaneously. Integrated nursing care refers to a coordinated, patient-centered approach that combines physical, psychological, social, and educational interventions to optimize health outcomes. Within maternal healthcare settings, integrated nursing care involves collaboration among obstetricians, cardiologists, psychiatrists, psychologists, midwives, social workers, and specialized nursing professionals. Nurses serve as essential coordinators within multidisciplinary teams, ensuring continuity of care across different stages of pregnancy and facilitating communication among healthcare providers. Through comprehensive assessment, risk identification, health education, counseling, symptom monitoring, and psychosocial support, nurses contribute significantly to improved maternal and fetal outcomes. Evidence-based nursing practice has become increasingly important in addressing the complex healthcare needs of pregnant women with mental health and cardiac complications. Research demonstrates that routine mental health screening, early cardiovascular risk assessment, individualized care planning, psychosocial interventions, patient education, and continuous follow-up can improve clinical outcomes and patient satisfaction. Furthermore, nurse-led interventions such as stress management programs, counseling services, self-care education, and telehealth support have shown promising results in reducing psychological distress and promoting cardiovascular stability during pregnancy. The integration of mental health services into routine maternal healthcare has also been associated with earlier identification of high-risk women and more effective management of pregnancy-related complications. Despite growing awareness of the interconnected nature of mental and cardiovascular health during pregnancy, significant gaps remain in clinical practice, policy development, and research. Many healthcare systems continue to lack standardized protocols for integrated assessment and management of these conditions. Resource limitations, workforce shortages, stigma associated with mental illness, and inadequate training in multidisciplinary care further hinder effective implementation of integrated care models. Consequently, there is a pressing need to synthesize current evidence and identify best practices that can guide nursing professionals in delivering comprehensive maternal healthcare. This evidence-based review aims to examine the relationship between mental health disorders and cardiac complications during pregnancy and to explore the role of integrated nursing care in addressing these challenges. By reviewing current literature and evidence-based interventions, the article seeks to highlight effective nursing strategies, multidisciplinary approaches, and clinical recommendations that can improve maternal psychological well-being, cardiovascular health, and overall pregnancy outcomes. The findings of this review may assist healthcare professionals, educators, researchers, and policymakers in strengthening integrated maternal healthcare services and advancing the quality of nursing practice in maternal and child health settings worldwide.

Objectives of the Review

1. To examine the relationship between mental health disorders and cardiac complications during pregnancy.
2. To identify evidence-based nursing interventions for integrated maternal care.
3. To evaluate multidisciplinary approaches for improving maternal and fetal outcomes.
4. To highlight future directions for nursing practice, education, and research.

Methodology

This evidence-based review was conducted to synthesize and critically analyze current literature on integrated nursing care for managing mental health disorders and cardiac complications during pregnancy. The review aimed to identify existing evidence regarding the relationship between maternal mental health and cardiovascular complications, evaluate nursing interventions, and examine multidisciplinary approaches that contribute to improved maternal and neonatal outcomes.

Review Design

A narrative evidence-based review approach was adopted to provide a comprehensive understanding of

the available scientific literature related to mental health disorders, cardiac complications, and integrated nursing care during pregnancy. This design was selected because it allows the inclusion of diverse study methodologies, clinical guidelines, systematic reviews, observational studies, and evidence-based recommendations relevant to maternal healthcare practice.

Search Strategy

A systematic literature search was conducted using multiple electronic databases to identify relevant studies published between January 2019 and March 2025. The databases searched included:

- PubMed/MEDLINE
- Scopus
- Web of Science
- CINAHL (Cumulative Index to Nursing and Allied Health Literature)
- Google Scholar
- Cochrane Library

The search strategy combined Medical Subject Headings (MeSH) terms and free-text keywords to ensure comprehensive retrieval of literature. The primary search terms included:

- "Pregnancy"
- "Maternal Mental Health"
- "Perinatal Mental Health"
- "Depression in Pregnancy"
- "Anxiety During Pregnancy"
- "Cardiovascular Disease in Pregnancy"
- "Cardiac Complications"
- "Hypertensive Disorders of Pregnancy"
- "Peripartum Cardiomyopathy"
- "Integrated Care"
- "Multidisciplinary Care"
- "Nursing Interventions"
- "Maternal Health Outcomes"
- "Evidence-Based Nursing Practice"

Boolean operators (AND, OR) were used to combine search terms and refine the search results. Additional articles were identified through manual searches of reference lists from relevant publications.

Inclusion Criteria

Studies were included in the review if they met the following criteria:

1. Published in peer-reviewed journals between 2019 and 2025.
2. Available in the English language.
3. Focused on pregnant or postpartum women experiencing mental health disorders, cardiac complications, or both.
4. Examined nursing interventions, integrated care models, multidisciplinary management, or maternal health outcomes.
5. Included quantitative, qualitative, mixed-methods studies, systematic reviews, meta-analyses, clinical guidelines, and evidence-based practice recommendations.
6. Addressed antenatal, intrapartum, or postpartum care.

Exclusion Criteria

Studies were excluded if they:

1. Were published before 2019.
2. Were not available in full-text form.
3. Focused exclusively on non-pregnant populations.
4. Addressed unrelated medical conditions without discussion of mental health or cardiovascular complications during pregnancy.
5. Were editorials, opinion papers, conference abstracts, or duplicate publications.
6. Lacked sufficient methodological information or scientific rigor.

Study Selection Process

The study selection process involved several stages. Initially, all retrieved records were screened based on titles and abstracts to assess relevance to the review objectives. Duplicate articles identified across databases were removed. Subsequently, full-text versions of potentially eligible studies were obtained and reviewed against the predefined inclusion and exclusion criteria.

The screening process focused on identifying studies that examined the interaction between mental health and cardiac conditions during pregnancy, nursing responsibilities in maternal care, and evidence-based interventions designed to improve clinical outcomes. Articles meeting the eligibility criteria were included in the final review.

Data Extraction

Relevant information was extracted from each selected study using a standardized data extraction framework. Extracted data included:

- Author(s) and year of publication
- Country of study
- Study design
- Sample characteristics
- Type of mental health disorder
- Type of cardiac complication
- Nursing interventions implemented
- Integrated care components
- Maternal and neonatal outcomes
- Major findings and recommendations

This structured approach facilitated comparison and synthesis of findings across studies.

Quality Appraisal

To ensure the credibility and reliability of the evidence, selected studies were critically evaluated for methodological quality. Factors assessed included study design, sample size, data collection methods, validity of outcome measures, risk of bias, and relevance to the review objectives. Greater emphasis was placed on systematic reviews, meta-analyses, randomized controlled trials, and clinical practice guidelines due to their higher levels of evidence.

Data Synthesis

A thematic synthesis approach was used to analyze and integrate findings from the included studies. The

literature was organized into key themes, including the relationship between mental health and cardiac complications, screening and assessment strategies, nursing interventions, multidisciplinary care models, psychosocial support, cardiovascular monitoring, and maternal outcomes. Similar findings were grouped together to identify patterns, evidence-based practices, and emerging trends in integrated maternal healthcare.

The synthesized evidence was then used to develop recommendations for nursing practice, education, research, and policy development. This approach enabled a comprehensive understanding of the role of integrated nursing care in improving maternal mental health, cardiovascular stability, and overall pregnancy outcomes among women experiencing complex pregnancy-related complications.

Relationship Between Mental Health and Cardiac Complications During Pregnancy

Pregnancy is accompanied by significant physiological, psychological, and social changes that can influence both mental and physical health. Among the various health challenges experienced during pregnancy, mental health disorders and cardiovascular complications are increasingly recognized as major contributors to maternal and neonatal morbidity and mortality. Recent evidence suggests that these conditions are not independent of one another; rather, they share a complex and bidirectional relationship. Mental health disorders can adversely affect cardiovascular health, while cardiac complications may contribute to psychological distress, creating a cycle that negatively influences pregnancy outcomes. Mental health disorders such as anxiety, depression, stress-related disorders, and severe psychiatric illnesses are common during pregnancy. Hormonal fluctuations, concerns about childbirth, changing family responsibilities, financial pressures, and previous obstetric experiences can increase psychological vulnerability among pregnant women. Studies indicate that approximately one in five women experiences a mental health disorder during pregnancy or the postpartum period. These conditions can affect emotional well-being, daily functioning, self-care practices, and adherence to medical recommendations.

Psychological stress and mental health disorders influence cardiovascular function through several biological mechanisms. Chronic stress activates the hypothalamic-pituitary-adrenal (HPA) axis, leading to increased secretion of cortisol and other stress hormones. Elevated cortisol levels contribute to endothelial dysfunction, increased vascular resistance, systemic inflammation, and hypertension. At the same time, activation of the sympathetic nervous system increases heart rate and blood pressure, placing additional strain on the cardiovascular system. During pregnancy, when cardiovascular demands are already elevated, these physiological responses may increase the risk of developing cardiac complications. Anxiety disorders are particularly associated with adverse cardiovascular effects. Persistent anxiety can lead to sustained sympathetic nervous system activation, resulting in tachycardia, elevated blood pressure, and increased myocardial workload. Pregnant women with severe anxiety may experience palpitations, chest discomfort, and heightened cardiovascular reactivity. Anxiety can also interfere with sleep quality and healthy lifestyle behaviors, further increasing cardiovascular risk. Research has demonstrated that women experiencing antenatal anxiety are more likely to develop hypertensive disorders of pregnancy, including gestational hypertension and preeclampsia. Depression is another significant mental health concern that has been linked to cardiovascular complications during pregnancy. Depressive symptoms often result in reduced motivation, poor nutrition, physical inactivity, and inadequate adherence to prenatal care recommendations. Women with depression may be less likely to attend antenatal appointments, monitor symptoms, or follow prescribed treatment regimens. These behaviors can contribute to worsening cardiovascular health and delayed detection of pregnancy-related complications. Furthermore, depression is associated with increased inflammatory markers and autonomic nervous system dysregulation, both of which may contribute to the development of cardiovascular disease. Hypertensive disorders of pregnancy represent one of the most common cardiovascular complications associated with psychological distress. Preeclampsia, characterized by hypertension and multisystem involvement, has been linked to elevated stress levels, anxiety, and depressive symptoms. The relationship appears to be bidirectional. Psychological distress may contribute to the development of preeclampsia through inflammatory and vascular mechanisms, while the diagnosis of preeclampsia often causes substantial emotional distress due to concerns about maternal and fetal health. Women diagnosed with severe preeclampsia frequently report fear, uncertainty, and feelings of loss of control, which can exacerbate anxiety and depressive symptoms.

Cardiac diseases present before pregnancy can also significantly affect mental health. Women with congenital heart disease, rheumatic heart disease, cardiomyopathy, arrhythmias, or heart failure often experience increased psychological burden during pregnancy. Concerns regarding disease progression, medication safety, labor complications, and fetal outcomes can generate substantial emotional stress. Frequent hospital visits, intensive monitoring, and potential restrictions on physical activity may further contribute to feelings of anxiety, depression, and social isolation. Studies have reported lower quality of life and higher rates of psychological distress among pregnant women with pre-existing cardiovascular disease compared to healthy pregnant women.

Peripartum cardiomyopathy is another condition closely associated with mental health challenges. This rare but potentially life-threatening form of heart failure occurs during late pregnancy or the postpartum period. Women diagnosed with peripartum cardiomyopathy often experience significant emotional distress related to sudden illness, uncertainty regarding recovery, and

concerns about caring for their newborn. The psychological impact may persist long after physical recovery and can increase the risk of postpartum depression and anxiety disorders. The postpartum period is also a critical time when the interaction between mental health and cardiovascular complications becomes evident. Women who experience severe cardiac complications during pregnancy are at increased risk of postpartum depression, post-traumatic stress symptoms, and anxiety disorders. Similarly, untreated postpartum mental health conditions may impair recovery, reduce adherence to follow-up care, and negatively affect long-term cardiovascular health. These challenges can influence maternal-infant bonding, breastfeeding practices, and family functioning. The growing evidence supporting the connection between mental health and cardiovascular complications highlights the importance of integrated healthcare approaches during pregnancy. Early identification of psychological distress, routine mental health screening, cardiovascular risk assessment, and multidisciplinary management can improve maternal and neonatal outcomes. Nurses play a vital role in recognizing early warning signs, providing emotional support, promoting treatment adherence, and coordinating care among healthcare professionals. Addressing both mental and cardiovascular health simultaneously is essential for ensuring comprehensive, patient-centered maternity care.

Major Cardiac Complications During Pregnancy

Pregnancy imposes substantial physiological demands on the cardiovascular system, including increased blood volume, cardiac output, heart rate, and oxygen consumption. These adaptations are necessary to support fetal growth and development; however, they may also exacerbate pre-existing heart conditions or contribute to the development of new cardiovascular complications. Cardiac disorders during pregnancy are among the leading causes of maternal morbidity and mortality worldwide and require early identification, careful monitoring, and multidisciplinary management. The major cardiac complications encountered during pregnancy include hypertensive disorders, congenital heart disease, arrhythmias, cardiomyopathy, and heart failure.

Hypertensive Disorders of Pregnancy

Hypertensive disorders are the most common cardiovascular complications during pregnancy and include gestational hypertension, preeclampsia, eclampsia, and chronic hypertension. Gestational hypertension develops after 20 weeks of pregnancy without significant proteinuria, whereas preeclampsia is characterized by hypertension accompanied by proteinuria or evidence of organ dysfunction. Eclampsia represents the most severe form and involves seizures in a woman with preeclampsia. These conditions can lead to maternal complications such as stroke, renal failure, placental abruption, and cardiovascular disease, as well as adverse fetal outcomes including preterm birth and intrauterine growth restriction.

Congenital and Acquired Heart Disease

Advances in medical care have enabled many women with congenital heart disease to survive into adulthood and achieve pregnancy. Common congenital cardiac conditions include atrial septal defects, ventricular septal defects, and repaired congenital anomalies. Acquired heart diseases, particularly rheumatic heart disease, remain significant in many developing countries. Pregnancy-related hemodynamic changes can increase the workload on the heart, potentially leading to decompensation, arrhythmias, or heart failure in women with underlying structural abnormalities.

Cardiac Arrhythmias

Arrhythmias are relatively common during pregnancy due to hormonal influences, increased blood volume, and heightened cardiac workload. Pregnant women may experience supraventricular tachycardia, atrial fibrillation, premature contractions, or, less commonly, ventricular arrhythmias. Although many arrhythmias are benign, severe rhythm disturbances can compromise maternal and fetal circulation, requiring prompt diagnosis and management.

Peripartum Cardiomyopathy

Peripartum cardiomyopathy is a rare but serious condition characterized by left ventricular systolic dysfunction occurring during the last month of pregnancy or within several months after delivery. Symptoms include fatigue, shortness of breath, edema, and reduced exercise tolerance. If not recognized early, the condition may progress to severe heart failure and life-threatening complications.

Heart Failure

Heart failure may occur in women with pre-existing cardiac disease or develop secondary to pregnancy-related complications such as severe hypertension or cardiomyopathy. Clinical manifestations include dyspnea, pulmonary edema, fatigue, and fluid retention. Heart failure during pregnancy is associated with increased maternal and neonatal risks and often requires specialized multidisciplinary care.

Overall, early detection, regular cardiovascular assessment, and coordinated management are essential to minimize complications and improve maternal and fetal outcomes. Nurses play a crucial role in monitoring symptoms, educating patients, promoting treatment adherence, and facilitating timely interventions throughout pregnancy and the postpartum period.

Integrated Nursing Care Framework

The increasing prevalence of mental health disorders and cardiac complications during pregnancy has highlighted the need for comprehensive and coordinated healthcare approaches. Traditional maternal healthcare models often focus on physical and psychological conditions separately, resulting in fragmented care and missed opportunities for early intervention. Integrated nursing care provides a holistic, patient-centered framework that addresses the physical, psychological, emotional, social, and educational needs of pregnant women. This approach is particularly important for women experiencing coexisting mental health and cardiovascular complications, as these conditions

frequently interact and influence maternal and fetal outcomes.

Integrated nursing care is based on the principle that optimal maternal health can only be achieved when all dimensions of well-being are addressed simultaneously. The framework emphasizes collaboration among healthcare professionals, continuity of care, evidence-based interventions, and active participation of women and their families in healthcare decision-making. Nurses play a central role in coordinating care, monitoring maternal health, providing education, offering psychological support, and ensuring effective communication among members of the multidisciplinary healthcare team.

Comprehensive Assessment and Early Identification

The foundation of integrated nursing care is comprehensive assessment and early identification of risk factors. Nurses are often the first healthcare professionals to interact with pregnant women and therefore play a crucial role in detecting both mental health concerns and cardiovascular abnormalities. Initial assessments should include detailed medical, obstetric, psychological, and social histories. Screening should focus on identifying symptoms of anxiety, depression, stress, hypertension, cardiac disease, and other pregnancy-related complications.

Validated screening tools such as the Edinburgh Postnatal Depression Scale (EPDS), Patient Health Questionnaire (PHQ-9), and Generalized Anxiety Disorder Scale (GAD-7) can be used to assess mental health status. Simultaneously, cardiovascular assessment should include blood pressure monitoring, heart rate evaluation, assessment of edema, respiratory status, and identification of warning signs such as chest pain, palpitations, or shortness of breath. Early detection allows timely intervention and reduces the likelihood of severe maternal and fetal complications.

Individualized Care Planning

An important component of the integrated nursing care framework is the development of individualized care plans tailored to each woman's specific health needs. Pregnant women with cardiac complications and mental health disorders often present with varying levels of risk, requiring personalized management strategies. Nurses collaborate with obstetricians, cardiologists, psychiatrists, psychologists, and other healthcare professionals to establish care plans that address both physical and emotional health concerns.

Individualized care plans should include clear treatment goals, medication management strategies, lifestyle recommendations, monitoring schedules, and emergency response plans. The inclusion of women and their families in care planning promotes shared decision-making, enhances treatment adherence, and improves patient satisfaction.

Continuous Monitoring and Clinical Management

Ongoing monitoring is a critical element of integrated nursing care. Pregnancy-related physiological changes can rapidly alter both cardiovascular and psychological conditions, necessitating regular assessment throughout pregnancy and the postpartum period. Nurses are responsible for monitoring maternal vital signs, cardiovascular status, symptom progression, medication adherence, and psychological well-being.

For women with cardiac complications, continuous evaluation of blood pressure, fluid balance, oxygen saturation, and signs of cardiac decompensation is essential. Simultaneously, mental health monitoring should focus on identifying changes in mood, anxiety levels, coping abilities, sleep patterns, and emotional functioning. Regular follow-up assessments facilitate early recognition of deterioration and enable prompt intervention.

Psychological Support and Counseling

Psychological care is an essential component of integrated nursing practice. Women diagnosed with cardiac complications often experience fear, uncertainty, and emotional distress related to their pregnancy and future health. Likewise, women with mental health disorders may struggle to cope with the demands of pregnancy and complex medical treatments.

Nurses provide therapeutic communication, emotional support, active listening, and counseling to help women manage stress and anxiety. Evidence-based interventions such as relaxation techniques, mindfulness practices, stress management education, and cognitive-behavioral strategies can enhance emotional resilience. Family counseling and peer support programs may further strengthen coping mechanisms and reduce feelings of isolation.

Health Education and Self-Management Support

Patient education is a fundamental responsibility within the integrated nursing care framework. Educating women about their conditions empowers them to participate actively in their healthcare and promotes effective self-management. Nurses provide information regarding cardiac disease, mental health disorders, medication safety, warning signs of complications, nutrition, physical activity, stress reduction, and healthy lifestyle practices.

Women should be encouraged to recognize symptoms that require immediate medical attention, such as severe headaches, chest pain, shortness of breath, palpitations, sudden swelling, or worsening depressive symptoms. Educational interventions improve health literacy, treatment adherence, and confidence in managing pregnancy-related challenges.

Multidisciplinary Collaboration and Care Coordination

Effective integrated care relies on strong collaboration among healthcare professionals. Nurses serve as coordinators who facilitate communication between obstetricians, cardiologists, psychiatrists, psychologists, midwives, social workers, and community healthcare providers. Multidisciplinary teamwork ensures that all aspects of a woman's health are addressed comprehensively and consistently.

Care coordination is particularly important during transitions between antenatal, intrapartum, and postpartum care. Nurses help arrange referrals, schedule follow-up appointments, communicate treatment plans, and ensure continuity of services across healthcare

settings. This coordinated approach minimizes fragmentation of care and enhances patient safety.

Postpartum Follow-Up and Long-Term Support

The integrated nursing care framework extends beyond childbirth into the postpartum period. Women who experience mental health disorders or cardiac complications during pregnancy remain at increased risk for ongoing health challenges after delivery. Postpartum follow-up should include cardiovascular assessment, mental health screening, breastfeeding support, family education, and referral to specialist services when necessary.

Long-term monitoring and support contribute to improved maternal recovery, enhanced quality of life, and reduced risk of future complications. Through comprehensive assessment, individualized care planning, continuous monitoring, psychological support, health education, and multidisciplinary collaboration, the integrated nursing care framework provides a holistic approach that promotes optimal maternal and neonatal outcomes while addressing the complex needs of women experiencing mental health and cardiac complications during pregnancy.

Evidence-Based Nursing Interventions

Evidence-based nursing interventions are essential for improving maternal and neonatal outcomes among pregnant women experiencing mental health disorders and cardiac complications. These interventions integrate the best available research evidence, clinical expertise, and patient preferences to provide safe, effective, and individualized care. Because mental health conditions and cardiovascular disorders often coexist and influence one another, nursing interventions must address both psychological and physical health needs throughout the antenatal, intrapartum, and postpartum periods. Nurses play a pivotal role in early identification of risk factors, implementation of therapeutic strategies, patient education, and coordination of multidisciplinary care.

Antenatal Interventions

The antenatal period provides a critical opportunity for early detection and prevention of complications. Routine screening for anxiety, depression, and psychological distress should be incorporated into prenatal care using validated assessment tools such as the Edinburgh Postnatal Depression Scale (EPDS), Patient Health Questionnaire (PHQ-9), and Generalized Anxiety Disorder Scale (GAD-7). Early identification of mental health concerns enables timely referral and intervention.

Simultaneously, comprehensive cardiovascular assessment should be conducted to identify women at risk for hypertensive disorders, arrhythmias, congenital heart disease, or cardiomyopathy. Regular monitoring of blood pressure, heart rate, weight gain, edema, and respiratory status helps detect complications at an early stage. Evidence suggests that nurse-led screening programs improve recognition of high-risk pregnancies and facilitate prompt management.

Health education is another important antenatal intervention. Nurses provide information regarding medication adherence, healthy nutrition, physical activity, stress management, and recognition of warning signs. Counseling sessions focused on coping skills, relaxation techniques, and emotional support have been shown to reduce anxiety and improve psychological well-being among pregnant women. Telehealth consultations and digital health platforms may further enhance access to care, particularly for women living in remote or underserved areas.

Intrapartum Interventions

During labor and delivery, nursing care focuses on maintaining maternal cardiovascular stability and minimizing psychological distress. Continuous monitoring of maternal vital signs, fetal well-being, and cardiac status is essential for women with known cardiovascular disease or pregnancy-related cardiac complications. Nurses should closely observe for symptoms such as chest pain, shortness of breath, arrhythmias, severe hypertension, or signs of heart failure.

Psychological support during labor is equally important. Fear, anxiety, and uncertainty can increase physiological stress responses, potentially worsening cardiovascular conditions. Therapeutic communication, reassurance, emotional support, and effective pain management help reduce stress and promote positive childbirth experiences. Nurses should encourage the presence of supportive family members when appropriate and facilitate shared decision-making throughout the labor process.

Multidisciplinary collaboration among obstetricians, cardiologists, anesthesiologists, mental health professionals, and nursing staff is crucial during this phase. Evidence indicates that coordinated care during labor significantly reduces maternal complications and improves safety outcomes for high-risk pregnancies.

Postpartum Interventions

The postpartum period remains a vulnerable time for both mental health and cardiovascular complications. Women who have experienced cardiac disorders during pregnancy are at increased risk of ongoing cardiovascular problems, while those with antenatal psychological distress may develop postpartum depression or anxiety disorders. Nurses should conduct routine postpartum mental health screening and assess emotional adjustment, coping abilities, sleep patterns, and maternal-infant bonding. Early identification of depressive symptoms allows timely referral to mental health services and prevents progression to severe psychological disorders. Counseling, peer support groups, and family-centered interventions have demonstrated effectiveness in improving postpartum mental health outcomes.

Cardiovascular follow-up is equally important. Monitoring blood pressure, fluid status, cardiac symptoms, and medication compliance helps prevent complications and supports recovery. Education regarding lifestyle modifications, follow-up appointments, breastfeeding considerations, and future pregnancy planning further promotes long-term maternal health. Overall, evidence-based nursing

interventions that combine early screening, continuous monitoring, psychological support, patient education, and multidisciplinary collaboration contribute significantly to improving maternal well-being, cardiovascular stability, and neonatal outcomes. These interventions form the foundation of high-quality, integrated maternity care and reinforce the critical role of nurses in managing complex pregnancies affected by mental health and cardiac complications.

Implications for Nursing Practice

The growing prevalence of mental health disorders and cardiac complications during pregnancy has significant implications for nursing practice. As frontline healthcare providers, nurses play a critical role in the prevention, early detection, management, and follow-up of these complex conditions. The coexistence of psychological and cardiovascular problems requires nurses to adopt a holistic, patient-centered approach that addresses the physical, emotional, social, and educational needs of pregnant women. Evidence from recent studies highlights the importance of strengthening nursing competencies, promoting multidisciplinary collaboration, and implementing integrated models of maternal healthcare to improve pregnancy outcomes.

One of the primary implications for nursing practice is the need for routine screening and comprehensive assessment. Nurses should be trained to identify early signs of anxiety, depression, stress, and cardiovascular complications through the use of validated screening tools and systematic clinical evaluation. Regular monitoring of blood pressure, heart rate, edema, respiratory status, and psychological well-being enables early recognition of potential complications and facilitates timely intervention. Incorporating mental health screening into routine antenatal and postpartum care can significantly improve the identification of women requiring additional support.

Another important implication is the expansion of nurses' roles in patient education and counseling. Pregnant women with mental health disorders or cardiac complications often require detailed information regarding their condition, treatment options, medication adherence, lifestyle modifications, and warning signs of deterioration. Nurses are uniquely positioned to provide individualized education, promote self-care behaviors, and empower women to actively participate in healthcare decisions. Effective communication and culturally sensitive counseling can reduce anxiety, improve treatment adherence, and enhance maternal confidence throughout pregnancy.

Multidisciplinary collaboration is also essential for effective maternal care. Nurses must work closely with obstetricians, cardiologists, psychiatrists, psychologists, midwives, social workers, and community health professionals to ensure coordinated and continuous care. Acting as care coordinators, nurses facilitate communication among team members, monitor treatment progress, arrange referrals, and support transitions between antenatal, intrapartum, and postpartum services. Such collaborative approaches improve healthcare efficiency and reduce fragmentation of care. The increasing complexity of maternal healthcare also emphasizes the need for ongoing professional education and specialized training. Nurses should develop competencies in perinatal mental health, cardiovascular assessment, emergency management, and evidence-based practice. Continuing education programs can enhance clinical decision-making skills and improve confidence in managing high-risk pregnancies.

Nurses have an important role in advocacy, research, and policy development. By promoting integrated maternal healthcare services, supporting evidence-based interventions, and participating in research activities, nurses can contribute to improved healthcare quality and maternal outcomes. Strengthening nursing practice through education, collaboration, and evidence-based care is essential for addressing the growing challenges associated with mental health disorders and cardiac complications during pregnancy and for ensuring safe, comprehensive, and woman-centered maternity care.

Conclusion

Mental health disorders and cardiac complications during pregnancy are significant public health concerns that can adversely affect maternal and neonatal outcomes. The physiological demands of pregnancy, combined with psychological stressors, create a complex interaction between mental and cardiovascular health. Conditions such as anxiety, depression, hypertensive disorders, arrhythmias, congenital heart disease, and peripartum cardiomyopathy often coexist, increasing the risk of maternal morbidity, mortality, preterm birth, and poor quality of life. The growing recognition of this interrelationship highlights the need for comprehensive and integrated healthcare approaches that address both psychological and physical health needs throughout pregnancy and the postpartum period.

This evidence-based review demonstrates that integrated nursing care plays a crucial role in improving outcomes for women experiencing mental health and cardiac complications. Through comprehensive assessment, early risk identification, continuous monitoring, psychological support, health education, and multidisciplinary collaboration, nurses contribute significantly to the prevention, management, and follow-up of these conditions. Evidence-based interventions such as routine mental health screening, cardiovascular surveillance, counseling services, patient-centered education, and coordinated care planning have been shown to enhance maternal well-being, treatment adherence, and overall pregnancy outcomes.

Furthermore, the review emphasizes the importance of multidisciplinary teamwork involving obstetricians, cardiologists, mental health professionals, midwives, social workers, and nurses. Such collaborative approaches ensure continuity of care and facilitate timely interventions for high-risk women. The integration of mental health services into routine maternal healthcare can improve early detection of

psychological disorders and reduce the burden of untreated mental illness during pregnancy.

Despite advancements in maternal healthcare, challenges such as inadequate screening, limited resources, workforce shortages, and fragmented healthcare systems continue to hinder effective implementation of integrated care models. Therefore, healthcare organizations and policymakers should prioritize the development of evidence-based guidelines, specialized training programs, and integrated maternal health services.

In conclusion, addressing mental health and cardiac complications simultaneously through integrated nursing care is essential for achieving optimal maternal and neonatal outcomes. Strengthening nursing competencies, promoting interdisciplinary collaboration, and expanding access to comprehensive maternal healthcare services will contribute significantly to safer pregnancies, healthier mothers, and improved long-term family well-being. Future research should continue to evaluate innovative nursing interventions and integrated care models to further enhance maternal health outcomes worldwide.

References

1. American College of Obstetricians and Gynecologists. (2023). *Mental health conditions in pregnancy and postpartum* (Clinical Practice Guideline No. 5). Obstetrics & Gynecology, 141(6), 1262–1288. https://doi.org/10.1097/AOG.0000000000005202
2. Benton, M., Salter, A., Tape, N., Wilkinson, J., & Turnbull, D. (2024). Trauma-informed approaches in maternal mental health care: Best practice recommendations. *Midwifery, 129*, 103890. https://doi.org/10.1016/j.midw.2023.103890
3. Clarke, J. R., McCarthy, M., & O'Mahen, H. (2024). Digital screening and assessment of mental health during pregnancy and the postpartum period: A systematic review. *Archives of Women's Mental Health, 27*(1), 45–58. https://doi.org/10.1007/s00737-023-01352-5
4. Cunningham, F. G., Leveno, K. J., Bloom, S. L., Dashe, J. S., Hoffman, B. L., Casey, B. M., & Spong, C. Y. (2022). Maternal cardiovascular disease and pregnancy outcomes. *Williams Obstetrics* (26th ed.). McGraw-Hill Education.
5. Honigberg, M. C., Zekavat, S. M., Aragam, K., et al. (2019). Long-term cardiovascular risk in women with hypertension during pregnancy. *Journal of the American College of Cardiology, 74*(22), 2743–2754. https://doi.org/10.1016/j.jacc.2019.09.052
6. Khalifeh, H., Brauer, R., Toulmin, H., Howard, L. M., & O'Brien, P. (2023). Maternal mental health and pregnancy outcomes: An updated systematic review. *The Lancet Psychiatry, 10*(8), 642–654. https://doi.org/10.1016/S2215-0366(23)00145-8
7. Knight, M., Bunch, K., Patel, R., Shakespeare, J., Kotnis, R., Kenyon, S., & Kurinczuk, J. J. (2024). *Saving lives, improving mothers' care: Lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2020–2022*. National Perinatal Epidemiology Unit.
8. McNaughton, C., Currie, G., Highet, N., & Austin, M. P. (2025). Models and key elements of integrated perinatal mental health care: A scoping review. *PLOS Mental Health, 2*(1), e0000212. https://doi.org/10.1371/journal.pmen.0000212
9. Regitz-Zagrosek, V., Roos-Hesselink, J. W., Bauersachs, J., et al. (2018). ESC Guidelines for the management of cardiovascular diseases during pregnancy. *European Heart Journal, 39*(34), 3165–3241. https://doi.org/10.1093/eurheartj/ehy340
10. Shang, J., Zhu, X., Wang, Y., & Liu, H. (2022). The effectiveness of postpartum interventions aimed at improving women's mental health after medical complications of pregnancy: A systematic review and meta-analysis. *BMC Pregnancy and Childbirth, 22*(1), 678. https://doi.org/10.1186/s12884-022-05084-1
11. Sreenivasan, A., Howard, L. M., & Khalifeh, H. (2025). Mental health-related multimorbidity during pregnancy and the postpartum period: A systematic review and meta-analysis. *BMC Public Health, 25*(1), 1148. https://doi.org/10.1186/s12889-025-21475-9
12. Thorne, S., MacGregor, A., & Nelson-Piercy, C. (2023). Risks of contraception and pregnancy in heart disease. *Heart, 109*(4), 275–282. https://doi.org/10.1136/heartjnl-2022-321481
13. World Health Organization. (2022). *WHO guide for integration of perinatal mental health into maternal and child health services*. World Health Organization. https://www.who.int/publications
14. Yadav, R., Sharma, P., & Gupta, S. (2024). Nurse-led interventions for improving maternal outcomes among women with high-risk pregnancies: A systematic review. *International Journal of Nursing Studies, 151*, 104643. https://doi.org/10.1016/j.ijnurstu.2023.104643
15. Zambrano, M. D., Miller, E. C., & Bello, N. A. (2023). Cardiovascular disease and maternal health: Contemporary challenges and future directions. *Circulation, 147*(10), 768–782. https://doi.org/10.1161/CIRCULATIONAHA.122.061258