

Fourth Trimester



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Preface

I first came to appreciate the true weight of the “fourth trimester” while working in Şanlıurfa-one of Türkiye’s highest-birth-rate cities. In a setting where we regularly managed high-risk pregnancies and fought maternal mortality, my attention was naturally drawn to the drama of labour and delivery. Yet it was the days and weeks after birth that repeatedly reminded me how vulnerable women can remain, and how easily postpartum risks can be missed when care becomes fragmented. That experience reshaped my practice: the postpartum period is not an afterthought-it is a critical window for prevention, timely recognition, and structured follow-up.

This handbook is written for obstetricians and residents as a practical, up-to-date guide to postpartum care. It aims to support clear bedside decisions with concise pathways, escalation thresholds, and “red flag” reminders-while also addressing the problems that most affect recovery and long-term wellbeing. Our goal is simple: to help clinicians deliver consistent, evidence-informed care during the first weeks after birth, when vigilance still matters.

Finally, I want to salute the colleagues who shared that work with me in Şanlıurfa-those who stood beside women at their most critical moments and fought to pull near-miss cases back from the edge. This book carries a part of that effort, and it is dedicated to all who refuse to let the postpartum period be overlooked.

Alev ESERCAN, Assoc. Prof., MD

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Timing of Postpartum Visits and Warning Signs

Seda Güray

ABSTRACT

The postpartum period is a critical phase in maternal health during which women undergo substantial physiological recovery, psychological adjustment, and social role transition. Accumulating evidence indicates that a considerable proportion of maternal morbidity and mortality occurs after hospital discharge, most frequently within the first weeks and months following childbirth. Importantly, many of these adverse outcomes are preventable, highlighting deficiencies in traditional postpartum care models that rely on limited follow-up and delayed clinical surveillance. In recent years, the postpartum period has increasingly been conceptualized as the “fourth trimester,” reflecting a paradigm shift in which postpartum care is no longer viewed as a brief recovery interval but as a prolonged and vulnerable transition period shaping both short- and long-term maternal health outcomes. Contemporary guidelines emphasize that postpartum care should extend through the first 12 weeks after birth and be tailored according to each woman’s individual risk profile. Evidence demonstrates that conditions such as hypertensive disorders, thromboembolic events, infection, severe mental health disturbances, and breastfeeding-related complications may emerge or worsen during this period, often outside the window of routine clinical contact. This book chapter synthesizes current international guidelines and evidence-based recommendations to present a structured approach to postpartum care that integrates two interrelated components: the timing of postpartum follow-up visits and the systematic recognition of postpartum warning signs. The chapter outlines an evidence-informed schedule for postpartum contacts, ranging from early assessment in the immediate postpartum period to a comprehensive evaluation by 12 weeks after childbirth. In parallel, it systematically describes key physical, psychological, and breastfeeding-related warning signs that require urgent clinical attention, with particular emphasis on women with increased clinical vulnerability. By integrating structured postpartum follow-up timing with systematic recognition of postpartum warning signs, this chapter provides a comprehensive clinical framework aimed at improving early detection of complications, supporting timely intervention and referral, and ultimately reducing preventable maternal morbidity and mortality during the postpartum period.

INTRODUCTION

The postpartum period is defined as a critical phase in the lives of women and newborns, a phase in which the foundations of long-term health and well-being are established

for Disease Control and Prevention (CDC), emphasize that women's reports of unusual bodily changes during the postpartum period-and clinicians' obligation to take these concerns seriously without dismissal-can be life-saving.^{11,14}

Complications that may arise during the postpartum period span a broad clinical spectrum, including acute and life-threatening physical risks, severe breastfeeding-related problems, and major mental health crises.^{1,13,16} For this reason, the early recognition of warning signs is regarded as a core component of postpartum care and an integral element of structured follow-up approaches.

Physical Warning Signs

Physical warning signs in the postpartum period often represent early manifestations of cardiovascular, infectious, or hemorrhagic conditions that require urgent medical intervention. Prompt clinical evaluation in the presence of such symptoms is critical to preventing severe maternal morbidity and mortality.

Excessive vaginal bleeding is one of the most important warning signs in the postpartum period. Bleeding severe enough to completely saturate one or more sanitary pads within an hour, the passage of large clots, or a sudden increase in bleeding days after delivery rather than a gradual decrease may indicate primary or secondary postpartum hemorrhage (PPH).^{10,11,20} Under normal circumstances, lochia should gradually change in color from bright red to brown over several weeks and typically resolve completely by 12 weeks postpartum; deviation from this physiological pattern should be regarded as an alarm sign.¹⁰

Persistent or progressively worsening headache, visual disturbances (such as blurred vision, flashing lights, or partial vision loss), dizziness or syncope, accompanied by marked swelling of the face or hands, may signal life-threatening conditions such as postpartum preeclampsia or eclampsia.^{11,19} Because these neurological symptoms can emerge days or weeks after delivery, they should be considered warning signs throughout all stages of the postpartum period.

A postpartum body temperature of 38°C (100.4°F) or higher, chills, severe lower abdominal pain, and foul-smelling vaginal discharge are serious indicators of infection, warranting evaluation for endometritis or puerperal sepsis.^{3,4,12} Early recognition and appropriate management of these symptoms are essential components of efforts to reduce maternal mortality.

Unilateral leg swelling, redness, or pain accompanied by sudden onset of shortness of breath, chest pain, or palpitations may indicate cardiovascular emergencies such as venous thromboembolism, pulmonary embolism, or peripartum cardiomyopathy, and require immediate advanced evaluation.^{6,11,12}

In addition, inability to void within the first 24 hours postpartum (urinary retention) or a burning sensation during urination may represent early signs of urinary tract complications. Careful monitoring and timely intervention in such cases are important to prevent long-term bladder dysfunction.³

Psychological and Emotional Warning Signs

Psychological and emotional health problems emerging during the postpartum period are common clinical conditions affecting approximately one in five women, yet they are frequently underrecognized. When left untreated, these conditions may lead to severe

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consequences, including an increased risk of maternal suicide and impaired infant development resulting from disrupted mother-infant interaction.^{12,15} For this reason, certain psychological symptoms should be regarded as warning signs that require urgent psychiatric evaluation during the postpartum period.

The presence of thoughts, plans, or impulses related to self-harm or harm to the infant represents the highest level of psychological alarm in the postpartum period. Suicidal or infanticidal ideation constitutes an absolute psychiatric emergency and necessitates immediate intervention without delay.^{7,11,15} Such symptoms indicate a critical clinical situation that directly threatens the lives of both the mother and the infant.

Postpartum psychosis is a medical emergency characterized by hallucinations, delusions, marked agitation, confusion, and paranoia, typically emerging within the first weeks after childbirth.^{7,16} Given the risk of rapid clinical deterioration, this condition requires urgent psychiatric assessment and, in most cases, inpatient treatment.

Severe postpartum depression and anxiety disorders are also considered psychological warning signs. Profound sadness to the extent that daily functioning is impaired, inability to bond with the infant, uncontrollable panic attacks, or intense obsessive thoughts indicate conditions that extend beyond transient “baby blues” and require professional mental health intervention.^{7,8,15} Early recognition and appropriate management of these symptoms are critical for safeguarding both maternal and infant health.

Breastfeeding-Related Warning Signs

Certain problems encountered during the breastfeeding process may directly affect not only the success of lactation but also the mother’s physical health and the newborn’s nutritional status. For this reason, specific breastfeeding-related symptoms in the postpartum period should be considered warning signs for both the mother and the infant.

Unilateral, wedge-shaped painful erythema and induration of the breast accompanied by high fever and flu-like malaise are characteristic clinical features of mastitis. If left untreated, mastitis may lead to serious complications such as breast abscess formation and sepsis, and therefore requires prompt evaluation and appropriate antibiotic therapy during the postpartum period.^{3,13}

Persistent breast masses identified during lactation that do not resolve despite adequate treatment for mastitis should be carefully evaluated until pregnancy-associated breast cancer is ruled out. In such cases, further assessment with ultrasonography is recommended.¹³ The presence of breastfeeding does not eliminate the risk of malignancy; therefore, this finding constitutes a clinically significant warning sign.

Signs of inadequate feeding and dehydration in the newborn also represent important breastfeeding-related alarm indicators. Failure of the infant to begin gaining weight by the fourth or fifth day after birth, fewer than six wet diapers per day, development of jaundice, excessive lethargy, or inconsolable crying may indicate serious problems related to insufficient breast milk intake or ineffective breastfeeding technique.¹³ When these signs are present, both the mother’s breastfeeding process and the newborn’s clinical status should be evaluated concurrently.

Depression, Anxiety and Psychiatric Problems

Muhammed Yasir Çelenk

ABSTRACT

Maternal mental health is a fundamental component of obstetric care, with important implications for both maternal and infant outcomes during the postpartum period. This chapter provides a clinical overview of depression, anxiety, and other psychiatric disorders that may emerge or worsen following childbirth. Postpartum psychiatric conditions range from transient mood changes, such as postpartum blues, to severe disorders including postpartum psychosis, and arise through complex interactions among hormonal fluctuations, neuroendocrine adaptations, obstetric factors, and psychosocial stressors. The chapter summarizes the physiological and psychological mechanisms underlying postpartum vulnerability, outlines the clinical classification of major disorders, and reviews key antenatal, intrapartum, and postpartum risk factors. It also emphasizes the role of obstetricians in early identification through systematic screening, differential diagnosis, and timely referral, and presents evidence-based principles for clinical assessment and management. Overall, the chapter aims to support early recognition and appropriate management of postpartum psychiatric disorders in order to protect maternal well-being, strengthen mother-infant bonding, and improve long-term developmental outcomes.

INTRODUCTION

Maternal mental health is one of the fundamental health components that determine maternal and neonatal outcomes, starting from the pre-pregnancy period through pregnancy and the postpartum period. Pregnancy is an important process in women's lives, expected to be happy and healthy. Mood and anxiety disorders that emerge during pregnancy and the postpartum period are among the most common psychiatric illnesses in women of reproductive age and constitute an important but often overlooked part of obstetric care.¹ If left untreated, they can lead to serious consequences such as decreased compliance with obstetric and medical care, breastfeeding failure, substance use, increased risk of suicide, and, rarely, infanticide.^{1,2} The World Health Organization (WHO) defines maternal mental health disorders as a significant global public health issue and emphasizes that these disorders have long-term effects on both maternal and child health.²

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There is a risk of all psychiatric illnesses emerging and exacerbating during the postpartum period. The most common psychiatric condition encountered in the postpartum period is postpartum depression. Current systematic reviews and meta-analyses indicate that the prevalence of postpartum depression is between 15-20% on average worldwide.³ In an international meta-analysis covering 565 studies from more than 40 countries, the prevalence of postpartum depression was reported to be 17.2%.³ Studies conducted in Türkiye have also shown that postpartum depression is common. Systematic reviews and meta-analyses conducted in our country have reported prevalence rates between 20% and 25%.⁴ These data suggest that clinically significant depressive symptoms may be seen in one out of every four to five births.

Anxiety disorders are as common as depression in the postpartum period and often co-occur with depression. Meta-analyses report the prevalence of postpartum anxiety disorders to be approximately 10-15%. Dennis and colleagues' systematic review found the prevalence of postpartum anxiety to be 10.7% and showed that anxiety symptoms are particularly pronounced in the first months postpartum.⁵ Anxiety disorders are a strong risk factor for postpartum depression. The fact that anxiety disorders are a strong risk factor for postpartum depression highlights the need to evaluate these two conditions together in obstetric practice.^{1,5}

Although postpartum psychosis has a lower prevalence compared with other postpartum psychiatric disorders, it is considered the most severe postpartum psychiatric condition in terms of clinical severity. Systematic reviews report the incidence of postpartum psychosis to be approximately 1-2/1000 births. In a study by Vander Kruik and colleagues that included global data, the prevalence of postpartum psychosis was reported to be between 0.1-0.2%. It has been shown that the risk of postpartum psychosis is significantly increased in women with a history of bipolar disorder. Due to the high risk of mortality and morbidity for both mother and baby, postpartum psychosis should be treated as an absolute obstetric emergency.⁶

The consequences of maternal mental disorders extend beyond the individual mother, influencing wider domains of health and well-being. It has been shown that in mothers with depression and anxiety disorders, mother-infant bonding is negatively affected, breastfeeding duration is shortened, and behavioral, emotional, and cognitive problems are more common in children in the long term.^{1,2} Maternal depression experienced in early childhood can have negative effects on children's language development, stress response system, and academic achievement.²

Obstetricians play a key role in the early diagnosis and management of postpartum psychiatric disorders because they are the group of physicians who have the most frequent contact with women from pregnancy to the end of the postpartum period. The American College of Obstetricians and Gynecologists (ACOG) underscores the importance of systematically assessing all women for depression and anxiety during pregnancy and the postpartum period, recognizing this strategy as an integral part of routine obstetric practice.¹ Similarly, NICE and WHO guidelines recommend that obstetricians identify risk factors early, use appropriate screening scales, and refer patients to psychiatry when necessary.²

This section aims to provide obstetricians with a guiding framework for clinical practice by addressing postpartum depression, anxiety disorders, and other postpartum psychiatric conditions from an obstetric perspective.

PHYSIOLOGY AND PSYCHOLOGICAL EFFECTS OF THE POSTPARTUM PERIOD

The postpartum period is an active process during which physiological adaptations formed during pregnancy rapidly reverse, and hormonal and neuroendocrine balances are restructured. These rapid hormonal and biological changes, when combined with obstetric events, can have significant effects on maternal mental health.⁷

Hormonal Changes

During pregnancy, estrogen and progesterone hormones, which remain at high levels due to placental sources, drop dramatically within the first 24-72 hours after birth. This sudden hormonal withdrawal leads to the disruption of mechanisms that play a regulatory role in the serotonin, dopamine, and GABAergic systems in the central nervous system. In particular, the loss of estrogen's neuroprotective and neurotrophic effects causes vulnerability in mood regulation, facilitating the emergence of depressive symptoms in individuals prone to developing postpartum depression. Clinical and experimental studies show that postpartum depression may be related not only to the absolute values of hormone levels but also to rapid changes in these hormones.⁷

Increased prolactin and oxytocin hormones during the postpartum period play an important role in maintaining lactation, as well as in mother-infant bonding and regulating the stress response. Oxytocin has anxiolytic and social bonding-enhancing effects on the limbic system and amygdala. Low oxytocin levels in late pregnancy and early postpartum have been reported to be associated with increased postpartum depression and anxiety symptoms. Prolactin is thought to suppress stress hormones through breastfeeding and support maternal calmness; if these mechanisms are insufficient, the risk of postpartum mental disorders may increase.

Corticotropin-releasing hormone (CRH), secreted by the placenta during pregnancy, causes significant activation of the maternal hypothalamic-pituitary-adrenal (HPA) axis. After birth, with the separation of the placenta, there is a rapid decrease in CRH, ACTH, and cortisol levels.⁸ This sudden neuroendocrine change creates a temporary disruption in the stress response system. Inadequate regulation of the HPA axis, particularly in women with obstetric complications or psychosocial stress factors, has been associated with the development of postpartum depression and anxiety.^{7,8} This temporary instability in the HPA axis explains why the postpartum period is biologically a vulnerable time for mental disorders.⁸

Factors Related to the Obstetric Process

Birth trauma is defined as the mother perceiving childbirth as a threatening, uncontrollable, or excessively frightening experience. Studies have shown that birth trauma is an independent risk factor for postpartum depression and post-traumatic stress disorder (PTSD). Emergency interventions, complications, and unexpected obstetric events, in particular, contribute to the traumatic perception of the birth experience.⁹ Depression, intense anxiety, and avoidance of future pregnancies are more commonly observed in women who have experienced a traumatic birth experience during the postpartum period.¹⁰

Cesarean delivery, especially when performed under emergency conditions, is associated with a higher level of perceived birth trauma compared to vaginal delivery. Factors such as feelings of loss of control, fear of surgical intervention, and unmet