Chapter 3
Approach to Perinatal Psychiatry

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General Strategies

As within the larger field of psychiatry itself, there is certainly no "one-size-fits-all" strategy for perinatal patients. We must evaluate each individual patient and pay special consideration to current presentation of symptoms, history and pattern of illness, as well as family history. If a patient is already on medication, we must weigh the risk of recurrence of symptoms if medications were to be stopped based on that patient's history and current symptomatology. As a general rule of thumb, the typical recommendation is to attempt to utilize all non-pharmacologic options when possible for patients with mild symptoms. For those with moderate to severe symptoms, the risk of untreated symptoms often greatly outweighs the risk of medication exposures in pregnancy and lactation, and it is typically recommended to continue some sort of medication regimen, along with psychotherapy. For an in-depth review of perinatal psychotherapies, please see Chap. 15. For an extensive review of the risks and benefits of untreated symptoms versus medication exposure in pregnancy and lactation, please see Chaps. 5 and 6.

This chapter serves as a blueprint to provide a framework for considerations in differential diagnosis and treatment recommendations for pregnant and postpartum patients. First and foremost, pregnancy is *not* protective against development of mood or anxiety symptoms [1]. There are tremendous pressures on women to have a blissful, "perfect" pregnancy. The media is filled with images of women "glowing," smiling and seeming to enjoy every moment with ease. Women are left with the impression that they "should" be feeling a certain way, making it all the more

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difficult to speak up and ask for help if they start to experience intense anxiety or a disturbance in their mood. Screening these women for perinatal mood and anxiety disorders (PMADs) is important and is recommended by the Academy of Obstetricians and Gynecologists (ACOG) to occur at least once during the perinatal period [2]. Postpartum Support International (PSI) recommends screening at the new OB visit, at least once during the second trimester, once during the third trimester, at the 6 week postpartum OB visit, either 6 or 12 months postpartum at the annual OB visit, as well as at 3, 9 and 12 months of pediatric visits [3]. Validated screening tools for the perinatal population include the Edinburgh Perinatal Depression Scale (EPDS) and the Patient Health Questionnaire-9 (PHQ-9) [4, 5]. Both rating scales are self-administered, short and easy for patients to complete and have been translated into multiple languages. The EPDS includes items related to anxiety and is the most widely administered rating tool, while the PHQ-9 captures more somatic symptoms [6, 7]. While the EPDS does screen for some anxiety symptomatology, patients that are purely struggling with significant anxiety symptoms in the absence of disturbance of mood can be missed. An additional, short and easy-to-administer screening tool is the General Anxiety Disorder-7 (GAD-7) and has also been validated for use in the perinatal population [8].

Categories of Psychiatric Differential Diagnoses in Pregnant and Postpartum Patients

As within the general field of consult-liaison psychiatry, when conducting a consult regarding perinatal patients, there are varied ways in which patients may present [9].

Psychiatric Presentations of Medical Conditions

A 35-year-old female presents to her OB reporting struggles with conception. She and her husband have been trying to get pregnant for over a year now. She also notes that she has been feeling depressed and lethargic. She has attributed her low mood and lack of motivation or drive to feeling sad about still not being pregnant. Upon further questioning, she does note weight gain, dry skin and increased sensitivity to cold. *Hypothyroidism presented as depressive symptoms, as well as infertility.*

Psychiatric Complications of Medical Conditions or Treatments

A 38-year-old female is undergoing in vitro fertilization (IVF). During the process of IVF treatment, she begins to experience intense mood swings and irritability, as well as increase in worries and anxiety. *Sensitivity to fluctuations in hormones*

predisposes this patient to hormonally related mood and anxiety symptoms, as well as the psychological stress that is often inherent to infertility and the IVF process itself.

Psychological Reactions to Medical Conditions or Treatments

A 30-year-old Gravidity1, Parity0 (G1P0) female with no prior medical or psychiatric conditions presents at week 36 with symptoms of nausea, vomiting, headaches and blurred vision. On exam, she is found to be hypertensive with proteinuria. She is diagnosed with Hemolysis, Elevated Liver enzymes, Low Platelet count (HELLP) syndrome and is induced for delivery. She fails induction and baby is delivered via emergency C section. Baby initially has breathing difficulties and has a 1 week stay in the neonatal intensive care unit (NICU). Mother recovers without issues and is discharged home. Baby improves and is also discharged home with mother. Despite reassurance from the OB and pediatrician that there are no further concerns, the patient cannot relax. She is restless and anxious. She has difficulty sleeping or resting when the baby is sleeping, as she hovers over the bassinet to be sure the baby is still breathing. When she does sleep, she has nightmares about dying or her child dying. *Acute stress disorder, as a result of traumatic delivery, can develop into post-traumatic stress disorder over time without treatment.*

Medical Presentations of Psychiatric Conditions

A 25-year-old G1P1 female currently 10 months postpartum presents with new onset involuntary movements following a minor motor vehicle collision. The movements are initially tremor like and then progress as involuntary dystonia of her limbs and neck. She is evaluated by neurology. During physical exam and evaluation with Neurology, she is observed to walk as if she is on a tightrope and the movements diminish with distraction. *Conversion disorder, or functional movement disorder, presents as dystonia.*

Medical Complications of Psychiatric Conditions or Treatments

A 28-year-old G1P1 female with a history of bipolar disorder effectively managed on lithium throughout pregnancy presents 2 days postpartum with nausea, vomiting, diarrhea and malaise. Upon chart review, her lithium dose had been steadily increased during pregnancy due to decrease in levels secondary to blood volume changes. At delivery, her dose had been maintained and she was continuing to receive the elevated dose from pregnancy. *Acute lithium toxicity resulted from blood*

volume shifts at delivery; the lithium dose should have been held at the onset of labor and restarted postpartum at a reduced dosage (decrease either by one-third or to pre-pregnancy dose).

Comorbid Medical and Psychiatric Conditions

A 24-year-old G3P2 female currently 20 weeks pregnant presents with severe nausea, vomiting and dehydration and has been diagnosed with hyperemesis gravidarum. Additionally, she develops low mood, anhedonia, crying spells and begins to feel hopeless with thoughts of wishing she were dead. She develops intrusive thoughts of picturing various ways that she could attempt suicide, which frighten her. *Hyperemesis gravidarum and clinical depression often co-occur and both deserve thoughtful treatment.*

The Process of the Psychiatric Consultation in the Perinatal Period

Coordinate Care with Referring Provider

A consult is initiated by a referral from another provider. Referral sources are not only most often OBGYNs but can also include primary care providers, general psychiatrists and therapists. It is important to have the patient sign a Release of Information (ROI) form so that treatment plans can be communicated and care can be coordinated with the referring provider. If the consult is for a hospitalized patient, it is important to speak directly to the referring provider on the day of the consultation. If the consult is in the outpatient setting, it is often appropriate to communicate via notes routed back to the referring provider, indicating plan of care moving forward.

Review Patient Records

When available, review of current and past medical records is an essential component of the consultative process. There are times where a referring provider may not share the same medical records system and may not remember to send the patient's records along with the referral. Establishing a system within the practice of guidelines for referral coordinators that includes, at minimum, current records and reason for the referral is key. If a patient has extensive past psychiatric history, requesting records from previous providers or

hospitalizations can be very informative and helpful with assuring all pertinent information has been reviewed.

Review Medications

Accuracy of the patient's current medication list is imperative. Further, any recent changes are particularly important to highlight – discontinued medications, new medications or dose adjustments should all be noted. Additionally, detailed list of all past psychiatric medication trials, including efficacy and any adverse effects, should also be noted.

Collateral

Obtaining information from other treatment providers, as well as the patient's family or close friends, is an important part of the psychiatric consultation. In the inpatient setting, this is imperative. In the outpatient setting, it is important, but it can vary in detail or necessity from patient to patient. With exception of safety concerns, if the patient has not provided consent for the consultant to speak with others, the consultant provider is unable to disclose any information about the patient to that individual but is able to collect information. If there are concerns for suicidality or homicide, confidentiality may be breached. For perinatal patients, information from loved ones and a greater understanding of the patient's larger social network are especially helpful in considering treatment plan recommendations and providing resources where appropriate.

Interview and Physical Exam

Specifics of the perinatal psychiatric interview are detailed in Chap. 3. A thorough psychiatric interview, including a comprehensive history of present illness, past psychiatric history, past family psychiatric history, social history as well as a thorough medical and reproductive history, is crucial. A systematic and thoughtful mental status exam is also revealing and important. Vital signs ought to be reviewed, as well as a complete review of systems. The consultant may choose to either perform a physical exam themselves, when appropriate, or review the physical exam findings documented by other physicians. Certain physical exam findings can be particularly illuminating – a patient with tachycardia and hypertension who appears restless, diaphoretic with notable lacrimation, dilated pupils, rhinorrhea and yawning throughout the interview may be struggling with opioid withdrawal. Other

findings, such as subtle involuntary movements of the jaw or mouth, or cogwheeling rigidity of the muscles on exam can reveal various adverse effects of medications.

Laboratory and/or Imaging Workup

It is important to review any recent laboratory studies, as well as neuroimaging, when appropriate. If labs were not recently obtained, ordering an appropriate workup to rule out any underlying medical etiology is necessary. Table 3.1 lists basic labs to consider for a new perinatal consult. A pregnancy test should be ordered for any woman of reproductive age who could conceivably be pregnant, even if she is unaware or this may seem unlikely. For example, a new patient who is 4 months postpartum and breastfeeding but not on contraception may think that she is unable to conceive again due to lactation and could in fact produce a positive test result. Toxicology tests are particularly important for patients with suspected underlying substance use disorders, or if an ingestion or overdose was suspected for a hospitalized patient. Thyroid panel, CBC, vitamin D, vitamin B12, folic acid and chemistry panel are routinely ordered to rule out underlying medical comorbidities or etiologies for the patient's symptoms. As with major depressive disorder outside of of the perinatal period, an appropriate workup ensures depression related to a medical condition, such as hypothyroidism or anemia is not overlooked. Medication monitoring labs should be ordered, when applicable. For example, if a patient is taking a second-generation antipsychotic, HbA1c and lipid panel should be ordered to monitor for adverse effects, or an EKG should be obtained for a patient taking QTc-prolonging agents.

Drug levels are another important component of a perinatal psychiatric workup. Physiologic changes of pregnancy, such as increases in hormone levels and changes in maternal hemodynamics, can affect metabolism of medications. Lithium has

Table 3.1 Labs to consider for a new perinatal psych evaluation

Pregnancy test
Toxicology – serum, urine
TSH
CBC
Vitamin D
Vitamin B12
Folic acid
Chemistry panel
HbA1c, lipid panel
Drug levels (lithium, lamotrigine)
EKG
EEG, CSF, neuroimaging (head CT, brain MRI)

defined therapeutic windows for mood and mania and requires regularly checking levels throughout pregnancy, as increases in total body water, plasma volume and glomerular filtration rate (GFR) all affect metabolism. Most experts recommend checking serum lithium levels monthly in pregnancy, and then weekly after 34 weeks and twice weekly during the first 2 weeks postpartum [10]. It has been suggested to consider higher target levels, such as 0.8–1.0 mmol/L, immediately following delivery and the first 4 weeks postpartum to enhance relapse prevention [10]. While there are no "therapeutic" goal levels for lamotrigine for mood and lamotrigine levels are not routinely obtained in non-perinatal patients, obtaining a baseline lamotrigine level for a stable patient prior to pregnancy can establish that patient's personalized therapeutic level and can guide care should her dose need to be adjusted during pregnancy. Changes in hemodynamics and increase in progesterone levels stimulate phase two metabolism of lamotrigine in the liver, which can effectively lower a patient's lamotrigine level and produce worsened symptoms. It has also been recommended to check serum lamotrigine levels monthly in pregnancy and to increase dosage by 20–25% to maintain the target level or reduce symptoms [11, 12]. If lamotrigine dose in pregnancy is increased four or more times, it is recommended to decrease the dose immediately postpartum by 20–25% to prevent toxicity; if dose was only slightly increased, it is recommended to check serum lamotrigine levels every 1–2 weeks postpartum and reduce the dose by 20–25% until serum levels return to that patient's baseline level (pre-pregnancy) [12].

EEG should be obtained if there are concerns for seizure activity. Lumbar puncture and analysis of cerebrospinal fluid (CSF) may be considered for a patient with postpartum psychosis to rule out anti-NMDA receptor antibodies [13]. Neuroimaging should be considered for perinatal patients with new onset psychosis, treatment resistance, comorbid neurological disorder, history of cognitive disorder with change in cognitive capacity, or history of head trauma [14].

Diagnostic Formulation and Treatment Plan

A thoughtful differential diagnosis should be outlined and reviewed with the patient whenever possible. Upon first meeting a patient, it is not uncommon for the diagnosis to initially be "unspecified" – for example, unspecified depressive disorder – rule out adjustment disorder with depressed mood versus major depressive episode. Were the prior symptoms of depression in the past recurrent major depressive episodes? Or were those episodes each triggered by a significant situational stressor and resolved relatively quickly? Timing of onset of PMADs is somewhat controversial in the field. The DSM-4 defined postpartum depression as onset within the first 4 weeks postpartum [15]. The DSM-5 has widened the definition of perinatal depression to include onset during pregnancy, as well as 4 weeks postpartum [16]. The ICD-10 includes up to 6 weeks postpartum [17]. The American College of Obstetricians and Gynecologists (ACOG) definition of perinatal depression is the most expansive, including onset in pregnancy or within the first 12 months

postpartum [18]. In clinical practice, women do not always present within the first 4 weeks for treatment; many may experience progressive worsening before finally feeling ready to reach out for help. Some women experience onset several months postpartum; this can often be correlated to hormonal fluctuations with lactation or weaning [19]. Irritability is a common symptom of postpartum depression that differs from typical adult female depression outside of the perinatal period [20]. When irritability is pronounced, it is important to fully assess for any history of mania or more subtle features of hypomania. If there is any question of more nuanced hypomania, it is important to engage the patient fully in analysing their symptoms and openly discuss risks for possible bipolar spectrum illness, while communicating in a way to effectively avoid stigma. A truly effective treatment plan will encompass biological, psychological and social components.

Documentation

Notes ought to be clear and concise. Pertinent positives and negatives must all be included in the history of present illness. Social stressors should be included, as they affect the patient's presentation and symptoms. However, too much detail regarding social factors should be avoided. There should be enough detail that is warranted for an accurate description of assessment and case formulation, but too much personal detail regarding a patient's relationships or more private personal matters should be left out of the record if not required – for example, simply stating "marital stress" or "relationship stressors," rather than documenting details regarding patient's affair or details related to recent arguments. When prescribing medication in pregnancy and breastfeeding, it is important to document all potential exposures in the patient's chart (medications prescribed, over-the-counter supplements, alcohol, caffeine, illicit substances) and to accurately document informed consent for prescribing medications in pregnancy and lactation. Informed consent should include details of risks and benefits of both untreated symptoms, as well as medication exposure.

Circle Back with Referring Provider

The perinatal psychiatric consult concludes with connecting with the referring provider. This contact may be in person, by phone or by note. If the patient is hospitalized, communicating by speaking directly to the referring provider is essential. In the outpatient setting, if there is a more urgent or acute need, a phone call is warranted. In non-urgent outpatient initial visits, it will suffice to send the note that outlines diagnostic formulation and treatment plan, along with any contact information should there be any questions or concerns, back to the referring provider. It

is particularly important to clearly communicate to the referring provider that the risk/benefit discussion has been held and outlined regarding psychotropic medication in pregnancy and/or lactation. Providing contact information regarding any questions or concerns is helpful for psychoeducation and best model for collaborative care.

Periodic Follow-Up

Patient follow-up must be considered and varies depending on the model of care. In some instances, the model may be a one-time consultation from a reproductive psychiatrist to formulate diagnosis and outline a treatment plan that the primary care provider, OBGYN or general psychiatrist may then implement. In other models, the reproductive psychiatrist may take over care of the patient starting in preconception counseling, pregnancy or during lactation. More acute patients require close follow-up – weekly or monthly visits. More stable patients may be seen every 3 or 6 months.

Principles of Psychiatric Treatments in Perinatal Patients

As within the general field of psychiatry at large, the most thoughtful treatment plans of perinatal patients encompass the biological, psychological and social model.

Biological Management

Pregnancy is a time of tremendous physiologic change. Cardiovascular changes, such as increase in cardiac output, stroke volume and heart rate, can trigger anxiety symptoms for women with a history of panic disorder or panic attacks. Cardiac output increases by 30–50% in pregnancy, beginning as early as 6 weeks of gestation and peaking by early to mid-third trimester [21]. Nearly 25% of cardiac output goes to the uterus and placenta [21]. The physiologic changes of pregnancy also affect metabolism of medications. Plasma volume increases by roughly 30–50%, beginning as early as 6 weeks of gestation and peaking at about 30–34 weeks [21]. Plasma volume increase is related to fetal number and can be as high as 70% with twins [21]. This increase in plasma volume can affect volume of distribution of medications [22]. Steroid hormones can occupy protein binding sites on certain medications, thereby decreasing protein binding and increasing the free fraction of certain medications [22]. Renal drug elimination is also affected by pregnancy. The glomerular filtration rate (GFR) increases by 40–50% by the end of the first trimester and renal plasma flow increases by 25–50% [21, 22]. As such, steady-state serum

concentrations of medications, such as lithium, will show to steadily decrease during pregnancy. Important hepatic changes also occur during pregnancy. Increased cardiac output results in increased hepatic blood flow, also often leading to increased elimination of certain medications [22]. Increases in progesterone can induce higher rates of hepatic metabolism of many medications, such as lamotrigine [12]. Cytochrome p450 enzymes and other hepatic enzymes can also be affected variably by pregnancy. While some medications can be more slowly metabolized with increase in levels in pregnancy, more often there is an increase in metabolism and elimination and decrease in levels [22]. As a result, when medication is prescribed to pregnant women, the dose needs to be carefully monitored. As pregnancy progresses, many women may require adjustments and changes with the dose of medication prescribed.

Postpartum, most women initiate breastfeeding, and breastfeeding must be considered within the treatment plan. Over 80% of women in the United States and the United Kingdom initiate breastfeeding [23, 24]. Women with PPD may be more likely to experience difficulties with lactation, which can contribute to worsened symptoms. Conversely, symptoms themselves of PPD may also be associated with unplanned weaning and reduced duration of breastfeeding, suggesting a shared neuroendocrine mechanism may underlie the association between PPD and lactation failure [19]. Transmission of various medications into breast milk and important considerations regarding various medication categories while breastfeeding are outlined in Chap. 6.

Psychological Management

Pregnancy is also a time of tremendous change emotionally. It is common for women to experience mild anxiety, ambivalence, worries about the pregnancy, particularly in the first trimester. Fear of miscarriage can be common, particularly if there has been a history of loss. Changes in energy, nausea, decreased appetite and changes in libido can all be a common experience. As pregnancy progresses, mild forgetfulness, confusion, distractibility and other features of "baby brain" may be common. In the third trimester, many women may have increase in anxiety again about the pending labor and delivery and their soon to be new role as mother. Worries about the health of the baby, changes in responsibilities, financial pressures and interpersonal relationships and dynamics are all common themes of stressors for many pregnant women. If a woman has had difficulties in prior relationships, particularly within family of origin or history of losses – whether it be loved ones or prior children or pregnancies, these issues can all play a big role in psychological stress that can present during pregnancy. Therapeutic support is fundamental. Please see Chap. 15 for details on various therapeutic interventions and considerations for pregnant and postpartum women.

Social Management

It takes a village. Consideration of social supports and resources is another important pillar of providing full spectrum care of perinatal patients. Many women feel pressure to "do it all" and have the false expectation and sense that they are to be super mom all by themselves. Society places unrealistic pressures and many moms feel isolated, scared and alone. It can be difficult for women to reach out to their partners or loved ones and ask for the support that they need. Empowering new moms to share parenting responsibilities with their loved ones, ask for help when they need it and take care of themselves while also taking care of their new babies is essential to providing a thoughtful treatment plan for perinatal patients. Additionally, new parents should be counseled on the importance of practicing "protected sleep" – both partners should be working to juggle feeds and middle of the night wakes-ups to ideally try to get 8 hours of sleep, piece meal, for each partner [25]. For single moms, this is much more difficult. Empowering single moms to widen their social network and reach out for support is all the more important and necessary.

Consideration of screening and providing resources and treatment for the patient's partner is also important. Paternal or partner depression is also extremely common, with a 10% prevalence rate during the first-year postpartum (as compared to a period prevalence (12 months) rate of 3.8% reported in the general male population) [26, 27]. Untreated paternal depression has also been demonstrated to have adverse effects on the development of the child and affects the whole family [28].

When possible, programs ought to consider case management or LCSWs to assist with social needs for perinatal patients. Parenting resources and attachment resources can be great additions to the treatment plan. Other areas to address may include weight management, smoking and general health maintenance. Lastly, all perinatal patients ought to be appropriately screened for history of trauma and any concerns for domestic violence. Postpartum Support International is an excellent organization that can help navigate local resources for perinatal patients throughout the United States [29].

Issues to Consider When Treating Over the Course of the Perinatal Time Period

Nuances exist for treatment plan goals, depending on when a perinatal patient first presents for consultation. Table 3.2 summarizes considerations at each time point of pregnancy: preconception, pregnancy and postpartum. Preconception counseling offers greater flexibility of considering more significant changes, as the patient is not yet pregnant; if she experiences worsened symptoms or relapse, there is no risk of harm of untreated symptoms to the development of the baby. Once a patient is

Table 3.2 Issues to consider when treating over the course of the perinatal time period

Preconception	Pregnancy	Postpartum
Review risks and benefits	Psychotherapy is first line for mild to moderate symptoms	A period of high risk for depressive episodes as well as severe episodes for patients with history of bipolar disorder, particularly with postpartum psychosis (PP)
Continue current regimen	Pharmacotherapy indicated for moderate to severe symptoms	
Taper/discontinue a portion or all of regimen		
Change to a different medication with greater evidence of safety in pregnancy		
Attain stability prior to conception	Discontinuing medications or making major medication changes can be problematic once pregnant	Medication exposure during lactation ought to be considered
	Risk/benefit ratio must be calculated and weighed for each individual patient	Therapeutic interventions, protected sleep and partner support should all be considered in treatment plan

already pregnant, attempting major changes (trial of tapering off of medications or initiating new medications with unknown response) becomes riskier, as worsened symptoms create an additional exposure for the development and well-being of the baby, as well as greater fragility and risk for decompensation and spiral into a significant episode that could result in suicidal or homicidal thoughts and/or hospitalization.

Preconception

Preconception counseling appointments are ideal and allow for thorough and thoughtful planning of pregnancy. Discussions surrounding medications will likely be a focus of the appointment, but other important issues ought to also be addressed, such as smoking, alcohol use and nutrition [28]. The goal, as always, is for stability. As reviewed in great detail in Chap. 5, untreated symptoms bear risk of harm and must be balanced against risk of medications in pregnancy. Recommendations will vary for patient to patient, based upon each patient's individual history, family history, recent symptoms and stressors. Options to consider for the patient include continuing the current regimen, discontinuing a portion or the entirety of the regimen or switching to an alternate medication with greater evidence of safety in pregnancy [28]. These decisions are difficult and there is no absolute "right or wrong" answer, rather a careful consideration and balance of risk versus benefits.

For example, some patients with a history of adjustment disorder that were taking an SSRI but now present with resolved stressors and stable symptoms and have been stable for greater than 9 months may be able to taper cautiously off of medication entirely for pregnancy. Others, with more chronic, recurring episodes of depression, chronic anxiety disorders, may not be able to do so and may require to continue medication during pregnancy. Patients with bipolar spectrum illness or thought disorders may have particular difficulties stopping medication in anticipation for pregnancy. For example, women with bipolar disorder can experience relapse of mood disorder at any time during the perinatal time period; pregnancy is not protective against worsened symptoms or mental illness [25, 30]. Women with bipolar disorder do have significant increased risk for relapse postpartum with risk for postpartum psychosis. It is not clear whether starting treatment for prophylaxis day 1 following delivery is adequate or whether medication should also be taken in pregnancy; this may depend on whether or not prior episodes were also in the perinatal time period or were independent of pregnancy [28, 31]. For women with a history of bipolar episodes outside of pregnancy/postpartum, continuing medication during pregnancy rather than simply restarting postpartum for prophylaxis ought to be more strongly considered.

Pregnancy

The goal during pregnancy is, again, stability. For mild to moderate symptoms of depression and anxiety, psychotherapy is recommended as first-line treatment [32, 33]. Details on various psychotherapy treatment options in the perinatal period can be found in Chap. 15. For more moderate to severe symptom of anxiety, depression, as well as symptoms of mania and psychosis, pharmacotherapy is considered appropriate and efficacious [28, 34]. Unfortunately, stigma associated with mental illness is intensified during the perinatal period and pregnant women may encounter shame if they decide to continue pharmacotherapy or initiate treatment during pregnancy [28, 35]. Perinatal mood and anxiety disorders (PMADs) are medical illnesses and deserve to be treated when necessary, just like any other medical illness, such as diabetes or hypertension. Detailed risk–benefit analysis of risk of untreated symptoms in pregnancy versus risk of various medication groups during pregnancy is outlined in Chaps. 5 and 6. For women already on medication, once pregnant there is an increased risk for relapse of symptoms once medication is stopped [36]. This risk is even greater for women with history of bipolar disorder. One study found that women who stopped their medication for bipolar disorder once pregnant had double the risk of relapse and in a shorter time period, even when illness severity was controlled [30].

In addition to medication adjustments, thoughtful treatment plans should encompass the biological, psychological and social model highlighted above. Particular importance should be paid to appropriate nutrition and adequate sleep, particularly

for patients with a history of bipolar spectrum illness. When medication is required, gold standard treatment plans will also implement psychotherapy.

Postpartum

The postpartum time period is one of high risk for development of PMADs -- it is one of the times of greatest risk for development of a depressive episode, and women with bipolar disorder are at particular risk for recurrence, including risk of onset of postpartum psychosis (PPP) [37, 38]. Up to 50% of women with history of bipolar disorder experience a mood disturbance postpartum, with 20% experiencing a severe recurrence [38–40]. PPP often presents suddenly with rapid deterioration. Common presentation of PPP includes symptoms of mania, severe depression or a mixed episode with prominent delusions and/or hallucinations; women are also frequently disoriented and confused, with rapid fluctuations in presentation [41]. The majority of cases of PPP present within the first 2 weeks postpartum; over 50% will present within the first 3 days postpartum [41]. For women with a history of PPP, over 50% will develop PPP again with subsequent deliveries [42]. Women with a family history of PPP in first-degree relatives are also at very high risk postpartum [43, 44].

As outlined in the biological, psychological and social model above, special consideration to protected sleep and lactation and impact of PMADs on partners and the whole family ought to be considered when treating postpartum women. PPP or severe episodes of depression or mood often require inpatient treatment. For acute episodes, medication is paramount and therapeutic interventions will also be required as patients recover. Details on medications during breastfeeding are outlined in Chap. 6 and therapeutic interventions in Chap. 15. Short-term prognosis for PPP is typically excellent and the majority of women who experience postpartum mood disturbances, even when severe, do not have long-term difficulties with parenting [28].

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