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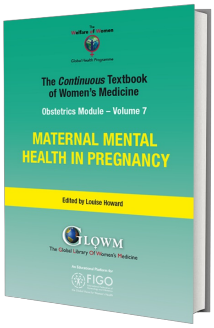

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MATERNAL MENTAL HEALTH IN PREGNANCY

Volume Editor: Professor Louise Howard*, King's College, London, UK*

Chapter

Postpartum Psychosis

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INTRODUCTION

Postpartum psychosis (postnatal psychosis or puerperal psychosis) is a well-defined clinical condition that has a long history, and is a term still in common use today. However, there are several challenges with nosology, which mean that this condition is not well represented in current classification systems.

Postpartum psychosis is a severe episode of mental illness, with an acute onset occurring in women in the postpartum period. It constitutes some of the most severe forms of pregnancy related psychiatric illness and has a clear onset, days or weeks after childbirth.[1] This can happen in women with no previous psychiatric history, or in around 50% of cases, those with an established history of severe mental illness. There is a close relationship of postpartum psychosis to bipolar disorder. Women with a history of bipolar disorder are at particularly high risk of postpartum psychosis (approximately 20%)[1,2] and women experiencing postpartum psychosis may go on to experience further bipolar episodes.

The prevalence of postpartum psychosis is in the region of 1–2 : 1000 births.[3,4,5] Episodes of postpartum psychosis can be the first presentation of psychiatric illness and recur only following subsequent pregnancies or they can happen in the context of serious mental illness such as bipolar disorder with episodes also occurring unrelated to childbirth.[2] Although postpartum psychosis can be the first presentation of bipolar disorder, on taking a detailed history some women have had past episodes of depression or high mood that were not identified or treated.

A postpartum psychosis episode of illness can last weeks to months and despite its severe presentation, with adequate treatment recovery is usually good. Although response to treatment for the acute psychotic phase of illness may be excellent, many women then experience a more prolonged depressive phase of illness and often a longer phase of recovery, coming to terms with experiencing a severe mental illness at this time. Episodes of postpartum psychosis are often very severe and usually require admission, jointly with the baby if possible. Women remain at risk of further postpartum and non-postpartum episodes, emphasizing the importance of psychoeducation and of further research into

etiology and prevention.

In the final section of this chapter we discuss how to identify women at high risk and prevent future episodes.

IMPORTANCE

Postpartum psychosis occurs at a crucial time of the family life cycle and is associated with substantial morbidity and mortality. Episodes can be among the most severe cases seen in clinical psychiatry. It usually requires urgent hospitalization and, if not optimally treated, can have a severe impact on the woman, family relationships including the developing bond with the new baby and the child's development.[6] Societal impact must also be taken into consideration including socio-economic costs.

Rarely, but tragically, it can lead to suicide and infanticide. Suicide is a leading cause of maternal death.[7,8]

Managing serious mental illness in pregnancy and postpartum (the perinatal period) is a major challenge, and a key task is helping women make difficult decisions,[9] particularly about medication in pregnancy and whilst breastfeeding. There is a lack of literature to inform an individualized approach: prospective studies are rare[10] and there are limitations with retrospective studies (recall bias; causality cannot be established).

HIGH-RISK GROUPS

Although postpartum psychosis prevalence is 1–2 : 1000 births, there are groups at higher risk.

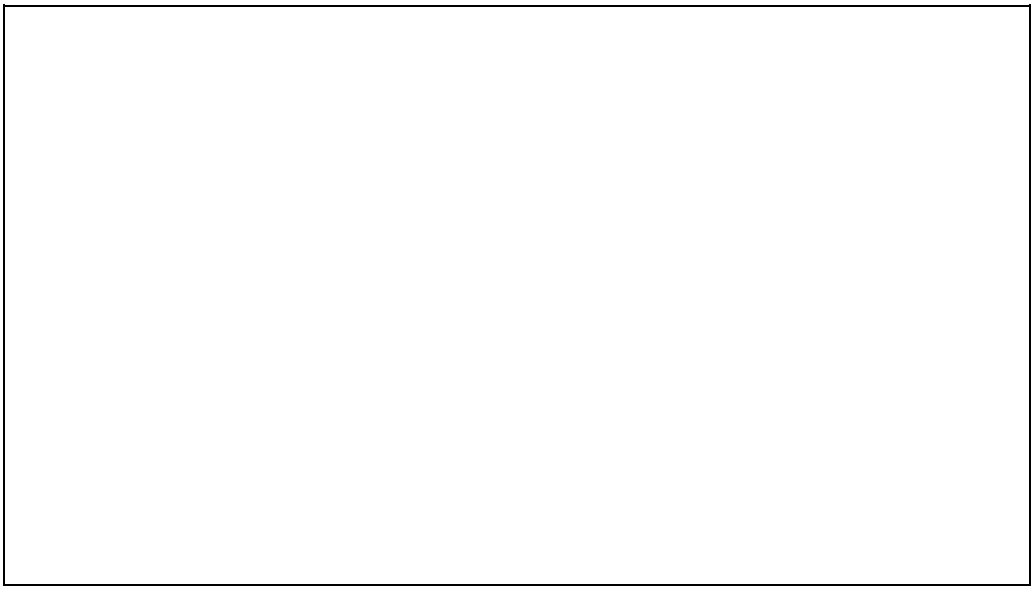
Women with history of bipolar disorder have a 20% risk of experiencing postpartum psychosis.[1]

The risk of recurrence of postpartum psychosis in future pregnancies is also high. A meta-analysis, estimated recurrence of postpartum psychosis to be 29% for women with a diagnosis of postpartum psychosis (outside the context of bipolar) and 17% for those with a diagnosis of bipolar disorder.[2]

More recent and larger studies[11,12] show higher rates, for instance 43% of women with perinatal affective psychosis experienced affective psychosis in their second pregnancy.

It is important to note, that in the paragraph above we are describing the risk of recurrence of postpartum psychosis in future pregnancies. Women are also at higher risk of recurrence of any major affective episode related to childbirth (such as severe depression or mania).[1,2]

CLINICAL PRESENTATION



Video 1 Andrea's story: *My Postpartum Psychosis Story*. Reproduced with permission from Action on Postpartum Psychosis www.app-network.org

Episodes of postpartum psychosis have a rapid onset shortly after childbirth (Video 1). They usually take the form of mania (with or without psychosis), severe psychotic depression or mixed episodes with characteristics of both high and low mood occurring within the same episode. This heterogeneous presentation, although with common symptoms and onset timing, has created nosological problems.

Despite its recognized clinical presentation, the diagnosis of postpartum psychosis has not been adequately dealt with in the current classification systems (Diagnostic Statistics Manual (DSM) and International Classification of Diseases (ICD)).[13] The fifth edition of DSM (DSM-5) lists a specifier 'with peripartum onset' defined as within 4 weeks of childbirth, but no separate diagnostic category. The ICD 11th edition, which was recently published, in chapter 06 lists the category '6E21 Mental or behavioral disorders associated with pregnancy, childbirth and the puerperium, with psychotic symptoms'. This includes syndromes associated with pregnancy or the puerperium, defined as 'commencing within about 6 weeks after delivery'.

The issues with the existing classification systems as described above are that episodes of postpartum psychosis are not clearly defined. For instance, in DSM all mood episodes in the perinatal period are lumped in together. This creates problems as its symptoms are not clearly defined, and different clinicians may use terminology differently, in the absence of a gold standard. The second important issue arising is that it limits research into the topic, as episodes are not clearly captured in the existing coding systems and similar episodes might be given different codes.

Onset

The onset of a postpartum psychosis episode is abrupt. The episode usually comes without warning, within days to weeks after childbirth;[1] however, in more than half of cases, women have reported an onset of early symptoms before day 3 post-delivery.[14] Women with bipolar disorder have higher risk in the early days and weeks postpartum, whilst in those with schizophrenia experiencing episodes following childbirth, the risk is evenly elevated during the first year postpartum.[15] This is perhaps further evidence of the particular relationship between postpartum psychosis and bipolar disorder.

Symptoms

The most commonly reported early symptoms are insomnia, restlessness, and irritability as a prodrome of affective symptoms.

The core of the symptomatology are mood and psychotic symptoms, such as delusions (believing in things that are not real) or hallucinations (seeing or hearing things that are not there). Delusions can be paranoid, grandiose or bizarre and focus on childbirth and baby-related themes. Hallucinations can be of diverse sensory modalities including auditory, visual, olfactory or tactile.

Psychotic symptoms can be missed because of the fluctuation of symptoms or because they are hidden by women who are worried that their babies will be taken away if they talk openly about their thoughts and feelings.

Fluctuating mood is another core symptom: mania, depression or mixed affective states. A 'kaleidoscopic' presentation – rapid fluctuations of symptoms and their intensity – is described often.

Other symptoms include disorganized behaviors and cognitive dysfunction, such as disorientation or confusion.

The presentation is accompanied with a dramatic change of function and lack of insight.

Progression

A postpartum psychotic episode will often have a rapid progression. Fluctuations in the intensity of symptoms are common. Although there is considerable variation a typical manic episode can last 4 weeks, whilst mixed or depressive episodes can last longer.[1] A common presentation is a manic or mixed affective episode followed by a longer depressive phase.

With treatment, usually there is full recovery from the episode. However, the risk of recurrence of episodes, both in

future perinatal periods and outside those is high.

Table 1 Clinical presentation of postpartum psychosis

Onset	Abrupt; usually <2 weeks after childbirth
Symptoms	Elated, irritable or depressed mood; or mixed affective states Psychotic symptoms, such as delusions or hallucinations
Progression	Rapid deterioration; fluctuations in intensity of symptoms
Duration	Weeks to months
Prognosis	Good recovery from episode High risk of postpartum and non-postpartum recurrence in women with bipolar disorder

RISK FACTORS AND ETIOLOGY

Although the etiology of postpartum psychosis is not fully established, there are a number of intriguing clues. It is postulated that mechanisms related to the normal physiology of childbirth such as hormonal or immunological changes may be implicated; in addition, the inevitable disruption in circadian rhythms at this time may also have an effect. An interesting hypothesis is that such changes, experienced by all women, may only lead to the development of postpartum psychosis in those who are genetically vulnerable. To date, the molecular mechanisms have not been established, but studies[16,17] suggest a genetic etiology for postpartum psychosis and large scale efforts are underway to build the large samples of women with postpartum psychosis that will be needed for gene finding (http://bdrn.org/research/bipolar-pregnancy-childbirth/).

Psychosocial factors have also been studied, but unlike postpartum depression where there is strong evidence implicating psychosocial factors in etiology, apart from some evidence around partner support,[3,18] they are not linked to postpartum psychosis etiology.[19,20]

Clinical factors

The strongest clinical risk factors are a history of bipolar disorder or previous postpartum psychosis.[2,21] The risk is higher for bipolar disorder type I than type II.[1]

A number of obstetric factors have been linked to postpartum psychosis: primiparity,[22] cesarean section and preterm birth;[23] and prolonged labor due to the failure to descend/progress.[24] However, the majority of the studies have presented inconsistent results and primiparity remains the most significant obstetric factor established so far.

Circadian rhythm disruption

Circadian rhythm disruption has been postulated as a risk factor given how psychosis and mania can be triggered by sleep disruption, which is common in new mothers.[25] A cross-sectional study identified increased risk of postpartum psychosis in those who report sleep disruption as a trigger for manic episodes.[26]

Hormonal changes

Pregnancy and childbirth are associated with very large variations in the production and circulation of a number of hormones.

Reproductive hormones (estrogen and progesterone) show huge increases in pregnancy but decrease rapidly in the immediate postpartum. However, it has been postulated that rather than abnormal levels of reproductive hormones, vulnerable women have an abnormal response to the variations in the levels of these hormones.

It is not only the dramatic changes in sex hormones through the perinatal period which may be implicated, but, changes in other hormonal systems such as the hypothalamic–pituitary–adrenal (HPA) axis and thyroid axis may also be involved. Regarding the HPA axis there have been no consistent findings in postpartum psychosis.[27,28]

First-onset postpartum autoimmune thyroid disorders often co-occur with postpartum mood disorders, which may suggest an overlap in the etiology.[29]

Immune dysregulation

Pregnancy and the postpartum are also characterized by a major immunological response, hence it has also been postulated that immune mechanisms may be linked to postpartum psychosis etiology.

The postpartum period is associated with immunological changes such as T cell increase. A study from The Netherlands has examined the role of immune biomarkers and demonstrated that women with postpartum psychosis did not display T cell elevation and had monocytosis compared with postpartum women without symptoms.[30]

In another study, women with postpartum psychosis were found to have pathogenic anti-neuronal autoantibodies and autoimmune encephalitis.[31] However, the evidence is still limited to recommend testing for anti-N-methyl D-aspartate (NMDA) receptor autoantibodies in all cases of postpartum psychosis. This is another field that requires further focused research.

MANAGEMENT

In this section the management of an episode of postpartum psychosis will be discussed. Identification and pre-conception counselling for women at high risk (due to their psychiatric or family history) is very important and is covered in a separate section below.

Assessment

Women presenting with episodes of postpartum psychosis should have a full biopsychosocial assessment that includes history, mental state and physical examination with an additional emphasis on childbirth and family circumstances. As part of the psychiatric assessment clinicians need to establish whether there are psychotic symptoms by asking not only the woman but also family members. This is because psychotic symptoms may not be obvious and mainly because of the intermittent and kaleidoscopic presentation – an assessment made in a lucid period can be misleading.

The assessment must include other treatable causes or differential diagnoses such as infection, anemia, autoimmune diseases (e.g. thyroid autoimmune disease; anti-NMDA encephalitis), substance or alcohol misuse (acute intoxication or withdrawal symptoms). There is also high co-morbidity with physical health problems. In low- and middle-income countries (LMIC) particularly, psychosis presenting following childbirth may be due to infection and this possibility must be excluded.

There are important differences between countries in pathways to assessment and care. A recent study in India[32] showed that just half of women with postpartum severe mental illness sought psychiatric care, whilst 26% sought faith healers and 21% general medical practitioners. Lack of resources was the main reason for delay to treatment. In more developed countries there may be several services available to women for assessment and treatment during the perinatal period such as home treatment teams, where women and their families can be visited several times a day and therefore avoid a hospital admission. However, for severe episodes like postpartum psychosis hospitalization is recommended. In some countries, there are mother–baby units or mother–father–baby units, where they can be admitted together which is preferable than an admission to a general or psychiatric hospital. Units that allow families to stay together are preferable, so that the bond with the baby is less disrupted due to maternal illness. There is work underway to examine the effectiveness and cost-effectiveness of those services.[33]

Medication

After exclusion of alternative diagnoses, the initial phase of an episode of postpartum psychosis will most likely require treatment with medication with antipsychotics or mood stabilizers options. At this point psychiatrists should be involved

as early as possible. In women who already have a history of psychiatric illness but are currently not taking medication, it may be most appropriate to re-start the previously effective medication. For those without a severe psychiatric history, options include lithium and/or an antipsychotic, with benzodiazepines also useful for the management of severe symptoms.[34,35]

Breastfeeding will need to be taken into consideration. Women can breastfeed on many medications that may be used to treat postpartum psychosis and should be encouraged to do so if they wish; however, there are some exceptions where caution is advisable, and extra caution for premature or low birth weight babies. The following are contraindicated: clozapine (risk of agranulocytosis and seizures); lithium (infant levels are 10−60% of maternal serum concentrations and can fluctuate easily leading to toxicity, therefore requires close and intense monitoring of the infant especially for the first 2 weeks which may not be possible in many settings, e.g. regular blood tests for lithium level, thyroid and kidney function); valproate (not recommended for women of childbearing potential because of increased risk of birth defects and developmental problems). Lurasidone (poor evidence base) and carbamazepine (early teratogenicity and significant excretion in breastmilk with higher risk of side-effects) are not recommended. Lamotrigine can be prescribed but will need close monitoring for potential side-effects in the baby and should be stopped if the baby develops rash.[36] Parents should have an extensive discussion with the clinicians about the limitations of the current evidence and potential benefits and harms of medications to the breastfeeding baby.

Managing acute disturbed behavior

When severely unwell, women may display acute disturbed behavior. At this point they should be urgently referred to psychiatric services. To manage the behavior, in the first instance health professionals should use de-escalation techniques. Clinicians in psychiatric and obstetric units should be familiar as to how to manage it.

Women who are at a known risk should have a clear plan in their records on how to manage disturbed behavior, available to all health professionals involved.

Women should never be left alone or secluded after rapid tranquilization medication.

In terms of medication, the choice should include antipsychotics or benzodiazepines with short half-life and at minimum effective doses.

Postnatally, when managing acute disturbed behavior, clinicians need to ensure safety of the baby as symptomatology usually includes baby themes. Also, sedative medication can impact on the ability of women to care for their children and that should be carefully monitored.

Psychological therapies

There is little evidence for the use of psychological therapies in postpartum psychosis, particularly in the acute phase. However, given that the majority of these women have an underlying diagnosis of affective disorder (e.g. bipolar and schizoaffective disorder), the targeting of psychological therapies to the mood component is an important part of the long-term management. For instance, once the episode of postpartum psychosis has been treated and if it is followed by a depressive phase. In these cases, psychological therapies should be tailored to the underlying diagnosis, and symptomatology and can include cognitive behavioral therapy (CBT) or family therapy amongst others.

Psychological therapies also have a role in helping to come to terms with the diagnosis and its implications.

Other approaches

Electroconvulsive therapy (ECT) should be considered when risk of harm to self (including suicide), harm to baby or others is too high or when there is no response to medication.[37,38]

In perinatal mental illnesses it is important to involve family or significant others in both the assessment and care plans, as well as treatment. Fathers play an important role providing emotional support and hope to aid recovery.

Practical support such as that with sleep, house chores and breastfeeding might also be helpful in both prevention and recovery from a postpartum episode.

RISK TO SELF AND OTHERS

Suicide is a leading cause of maternal death worldwide. Although it remains a rare event, both suicide and infanticide need to be considered as part of the assessment of women at high risk of or presenting with postpartum psychosis. The psychotic symptoms which accompany the episode of postpartum psychosis, often involve the baby and women may conceal these thoughts from the treating clinicians.

Health professionals should enquire about suicidal thoughts and thoughts of harming the baby as well as previous attempts and refer for psychiatric assessment urgently if needed.

HOW TO PREVENT

Identifying those at high risk is a key consideration in the management of postpartum psychosis.

Pre-conception

Women with bipolar disorder and of childbearing age should be made aware of the risks of relapse associated with pregnancy. This should be discussed with them by their treating psychiatrist at standard psychiatric reviews as the majority of pregnancies are unplanned.

Women with previous history of postpartum psychosis need to be aware of the higher risks and plan accordingly. Women with a family history of postpartum psychosis are also at higher risk than the general population; however, the absolute risk remains low, which should be explained.

When planning a pregnancy, efforts should be focused at maximizing the clinical and psychosocial stability for the woman and her family leading up to pregnancy.

In pregnancy

To prevent future episodes of postpartum psychosis the best approach might be a combination of decreasing risks and considering how to help prevent the development of an episode.

That may mean optimizing medication by starting or continuing prophylactic medication to ensure mood stability during pregnancy. It may also mean reducing stress levels, looking to increase social support and paying attention to sleep.

In women with bipolar disorder, the evidence to date, although limited, suggests that recurrence is higher in those who do not take medication compared with those taking prophylactic medication.[2]

In women with a history of psychosis limited to the postpartum period, the risk of episodes during pregnancy may be lower compared to women with a history of postpartum psychosis and also episodes not related to pregnancy; therefore, prophylaxis might better be focused in the immediate postpartum period.[39]

Postpartum

Postpartum psychosis has a narrow window for onset, just a few days or weeks following childbirth. This provides an opportunity to focus on prevention and devise a careful birth plan with the women, her partner and/or family members or significant others. Involving other health professionals in that plan, such as social workers, obstetricians, pediatricians, health visitors, social workers or other relevant professionals depending on the context, will help tailor the care planning.

The plan should include medication, psychosocial approaches and social support. It must include the early warning signs and symptoms that might be experienced, who to contact and what to do in crisis – an early assessment.

There is a lack of studies assessing the efficacy of medication started immediately after delivery. There are limited data for individual prophylactic medication with the few existing studies suggesting some efficacy of lithium in this context,[35] but more research is clearly needed.

PRACTICE RECOMMENDATIONS

- **Mental health problems associated with childbirth are common. Severe episodes, such as postpartum psychosis, are less common, but can have a severe impact on women and family relations.**
- **Health professionals should identify women at high risk of postpartum psychosis. Those with previous episodes of postpartum psychosis, with a history of bipolar disorder are considered at particularly high risk. Women who do not take or who stop medication in pregnancy might be at higher risk, but more research is needed.**
- **Women at high risk should be referred to a psychiatric specialist, and to a specialist perinatal mental health service where available, in order to discuss treatment and prevention strategies and agree a birth care plan.**
- **The birth plan should be designed by the treating team in collaboration with the pregnant woman and her partner. Other health professionals involved in her care such as obstetricians, midwives, pediatricians and social services should also be involved where appropriate.**
- **Plans for breastfeeding should be taken into consideration.**
- **The discussion about treatment and prevention should include the potential risks and benefits of medication and psychological therapies, but it should also include the risks of no treatment, and limitations of our current knowledge base.**
- **There are relatively limited data regarding the use of many psychotropic medications in pregnancy and early postpartum, so decisions in individual women will need to take account of previous illness history and response to treatment. Using a psychotropic medication that has previously worked for a woman may be preferable to using a new one of unknown efficacy, but possible lower pregnancy risk. Where possible, avoid switching medication in pregnancy.**
- **Valproate should not be prescribed to women of childbearing age.**
- **Medication should not be stopped suddenly on discovery of pregnancy without a full consideration of all options available. Exposure will have already occurred and stopping will not remove the potential risks of malformations but may trigger a relapse.**
- **Women taking psychotropic medication in pregnancy should be offered detailed ultrasound scanning for fetal abnormalities.**
- **Women taking second generation antipsychotics should be monitored for gestational diabetes.**

CONFLICTS OF INTEREST

The authors of this chapter declare that they have no interests that conflict with the contents of the chapter.

RELEVANT GUIDELINES AND HEALTH INFORMATION RESOURCES

NICE Antenatal and postnatal mental health: clinical management and service guidance – https://www.nice.org.uk/guidance/cg192

BAP British Association for Psychopharmacology consensus guidance on the use of psychotropic medication preconception, in pregnancy and postpartum – https://www.bap.org.uk/pdfs/BAP_Guidelines-Perinatal.pdf

COPE Effective Mental Health Care in the Perinatal Period: Australian Clinical Practice Guideline – http://www.cope.org.au/wp-content/uploads/2018/05/COPE-Perinatal-MH-Guideline_Final-2018.pdf

Health information:

Royal College of Psychiatrists – https://www.rcpsych.ac.uk/members/your-faculties/perinatal-psychiatry

Action on Postpartum Psychosis (APP) – https://www.app-network.org/

Bipolar UK – https://www.bipolaruk.org/

National Centre for Mental Health NCMH – https://www.ncmh.info/conditions-we-study/mood-disorders-in-pregnancy-and-childbirth/

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