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Early postpartum symptoms in puerperal psychosis

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Objective To examine the nature of the earliest reported symptoms in women who develop a bipolar affective puerperal psychosis (PP).

Design A retrospective interview study.

Setting Women were recruited for clinical and molecular genetic studies of PP from a national PP network, articles in the national press and referrals from UK specialist perinatal psychiatry services.

Sample One hundred and twenty-seven women met the criteria for an episode of strictly defined bipolar affective PP developing within 4 weeks of childbirth.

Methods Participants were interviewed using the Schedule for clinical assessment in neuropsychiatry and hospital records were reviewed. Lifetime and puerperal episode diagnoses were made according to Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV) based on all the available information. During interview, participants were asked to describe the earliest symptoms they believed to be related to their illness onset. The day of onset for each symptom was recorded.

Main outcome measures We present subjectively experienced emotional and behavioural changes occurring within 3 days of childbirth, reported by four or more women.

Results Seventy-three percent of women recalled experiencing an onset of symptoms by day 3. The most commonly recalled symptoms were feeling excited, elated or high (52%), not needing to sleep or not able to sleep (48%), feeling active or energetic (37%) and talking more or feeling very chatty (31%).

Conclusions Hypomanic symptoms are particularly characteristic of the early postpartum in women who develop PP. These types of symptoms should be carefully monitored in individuals at high risk of PP episodes.

Keywords Early signs, early symptoms, hypomania, postnatal psychosis, postpartum psychosis, prodromal, prodrome, puerperal psychosis.

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Introduction

Childbirth is a high-risk time for the onset of psychiatric symptoms, particularly in women with a vulnerability to bipolar disorders.[1–4] The last two reports of the Confidential Enquiry into Maternal Deaths find that deaths due to psychiatric illness and suicide account for the highest proportion of deaths in women in the year following childbirth.[5,6] Puerperal psychosis (PP) is the most severe form of postnatal psychiatric illness and women are around 22 times more likely to experience the onset of a manic or psychotic episode in the first postpartum month than at any other time in life.[3,7] Early identification and treatment of these episodes is crucial for good outcome: delays result in longer, more severe and difficult-to-treat episodes[8] and risk the safety of the mother and infant.[9–12]

Episodes of PP occur following in the region of 1–2 in 1000 deliveries[3] and symptom presentation can be dramatic: full-blown delusions, hallucinations, bizarre behaviour, mania, depression, perplexity, confusion, lability and other affective symptoms can develop within days to weeks of childbirth. With treatment, the majority of the women clinically recover within 2 months and go on to make a full recovery, although a lengthy depression may follow. Women experiencing PP require prompt medical intervention, usually hospitalisation, to preserve the safety of both mother and infant. The nosology of PP is still debated, but the evidence suggests that the majority of the episodes are manifestations of bipolar

disorder (manic depression) triggered by pregnancy.[1,13] Indeed, women with a pre-existing bipolar disorder diagnosis are at very high risk, with episodes of PP occurring following 25–50% of deliveries.[13,14] Women who experience an episode of PP remain at high risk of future puerperal and nonpuerperal bipolar episodes.[15]

Hospital record reviews and clinical case reports of PP have suggested a 'latent' or symptom-free period in the first few postpartum days,[14,16] but direct interviews with women who have recovered from episodes indicate a very close temporal relationship between delivery and onset. In a previous study, we investigated the notion of the latent period by examining the timing of clinically significant symptom onset and found that 51% of 101 women described an onset within 3 days of childbirth.[17] We noted that many more women reported milder subclinical symptoms that they associated with their illness onset. A number of small studies and anecdotal observations in the literature support the idea of a PP prodrome. Protheroe noted rapid mood fluctuations occurring before the appearance of overt psychotic symptoms[18] and a prospective study of women with a previous history of postpartum affective disturbance reported that 'tension-anxiety' and 'excitement' during late pregnancy predicted acute postpartum onset of PP.[19]

There are women at a many 100-fold increased risk of PP compared with the general population, including women with a personal and family history of bipolar disorder and PP. It is vital that women at risk, their families and the health professionals involved in their care are aware of the nature of the early presentation of the illness and recognise typical symptoms that may herald the onset of PP.

The aim of this study, therefore, is to describe the types of symptoms experienced in the early postpartum by women who developed PP.

Methods

Women with at least one episode of PP were recruited for clinical and molecular genetic studies through 'Action on Puerperal Psychosis'—a group that provides information about PP and the opportunity for women to take part in research.[20] Ethical approval was obtained and written informed consent was gained from all participants. Subjects were interviewed in their homes, using a semi-structured psychiatric interview schedule for clinical assessment in neuropsychiatry (SCAN))[21] for the symptoms of mania, depression and psychosis by a SCAN-trained psychiatrist or psychologists (E.R.B., I.J. and J.H.). The individual's lifetime illness course was charted and psychiatric hospital notes were reviewed. Regular reliability meetings were conducted to ensure consistency and consensus ratings for lifetime diagnosis and puerperal episode diagnosis were made by two interviewers according to Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV) criteria.[22] One hundred and twenty-seven women experienced an episode of bipolar affective PP—defined here as an episode of mania, a mixed affective state, or a schizoaffective disorder, manic type, occurring within 4 weeks of childbirth and received a lifetime diagnosis of bipolar disorder or schizoaffective disorder. Women were excluded if they had experienced a psychosis in the context of a unipolar depressive illness or chronic schizophrenic illness; alcohol or drug abuse; medical illness; medication; an organic brain disorder; or cognitive dysfunction, if they had a learning disability, or if they were under 18 years of age. Women with an onset of psychosis during pregnancy and those related to a participating proband were also excluded.

During interview, women were asked to describe the first symptoms they believed to be related to their illness. In addition, items from the SCAN interview were specifically probed for. Women were asked to provide a detailed description of the symptom and its impact on daily functioning. Descriptions and days of onset were noted. For symptoms to be rated as present, they had to be subjectively regarded by the participant as related to their illness episode and a change from their normal state. For the purposes of the present study, both clinically significant and minor subclinical symptoms were recorded. Subclinical refers to the positive presence of a symptom, but to a degree that causes no, or only minor, interference with daily functioning. Clinically significant symptoms are defined when there is the presence of a symptom to a moderate or severe degree, causing distress and impairment in everyday activities and having an interference with mental functions or having an effect on other people. Symptoms occurring on day 1 (the day of delivery) to day 3, or up to the onset of full-blown psychosis, are reported. If positive psychotic symptoms developed within the first 3 days of childbirth, symptoms from this time onwards are not reported, in order to focus on prodromal symptoms rather than overt psychosis.

Results

Sample

At interview the women had a mean age of 39.8 years (SD = 8.5, range 22–69 years). The time from the first episode of PP to the interview ranged from 6 to 33 years, with a median of 9 years. Seventy percent of the subjects had experienced one episode of PP, 28% two episodes and 1% three episodes as defined by the study criteria.

Time of onset

Despite women with a clear onset of episodes in pregnancy being excluded, ten women (8%) reported experiencing mild symptoms prior to delivery in the last few antenatal days, or

increasing in intensity over the last trimester. A further 51 women (40%) reported experiencing symptoms starting on the day of delivery and by day 3, 93 women (73%) could recall experiencing them (Figure 1).

Descriptions of early symptoms

Table 1 shows the nature of the symptoms recalled. Descriptions of symptoms judged to have a similar meaning have been combined. Symptoms reported by four or more women are arranged in order of the frequency with which they were reported. Hypomanic symptoms, confusion, perplexity, sleep disturbance, irritability, anxiety, detachment and lability are commonly reported early symptoms.

Discussion

In a previous study,[17] we found that the modal day of onset of first clinically significant symptoms in PP was on postpartum day 1. In the current study, we have examined the nature of early symptoms in PP in an expanded sample, reporting both clinically significant symptoms, and, additionally, the more minor subclinical emotional and behavioural changes described by women. Nearly three-quarters of the women reported experiencing prodromal changes very early in the postpartum, prior to the onset of frank psychosis. The number of symptoms identified reflects the variety of presentations, but the most frequently reported symptoms were hypomanic in nature: feeling 'excited, elated or high', 'more active and energetic', 'talking more or feeling chatty' and 'not being able to, or needing to sleep'. Other symptoms commonly described were 'feeling anxious or fearful' or 'confused, unreal and in a dream world'. Although we were predominantly interested in the postpartum period, and excluded women with an antenatal onset of psychosis, several women spontaneously described mild symptoms (particularly hypomanic-like symptoms) beginning to appear in late pregnancy.

Our findings are consistent with anecdotal reports and small prospective study descriptions of prodromal signs in PP: rapid mood fluctuations;[18] excitement, 'tension-anxiety' in late pregnancy;[19] and insomnia, restlessness, exhaustion, sadness, irritability and rapid mood change.[23] Similar symptoms have been found in studies of the early warning signs of nonpuerperal bipolar disorder.[24] Hypomanic symptoms, irritability, anxiety and lability (mood swings and tearfulness) are common features heralding bipolar disorder relapse. However, symptoms of confusion, muddled thinking, disorientation and feelings of being detached from the environment or unreal appear to be more specific to pregnancy-related episodes.[24]

Hypomanic symptoms can be more difficult to identify than mild depressive symptoms, both for the woman

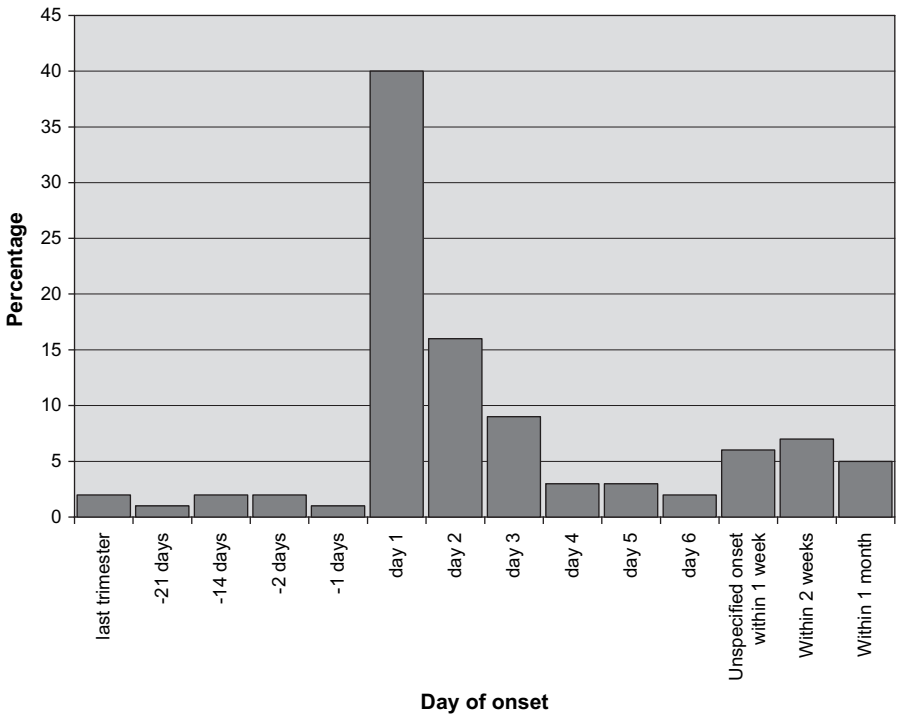

Figure 1. Subjectively reported timing of first symptoms of PP. Day of onset of first subjectively experienced symptoms of PP. Last trimester: 2%, 21 days before delivery: 1%, 14 days before delivery: 2%, 2 days before delivery: 2%, day before delivery: 1%, day 1: 40%, day 2: 16%, day 3: 9%, day 4: 3%, day 5: 3%, day 6: 2%, Unspecified onset within 1 week: 6%, within 2 weeks: 7%, within 1 month: 5%.

Table 1. Table of early symptoms and frequency of reporting

Symptom	*n* (%)	Symptom type
Excited, elated, high, 'over the moon' giggly	66 (52)	Hyp
Active, energetic, overactive	47 (37)	Hyp
Chatty, sociable, talking more, always on the phone	45 (35)	Hyp
Busy mind, racing thoughts, lots of ideas	40 (31)	Hyp
Muddled thinking, mixed up, confused, not with it, disorientated	37 (29)	Conf
No need for sleep	32 (25)	Hyp
Not able to sleep	29 (23)	Hyp/Low/Anx
Irritable, people getting on nerves, arguing, angry, impatient	29 (23)	Hyp
Anxious	24 (19)	Anx
In a dream world, unreal, detached from world	21 (17)	Conf/Psy/Anx
Efficient, organising, lots of housework, making lists, lots of jobs	20 (16)	Hyp
Distractible, getting nothing finished	19 (15)	Hyp
Fearful, 'paranoid'	16 (13)	Anx
Disinhibited, saying/doing things would not normally say/do	14 (11)	Hyp
Looking after baby easy, 'super-mum', capable, self-confident	13 (10)	Well/Hyp
Tearful, sad	13 (10)	Low
Things beautiful, heightened perception, things more interesting	12 (9)	Hyp
Alert, clear minded	12 (9)	Well/Hyp
Creative, writing more	10 (8)	Hyp
Up and down, crying and laughing	9 (7)	Lab
Low mood, depressed	8 (6)	Low
Tired, no energy	8 (6)	Low
Agitated, stressed, tense	7 (6)	Anx
Overemotional, oversentimental	7 (6)	Lab
Increased libido	6 (5)	Hyp
Excessive worries	6 (5)	Anx
Tearful but not sad	6 (5)	Lab
Spending more money	5 (4)	Hyp
Not coping	5 (4)	Low/Anx
Feeling more spiritual	4 (3)	Psy
Experiencing nightmares, vivid dreams	4 (3)	Other
Disconnected from baby, baby does not feel like its mine	4 (3)	Bond/Psy

Anx, anxiety; Bond, disturbance in mother–baby bonding; Conf, confusion/perplexity; Hyp, hypomania; Lab, lability; Low, low or depressed mood; Psy, premorbid psychotic or schizotypal symptom; Well, coping particularly well.
The 'symptom type' column provides a guide to the relationship between the item and type of psychiatric symptom; however, it must be noted that classifying individual symptoms in isolation is rarely possible. For example, many of the symptoms labelled Hyp could equally be regarded as coping particularly well. Individuals with bipolar disorder often report a perceived or real improvement in social and occupational functioning in the manic prodrome.

experiencing them and the health professional, perhaps contributing the notion of a postpartum 'symptom-free period'. It is easy to see, for example, how symptoms such as improved mood, increased goal-directed activity, increased sociability, coping on little sleep and 'feeling like super-mum' are unlikely to raise alarm bells for impending psychosis. In retrospect, women can clearly identify these symptoms as unusual for them, but at the time, many felt that they were coping 'ultra-well'.

Following the initial prodrome, at around days 3–7, symptoms escalate rapidly. Rhode and Marneros examined initial symptoms in a sample of women with PP from clinically significant onset to admission. The most frequently reported symptoms were paranoid delusions (delusions of persecution, being dead, grandeur, contact with God, that the child had been exchanged or was dead); restlessness; 'catatonic excitement' (severe shifts of mood from one pole to the other); depressed mood; anxiety and sleep disturbance. Although only a very small minority of women with PP are aggressive towards their baby, the authors found that risk to the safety of the infant occurred in 35% of women prior to admission due to severe behavioural disturbance, incorrect handling or acting on delusions.[25]

The possibility of identifying prodromal symptoms in PP has important management implications. There is good evidence that close monitoring and early intervention considerably improves psychiatric outcome, but because of the rapid escalation, postpartum services must be coordinated and responsive. Although the rate of episodes in the population is around 1–2 in 1000, women can be identified at significantly greater risk: women who have had a previous episode of PP (around 60% risk); women who have experienced a previous manic episode unrelated to childbirth (25–50% risk) and women with a first-degree family history of PP or bipolar disorder.[13–15] In women at risk of bipolar disorder, identifying early warning signs allows preplanned changes to be made in lifestyle, sleeping habits and medication designed to prevent escalation into full-blown relapse.[26] In women at high risk it is important that signs of hypomania and apparent extreme wellbeing, in addition to symptoms more readily recognised as pathological, are closely monitored. The nature of the PP prodrome means that women potentially heading for a PP could easily be mistaken for women coping better than normal and these women should be given less-careful monitoring than their counterparts with symptoms of the baby blues.

The results of this study must be interpreted in the light of a number of limitations. (1) In this study we have included only women with bipolar affective PP—those women with a lifetime diagnosis of a bipolar spectrum disorder. Although the weight of evidence points to the close link between bipolar disorder and PP,[14,27] and the risk of new episodes in women with other psychiatric diagnoses does not appear to be

increased in relation to childbirth, it is possible that the time of onset and prodromal symptoms differ for women with other lifetime diagnoses. (2) We cannot identify symptoms that specifically indicate the onset of PP. In order to identify symptoms that are specific to PP, we would need to carry out large prospective studies, systematically monitoring early symptoms in high-risk and control women. Studies of this type are difficult, given the sample sizes needed to obtain a large-enough sample of PP women. In the absence of such studies, it is possible that women who develop PP could interpret some of the normal transient emotional changes that occur during pregnancy as pathological in the light of their subsequent psychosis. Subclinical hypomanic symptoms have been reported to be experienced in 10% of the postpartum population in the first-postnatal week.[28,29] These hypomanic symptoms do not specifically predict the onset of PP: none of the 27 women identified in a sample of 258 women developed an episode of PP; however, these women appear to be at increased risk of developing later postnatal depression[28,30,31] It should be emphasised that while hypomanic symptoms might therefore be indicative of a mild form of mood disorder, they would be only sensibly considered possible precursors of psychotic illness in women with other risk factors for bipolar disorder and PP. (3) It is not possible to estimate how the retrospective methodology might affect the recall of symptoms. The recollection of women for the important life event of childbirth was excellent, however, and was supported by a review of the hospital records. Again, prospective studies would help to overcome this methodological limitation. (4) Many of the symptoms reported here were freely recalled and not specifically probed for. The study, therefore, might underestimate the frequency of PP women reporting any given symptom. (5) Lastly, while 'Action on Puerperal Psychosis' is a uniquely valuable resource for conducting large studies of PP that otherwise would be difficult, it is not a systematically obtained sample and might not be representative of the PP population.

Conclusion

Although episodes of PP onset rapidly in the postpartum, they are likely to be preceded by prodromal, often hypomanic, symptoms. The risks of delay in identifying episodes of PP can be serious and costly. Suicides and accidents reported to the Confidential Enquiry into Maternal Deaths are likely to be the tip of the iceberg in terms of risk events and 'near-misses'.[32] A disturbingly high proportion of psychiatric-related deaths reported to the Confidential Enquiry were predictable from the women's psychiatric history. It is therefore vital that obstetricians, midwives, health visitors, general practitioners and mental health professionals involved in the care of postnatal women are aware of potential prodromal signs of PP and monitor subjective mental states in women at risk.

Contribution to authorship

J. H. was involved in conception and design; acquisition of data; analysis; interpretation of data; draft and revision of manuscript. M. M. was involved in acquisition of data; analysis; interpretation of data; and revision of manuscript. E. R. B. was involved in conception and design; acquisition of data; and revision of manuscript. N. C. was involved in conception and design; interpretation of data; and revision of manuscript. I. J. was involved in conception and design; acquisition of data; analysis; interpretation of data; and revision of manuscript.

Details of ethical approval

UK multicentre ethical approval was received on 22 December 1997 and renewed on 7 June 2001, reference number MREC/97/7/01.

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References

1 Jones I, Craddock N. Do puerperal psychotic episodes identify a more familial subtype of bipolar disorder? Results of a family history study. *Psychiatr Genet* 2002;12:177–80.
2 Akiskal HS, Walker P, Puzantian VR, King D, Rosenthal TL, Dranon M. Bipolar outcome in the course of depressive illness: phenomenologic, familial, and pharmacologic predictors. *J Affect Disord* 1983;5:115–28.
3 Kendell RE, Chalmers JC, Platz C. Epidemiology of puerperal psychoses. *Br J Psychiatry* 1987;150:662–73.
4 Terp IM, Mortensen PB. Post-partum psychoses. Clinical diagnoses and relative risk of admission after parturition. *Br J Psychiatry* 1998;172:521–6.
5 CEMD. *Why Mothers Die 1997-1999. The Fifth Report of the Confidential Enquires into Maternal Deaths in the United Kingdom*. London: RCOG Press, 2002.
6 CEMD. *Why Mothers Die 2000-2002: The Sixth Report of the Confidential Enquiry into Maternal Death in the United Kingdom*. London: RCOG Press, 2004.
7 Munk-Olsen T, Laursen TM, Pedersen CB, Mors O, Mortensen PB. New parents and mental disorders: a population-based register study. *JAMA* 2006;296:2582–9.
8 SIGN. *Postnatal Depression and Puerperal Psychosis: A National Clinical Guideline*. Edinburgh, UK: Scottish Intercollegiate Guidelines Network, 2002.
9 Jones I, Craddock N. Bipolar disorder and childbirth: the importance of recognising risk. *Br J Psychiatry* 2005;186:453–4.
10 Oates M. Perinatal psychiatric disorders: a leading cause of maternal morbidity and mortality. *Br Med Bull* 2003;67:219–29.

11 d'Orban PT. Women who kill their children. *Br J Psychiatry* 1979;134: 560–71.
12 Spinelli MG. Maternal infanticide associated with mental illness: prevention and the promise of saved lives. *Am J Psychiatry* 2004;161:1548–57.
13 Jones I, Craddock N. Familiality of the puerperal trigger in bipolar disorder: results of a family study. *Am J Psychiatry* 2001;158:913–17.
14 Brockington I. *Motherhood and Mental Health*. Oxford, UK: Oxford University Press, 1996.
15 Robertson E, Jones I, Haque S, Holder R, Craddock N. Risk of puerperal and non-puerperal recurrence of illness following bipolar affective puerperal (post-partum) psychosis. *Br J Psychiatry* 2005;186:258–9.
16 Riley D. *Puerperal Psychosis. Perinatal Mental Health*. Oxford, UK: Radcliffe Medical Press, 1995.
17 Heron J, Robertson Blackmore E, McGuinness M, Craddock N, Jones I. No 'latent period' in the onset of bipolar affective puerperal psychosis. *Arch Women Ment Health* 2007;10:79–81.
18 Protheroe C. Puerperal psychoses: a long-term study 1927–1961. *Br J Psychiatry* 1969;115:9–30.
19 McNeil TF. A prospective study of postpartum psychoses in a high-risk group 1. Clinical characteristics of the current postpartum episodes. *Acta Psychiatr Scand* 1986;74:205–16.
20 Robertson E, Jones I, Benjamin J, Murdoch C, Pelios G, Brockington I, *et al*. Approaches to the ascertainment, recruitment and clinical assessment of women with puerperal psychosis. *Arch Women Ment Health* 2000;3:59–64.
21 Wing JK, Babor T, Brugha T, Burke J, Cooper JE, Giel R, *et al*. SCAN. Schedules for clinical assessment in neuropsychiatry. *Arch Gen Psychiatry* 1990;47:589–93.
22 APA. *DSM-IV-TR*. Washington DC, USA: American Psychiatric Association, 2000.
23 Sharma V, Mazmanian D. Sleep loss and postpartum psychosis. *Bipolar Disord* 2003;5:98–105.
24 Molnar G, Feeney MG, Fava GA. Duration and symptoms of bipolar prodromes. *Am J Psychiatry* 1988;145:1576–8.
25 Rhode A, Marneros A. Postpartum psychoses: onset and long-term course. *Psychopathology* 1993;26:203–9.
26 Morriss R. The early warning symptom intervention for patients with bipolar affective disorder. *Adv Psychiatr Treat* 2004;10:18–26.
27 Jones I, Lendon C, Coyle N, Robertson E, Brockington I, Craddock N. Molecular genetic approaches to puerperal psychosis. *Prog Brain Res* 2001;133:321–31.
28 Glover V, Liddle P, Taylor A, Adams D, Sandler M. Mild hypomania (the highs) can be a feature of the first postpartum week. Association with later depression. *Br J Psychiatry* 1994;164:517–21.
29 Lane A, Keville R, Morris M, Kinsella A, Turner M, Barry S. Postnatal depression and elation among mothers and their partners: prevalence and predictors. *Br J Psychiatry* 1997;171:550–5.
30 Hannah P, Cody D, Glover V, Adams D, Kumar R, Sandler M. The tyramine test is not a marker for postnatal depression: early postpartum euphoria may be. *J Psychosom Obstet Gynaecol* 1993;14: 295–304.
31 Heron J, Craddock N, Jones I. Postnatal euphoria: are 'the highs' an indicator of bipolarity? *Bipolar Disord* 2005;7:103–10.
32 King JF, Slaytor EK, Sullivan EA. Maternal deaths in Australia, 1997–1999. Maternal deaths in Australia 1997–1999. *Med J Aust* 2004; 181:413–4.

Journal club

This paper examines prodromal symptoms of puerpural psychosis by interviewing women who have had at least one episode of psychosis in the past.

Discussion points

1 Background: What are the risk factors for puerperal psychosis and what are the consequences of delayed diagnosis?
2 Technical: Do you think that this study has recruited women who are representative of those who develop puerperal psychosis? How do you think that recall bias may have influenced the findings?
3 Clinical practice: Should the findings of this study affect midwifery/obstetric guidelines for the assessment of women at high risk of puerperal psychosis? If you wished to develop such a guideline how would you go about this and what would you include in the text?
4 Future research: Describe the difficulties you would encounter in a prospective study of prodromal symptoms of puerperal psychosis.

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