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Psychotic-like experiences in pregnant and postpartum women without a history of psychosis

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ABSTRACT

Objectives: This study investigated whether psychotic-like experiences (PLEs) are prevalent amongst women in pregnancy and/or in the early postnatal phase, and whether the predictors identified in the literature for non-puerperal psychosis apply in a general sample of perinatal women.
Method: 101 women in their third trimester of pregnancy completed questionnaire measures of mood, subjective well-being, sleep, expectations about labour, and PLEs. 66 of these participants also completed questionnaires shortly after giving birth. The main outcome measures were scores on the Peters Delusions Inventory (PDI) and the Launay–Slade Hallucination Scale—Revised (LSHS-R).
Results: During pregnancy, 80% of the samples endorsed at least one item on the PDI, and 76% endorsed at least one item on the LSHS-R. Endorsement rates were lower postnatally, with rates of 59% and 52% for the PDI and LSHS-R, respectively. Mean scores on the PDI were 3.07 during pregnancy and 1.61 postnatally. Mean scores on the LSHS-R were 8.38 during pregnancy and 5.24 postnatally. Hierarchical multiPLEs regression analyses revealed that ratings of depressive symptomatology significantly predicted PDI total score during pregnancy and LSHS-R total score postnatally, whilst postnatally, scores obtained on the PDI and LSHS-R postnatally were significantly predicted by scores on these measures during pregnancy. Fear in childbirth, but not in pregnancy, showed associations with PLEs but these associations were not maintained once multivariate analyses were conducted.
Conclusions: The results of this study support the continuum model of psychosis, by illustrating that PLEs occur frequently in perinatal individuals without a diagnosis of severe mental illness.

1. Introduction

The continuum model of psychosis suggests that symptoms of psychosis may occur quite commonly in individuals without a clinical diagnosis and are not necessarily associated with distress or help seeking (Bentall, 2003). Perinatal women have been neglected in this literature. Yet pregnancy is a time of increased risk for emotional disorders (Carter, 2005) and the risk for psychiatric admission is very significantly increased in the postpartum period (Kendell et al., 1987; Stein, 2007). Approximately 1 in 1000 births will be followed by the woman developing psychosis (Kendell et al., 1987). However, it is unclear whether perinatal women more generally, who do not go on to develop psychosis following childbirth, show an increased frequency of attenuated symptoms, or 'psychotic-like experiences' (PLEs).

Some predictors for clinically diagnosed puerperal and non-puerperal psychoses also overlap with predictors identified in postnatal mental health more generally. Sleep deprivation, for instance, is highly correlated with unusual cognitive, emotional and behavioural experiences (Freeman et al., 2009), and sleep disruption in pregnancy has been linked to the development of 'maternity blues', postnatal depression and puerperal psychosis (Dorheim et al., 2009). Factors such as trauma (Morrison et al., 2003) and low subjective wellbeing (Lambert et al., 2009) have also been linked with the experience of psychosis and with postnatal depression (Rowlands and Redshaw, 2012).

Other relevant factors in the non-puerperal literature include depression and anxiety symptoms, both of which have been found to be related to suspicious or mistrustful ideation in non-clinical samples (Martin and Penn, 2001). In the perinatal context, birth by caesarean section (Singh and Kaur, 2000), primiparity (Robertson Blackmore et al., 2006), male gender of the baby (Agrawal et al., 1997), and night-time delivery (Sharma et al., 2004) have been suggested as associates of puerperal psychosis as have psychological factors, such as fear of labour (Cruickshank, 1940), birth trauma (Ayers and Ford, 2009) and low social support (Allwood et al., 2000).

The aims of this study were (1) to investigate the prevalence of PLEs amongst women without psychosis, in late pregnancy and in the early postnatal phase, and (2) to explore which variables predict levels of PLEs in pregnant and postpartum women respectively. It was hypothesised that (1) the prevalence of PLEs in women both in pregnancy and the postpartum would be higher than that found in other

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non-clinical samples, and that (2) variables that are associated with higher levels of PLEs in pregnant and postpartum women would mirror those already identified in the literature on non-puerperal and puerperal psychoses.

2. Methods

2.1. Participants

Women in their third trimester of pregnancy (i.e. from 28 weeks of gestation) under the care of the maternity service in Sheffield, UK, were recruited. Women under the age of 16 years, whose first language was not English or who had had involvement with Perinatal Mental Health services, were excluded. Of the 334 women invited to take part, 101 women (30%) agreed to participate.

Participants in pregnancy were followed up after giving birth. Women who had experienced a neonatal death/stillbirth, or whose babies had required care in a neonatal unit for more than 48 h, were excluded from the postnatal evaluation, for ethical reasons. Of the 101 participants in pregnancy, one woman was excluded on those grounds and a further two participants did not deliver their babies during the data collection period. Hence, a total of 98 participants were followed up after childbirth, of whom 66 participants (67%) completed questionnaires postnatally at a mean number of 12.63 days ($SD = 7.62$). Demographic information is shown in Table 1. In comparison to all women receiving local maternity care during the study period (April 2012–April 2013), there was an overrepresentation of married women and of White ethnic origin in the study samples. Participants not returning questionnaires postnatally were significantly younger ($M = 28.59$, $SD = 6.11$) than those who did ($M = 30.94$, $SD = 4.87$), $t\ (96) = -2.05$, $p = .04$. and were less likely to have reached graduate level education, $\chi^2\ (1) = 7.56$, $p = .01$.

Table 1
Participant demographic and obstetric characteristics.

	Mean (*SD*)	Range
Age (years)	30.3 (5.40)	19–39
Mean gestation (weeks)	32.01 (3.40)	28–41
Number of postnatal days	12.63 (7.62)	5–38
		Total n (%)
Marital status		
Single		10 (10)
Married		63 (62)
Cohabiting		28 (28)
Educational attainment[a]		
Graduate		58 (58)
Non-graduate		42 (42)
Employment status		
Employed		86 (85)
Unemployed		15 (15)
Parity		
Primiparous		41 (41)
Multiparous		60 (59)
Previous experiences of pregnancy		
Miscarriage		22 (22)
Termination		11 (11)
Miscarriage & termination		4 (4)
None of the above		64 (64)
Ethnic origin		
White		95 (94)
Mixed/dual heritage		2 (2)
Asian — Indian		2 (2)
Black — African		1 (1)
Other		1 (1)
Gender of baby		
Male		37 (56)
Female		29 (44)
Number of babies delivered		
Singleton		64 (97)
Twins		2 (3)
Mode of delivery		
Vaginal		36 (54)
Emergency caesarean section		11 (17)
Elective caesarean section		6 (9)
Assisted		13 (20)
Fear during delivery[b]		
Yes		16 (25)
No		49 (75)
Time of birth		
Day time (between 7 am–12:30 am)		49 (75)
Night time (between 12:30 am–7 am)		17 (25)

[a] Number of participants = 100 as one participant did not provide data.
[b] N = 65 a one participant did not provide data.

2.2. Design and procedure

The study was longitudinal with data collected at two time points; pregnancy and postnatally. Community midwives provided information and questionnaires were included in routine 28 week gestation antenatal packs. Completed forms were returned by post (Time 1). Time 2 questionnaires were sent within seven days of childbirth. Yorkshire and the Humber–South Yorkshire research ethics committee provided ethical approval.

2.3. Measures

Demographic information was collected at Time 1 and information related to the experience of childbirth at Time 2. Other measures were reported at both time points.

Peters Delusions Inventory (PDI; Peters et al., 1999)

This assesses the presence, distress, conviction and preoccupation with delusional ideation in clinical and non-clinical populations. Total scores can range from 0–21. The PDI asks questions about a respondent's experiences *during their lifetime*. For this study, the PDI at Time 1 was modified by asking participants also to rate experiences during pregnancy. At Time 2, participants rated PLEs since the recent childbirth. An item was counted as endorsed if rated as a '*yes*' response. Cronbach's alpha for the study samples were .70 and .72 in pregnancy and postnatally, respectively, indicating good internal reliability.

Launay–Slade Hallucination Scale—Revised (LSHS-R; Bentall and Slade, 1985)

This scale measures predisposition to hallucinations in clinical and non-clinical samples. Items are scored using a 5-point Likert scale from *Certainly applies to me* to *Certainly does not apply to me* (range = 0–48). In addition to the scores obtained, an item was counted as endorsed if rated as 4 or 5 on the 5 point score i.e. '*possibly*' or '*certainly applies to me*'. Cronbach's alpha was good at .73 for both the pregnant and postpartum samples.

Edinburgh Depression Scale (EDS; Cox et al., 1987)

The EDS is used for screening for depressive symptomatology in both pregnancy and postnatally. A score of 13 or above (range = 0–30) is suggestive of clinically significant depressive symptomatology. Cronbach's alphas were .86 and .88 respectively for the pregnant and postnatal samples.

Edinburgh–Warwick Mental Well-being Scale (WEMWBS; Tennant et al., 2007)

This measures mental well-being, with higher scores being more positive. Cronbach's alphas were high at .90 and .93, respectively.

Pittsburgh Sleep Quality Index (PSQI; Buysee et al., 1989)

The PSQI is a well validated measure of sleep quality. For the present study, the sleep duration and sleep quality factors were used (questions 4 and 6).