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Short communication

Adverse childhood life events and postpartum psychosis in bipolar disorder

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ABSTRACT

Background: Women with bipolar disorder are at increased risk of postpartum psychosis. Adverse childhood life events have been associated with depression in the postpartum period, but have been little studied in relation to postpartum psychosis. In this study we investigated whether adverse childhood life events are associated with postpartum psychosis in a large sample of women with bipolar I disorder.
Methods: Participants were 432 parous women with DSM-IV bipolar I disorder recruited into the Bipolar Disorder Research Network (www.BDRN.org). Diagnoses and lifetime psychopathology, including perinatal episodes, were obtained via a semi-structured interview (Schedules for Clinical Assessment in Neuropsychiatry; Wing et al., 1990) and case-notes. Adverse childhood life events were assessed via self-report and case-notes, and compared between women with postpartum psychosis (n=208) and those without a lifetime history of perinatal mood episodes (n=224).
Results: There was no significant difference in the rate of any adverse childhood life event, including childhood sexual abuse, or in the total number of adverse childhood life events between women who experienced postpartum psychosis and those without a lifetime history of perinatal mood episodes, even after controlling for demographic and clinical differences between the groups.
Limitations: Adverse childhood life events were assessed in adulthood and therefore may be subject to recall errors.
Conclusions: We found no evidence for an association between adverse childhood life events and the occurrence of postpartum psychosis. Our data suggest that, unlike postpartum depression, childhood adversity does not play a significant role in the triggering of postpartum psychosis in women with bipolar disorder.

1. Introduction

The postpartum period has been well established as a time of increased vulnerability to relapse in women with bipolar disorder (BD). Almost one in five (17%) new mothers with BD are admitted for psychiatric treatment in the early postpartum (Wesseloo et al., 2016), a period in which the risk of admission is significantly greater for these women than at any other time in their lives (Munk-Olsen et al., 2009). Relative to the general population, the risk of postpartum psychosis (PP) is dramatically elevated in women with BD, increasing from one in a thousand to approximately one in five deliveries (Di Florio et al., 2013). The consequences of PP can be devastating for the mother and her wider family. Not only is there an increased risk of maternal suicide (Knight et al., 2015), but risk of harm to the infant, although rare, is also of concern (Spinelli, 2004).

Unfortunately, the factors which increase risk for episodes of PP are still poorly understood. In particular, little is known about the role that adverse childhood life events (ACLEs) may play in the triggering of PP. History of childhood abuse, for example, has previously been associated with depression in the postpartum period (Dennis and Vigod, 2013; Plaza et al., 2012), but has not yet been investigated in relation to PP. Given that ACLEs may increase susceptibility to onset of BD (Fisher and Hosang, 2010) and be associated with a more severe illness course (Erten et al., 2014; Sala et al., 2014; Upthegrove et al., 2015), it is plausible that they could increase risk for episodes of PP in women who have BD.

To date, only one published study has examined ACLEs in relation to PP and found no association (Dowlatshahi and Paykel, 1990). However, only a narrow range of ACLEs was measured (specifically bereavements of immediate family, marital separation of parents and difficulties at school) and the ACLEs were included as part of a general measure of personal history. Furthermore, the

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sample size in this study was small (33 women in each of the PP and control groups) and the definition of PP was very broad.

Here we aimed to investigate the relationship between a number of ACLEs, including childhood abuse, and the occurrence of well-defined PP in a large UK sample of parous women with a lifetime DSM-IV (American Psychiatric Association, 2000) diagnosis of bipolar I disorder (BD-I).

2. Methods

2.1. Participants

Women were recruited as part of a large, on-going programme of research investigating genetic and non-genetic determinants of mood disorders (Bipolar Disorder Research Network, BDRN; www.bdrn.org). Participants were recruited systematically through UK National Health Service (NHS) Community Mental Health Teams or lithium clinics and non-systematically via the BDRN website and patient support groups (such as Bipolar UK). The research has UK NHS Research Ethics Committee approval and Research and Development approval in all participating NHS Trusts/Health Boards.

As a principle focus of the BDRN research is to investigate genetic determinants of mood illness, participants are required to be of UK/Eire white ethnicity. Other inclusion criteria specify that participants must: a) be aged 18 years or over; b) have the ability to provide written, informed consent; and, c) have an age of illness onset before 65 years. Participants are excluded if they have only experienced affective illness as a result of substance abuse, medication or, secondary to physical illness.

Rates of postpartum relapse in the BDRN sample have been reported previously (Di Florio et al., 2013). During the period in which data on ACLEs were collected, 1093 parous women with BD-I were recruited to the study, of whom 580 (53%) experienced lifetime postpartum relapse. 297 (27% of parous women) experienced PP (defined as an episode of mania, mixed affective state or affective psychosis) within 6 weeks of delivery, consistent with both DSM-IV and ICD-10 definitions of the postpartum period. Of the women who experienced PP, 61 multiparous women also experienced episodes of postpartum non-psychotic depression. 283 (26%) women experienced episodes of postpartum non-psychotic depression and no PP. We defined the PP group as the 236 women who experienced PP only, to ensure that risk factors for PP were explored independently of those for postpartum non-psychotic depression. The final PP group comprised women with a lifetime history of PP only on whom we also had ACLEs data (n=208, 88% of the PP only group).

The comparison group of women (no perinatal mood episode group, No PME) comprised 268 parous BD-I women with no lifetime history of any affective or psychotic episode during pregnancy or within 6 months following delivery on whom we also had ACLEs data (n=224, 84% of the No PME group). A broader definition of the perinatal period was used to ensure that women did not experience any episodes of mood illness that could be considered related to childbirth.

2.2. Psychiatric assessments

Detailed lifetime psychopathology was assessed using the Schedules for Clinical Assessment in Neuropsychiatry (SCAN, Wing et al., 1990), a semi-structured interview administered by trained research psychiatrists or psychologists. Where available, psychiatric case notes were also screened. Best-estimate lifetime diagnoses according to DSM-IV criteria were made along with ratings of perinatal psychiatric history and lifetime clinical variables. In cases of ambiguity, at least two members of the research team made clinical and diagnostic ratings blind to each other's ratings and consensus was agreed through discussion. Mean kappa statistics were 0.85 for DSM–IV diagnoses and between 0.81 and 0.99 for other key clinical categorical variables. Mean intra-class correlation coefficients were between 0.91 and 0.97 for key clinical continuous variables.

2.3. Measurement of adverse childhood life events

History of ACLEs was obtained using the BDRN Childhood Life Events Questionnaire (CLEQ, see Upthegrove et al., 2015). The CLEQ was administered verbally to all participants following the SCAN interview once rapport had been established. Participants were asked if they had experienced one or more childhood events before the age of 16 years, which are listed below. Due to the sensitive nature of such events, we chose to not specifically ask about experiences of childhood abuse. Instead, participants were given the opportunity to disclose additional events by being asked "Are there any other significant life events you experienced as a child that are not mentioned above? " Case notes were also reviewed for any mention of ACLEs including abuse.

Participants also completed the self-report Brief Life Events Questionnaire (BLEQ) asking about severe life events based on the list proposed by Brugha et al. (1985). An open question was added to the questionnaire, which asked participants "Do you think that there is anything that has happened to you during your life which has contributed to you becoming unwell? " Answers were further examined for evidence of any ACLEs.

These sources of information were combined to code the presence or absence of the following types of ACLE occurring before the age of 16 years for each participant: (1) Any abuse (sexual and/or physical and/or emotional), (2) sexual abuse, (3) physical abuse, (4) emotional abuse, (5) death of parent, (6) death of sibling, (7) death of a close friend, (8) divorce and/or separation of parents, and (9) serious illness requiring hospitalisation.

2.4. Statistical analysis

Data were analysed using SPSS version 21. Chi-squared tests were used to compare the prevalence of each ACLE between the PP and No PME groups, followed by logistic regression models adjusted for demographic and lifetime clinical variables that differed between groups. We also examined whether total number of ACLEs differed between groups using a Mann-Whitney *U* test.

3. Results

Women in the PP group were significantly younger at interview ($p < 0.001$) and at age of illness onset (defined as age at first impairment due to mood illness, $p < 0.001$) than women in the No PME group, but were older at age of first pregnancy ($p=0.019$) (Table 1). They were more likely to have completed higher education ($p=0.003$) and be recruited non-systematically ($p=0.003$), and experienced fewer episodes of depression per illness year ($p=0.039$) than women in the No PME group (Table 1). We therefore controlled for these differences in subsequent analyses.

We did not find an association between any ACLE and history of PP (Table 2), and there remained no significant associations after adjusting for differences in age, education, recruitment method, number of illness episodes, age at onset, and age at first pregnancy. We did not find a significant difference in the total number of ACLEs between groups (median in PP group=1, IQR=1, range=0–4; No PME group=1, IQR=1, range=0–4; $p=0.745$).