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Research report

The structure of emotional symptoms in the postpartum period: Is it unique?

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ABSTRACT

Background: In perinatal mental health there is a lack of consensus as to whether postpartum emotional disorders are unique in their aetiology and clinical presentation. If the clinical presentation is unique, then the factor structure should be different in a postpartum sample.
Methods: Admission and discharge scores on the Depression Anxiety Stress Scales (DASS; Lovibond and Lovibond, 1995b) scores were collected for 527 inpatients admitted to a Psychiatric Mother and Baby Unit. Reliability and validity of the DASS were examined, and confirmatory factor analysis evaluated the fit of a series of models of the DASS.
Results: The DASS had sound reliability and validity in the postpartum inpatient sample. The optimal fitting factor solution for the DASS was a revised three-factor model previously supported in studies of other clinical and non-clinical populations. The factor structure was invariant across admission and discharge.
Limitations: The sample consisted of postpartum inpatients and the generalisability of results to other postpartum samples is not known.
Conclusions: Postpartum emotional symptoms have the same factor structure previously observed in non-postpartum populations, consistent with the hypothesis that postpartum emotional disorders are similar to those occurring at other times. The present study provides support for the reliability and validity of the DASS in the postpartum period.

1. Introduction

A range of psychological symptoms can manifest in the postpartum period. However, the specific nature of postpartum emotional disorders, and their relationship to disorders occurring outside of this period, remains contentious. There is still debate as to whether postpartum emotional disorders should be included as separate diagnoses in classification systems such as DSM (American Psychiatric Association, 2000) and ICD (World Health Organization, 1992), or whether they should be diagnosed according to usual categories (as they currently are). This lack of consistency has led to confusion in both research and clinical practice (Jones and Cantwell, 2010). With the recent publication of DSM-5, the topic has again become one of prominence (Austin, 2010; Jones and Cantwell, 2010; Kornstein, 2010).

On one side of the debate, some view postpartum emotional disorders as distinct disorders triggered by changes (e.g., endocrinological) associated with childbirth. Proponents of this view argue that the clinical presentation of postpartum emotional disorders is unique. Pitt (1968) described postpartum depression as milder than typical depression, with less suicidal ideation, more anxiety and irritability, and with some symptoms showing reverse patterns (e.g., increased appetite). Dalton and Horton (1996) reported that postpartum women are more likely to endorse agitation, irritability, and anxiety than depressive symptoms. Born and Steiner (1999) argued that the prominence of irritability in perinatal emotional disorders has largely gone unnoticed due to a focus on depressive symptomatology in the literature. Phillips et al. (2009) suggested that some postpartum women with clinically significant anxiety do not fit DSM-IV anxiety disorder criteria.

On the other side of the debate it has been contested that postpartum emotional disorders are unrelated to physiological events of the postpartum period. Proponents of this view argue that there is insufficient evidence to support a distinction between postpartum and non-postpartum disorders. They propose that the perinatal period may trigger or exacerbate emotional disorders not unlike any other stressful life event (Cooper and Murray, 1995;

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Riecher-Rössler and Rohde, 2005). That is, in stress-diathesis models, a variety of stressors trigger a disorder by acting upon a pre-existing diathesis (vulnerability).

A small number of studies have addressed this debate by comparing symptoms of depression and anxiety in postpartum versus non-postpartum women. However, results have been inconsistent. Whilst some have reported higher levels of depression in postpartum women (Augusto et al., 1996; Hendrick et al., 2000; Nieland and Roger, 1997), others have reported lower levels of depression (Eberhard-Gran et al., 2003; Whiffen and Gotlib, 1993). Likewise, some studies have reported higher anxiety levels postpartum (Hendrick et al., 2000), whereas others have reported lower anxiety levels (Augusto et al., 1996; Bernstein et al., 2008; Whiffen and Gotlib, 1993). Given the many other factors that may explain why a particular study may find severity differences in samples, it is not surprising that this research has not resolved the debate.

In a related line of research several studies have examined differences between individual symptoms of postpartum and non-postpartum depression and anxiety as well as severity levels: for example, whilst Whiffen and Gotlib (1993) reported that the postpartum group obtained a lower mean depression score than the non-postpartum group, they also reported lower levels of insomnia, somatic complaints, and psychomotor agitation. Thus, there is some suggestion that symptom patterns may be distinct postpartum. Research investigating differences in symptom profiles between postpartum and non-postpartum groups is broadly summarised in Table 1. Overall, samples vary in terms of symptom intensity, but there is no clear outcome regarding the patterns of symptoms. Some studies find differences, but these findings are not replicated in other studies. Thus, it would be useful to examine the issue by studying a large sample of postpartum women with psychopathology and examine if the overall factor structure of emotional psychopathology is distinguishable from that found in other patient groups. That is, if differences are to be observed, they should be evident in a sample with severe psychopathology.

Furthermore, it is possible that the lack of consistency across these studies (see Table 1) may partly be due to methodological differences, such as different recruitment strategies or comparison groups; inconsistent definitions of the postpartum period; and different assessment and diagnostic methods. Nevertheless, despite a lack of empirical evidence that postpartum emotional disorders are qualitatively distinct, many researchers and clinicians continue to espouse the view that they are somehow unique. This is an important issue to resolve because it has implications for assessment and treatment of postpartum emotional disorders. For example, if postpartum depression is distinct, then the general depression literature may not be generalisable to postpartum depression (Whiffen, 1992). Validated assessment methods and evidence-based treatments for depression and anxiety may be inappropriate for postpartum women. Thus, the current lack of consensus may be hindering research as well as implementation of assessment and treatment programs for postpartum emotional disorders.

Given the apparent inconsistency in the research literature, it is worthwhile considering a different approach to the question. Beginning with the two sides of the debate, it is clear that if postpartum depression and anxiety are different, then it is reasonable to expect that symptom profiles postpartum will be significantly different from the symptom profiles of people not selected because their disorder occurs after birth. One side of the debate asserts that there will be no differences, while the alternative view asserts that there will be a point of difference in symptom profiles. While it is difficult to prove the null hypothesis, it should be possible to reject the null hypothesis if a difference exists. Therefore, any point of difference between postpartum and non-postpartum emotional disorders could potentially be counted as evidence. One way to answer this question could be to compare symptom profiles of postpartum women with those obtained in other research.

In a recent study, Buttner et al. (2012) examined the structure of women's mood in the days following delivery and found symptom dimensions that were parallel to those found outside of the postpartum period; however, this study was focussed on the early postpartum, specifically around the concept of “postpartum blues”, which is a distinct phenomenon.

Confirmatory factor analysis (CFA) is useful for investigating this issue. CFA can examine the relationships between observed variables (e.g., item responses on a questionnaire) and the latent constructs (or factors) theorised to underlie these observed variables. To the extent that postpartum emotional disorders are different from non-postpartum emotional disorders, it could be predicted that the latent structure of a self-report instrument measuring emotional distress would differ. Thus, a factor solution providing optimal fit in a non-postpartum sample may not provide optimal fit in a postpartum sample.

Thus, it should be possible to identify the structure of disorders in typical clinical populations and then examine the degree to which these models apply postpartum. If these disorders are qualitatively different, then the models generated in other research will fit less well or not at all.

Consequently, the present study examined the constructs underlying postpartum emotional symptoms by testing the factor structure of the Depression Anxiety Stress Scales (DASS; Lovibond and Lovibond, 1995b) in a postpartum sample. The DASS is a 42-item self-report test, consisting of three scales that assess three negative emotional states: depression, anxiety, and stress. Each of the DASS scales were formed from subscales comprising items of similar content (see Table 5). The DASS was specifically designed to measure the full range of core symptoms of depression and anxiety, whilst providing maximal discrimination (i.e., minimising the correlation) between the two scales. During scale development, depression items which failed to show adequate coherence with the depression scale and differentiation from the anxiety scale were excluded, as were anxiety items which failed to show adequate coherence with the anxiety scale and differentiation from the depression scale. During the development of these two scales (DASS-Depression and DASS-Anxiety), a third factor emerged, consisting of items reflecting chronic non-specific arousal. These items formed the basis for the stress scale (DASS-Stress; Lovibond and Lovibond, 1995b).

The DASS was a suitable instrument for the present study for several reasons. Firstly, previous studies have shown that the DASS has sound psychometric properties across clinical (Antony et al., 1998; Brown et al., 1997; Page et al., 2007) and non-clinical populations (Antony et al., 1998; Crawford and Henry, 2003; Lovibond and Lovibond, 1995a), including excellent internal consistency, and good convergent and discriminant validity.

In terms of convergent validity, DASS-Depression and DASS-Anxiety have been found to be highly positively correlated with other measures of depression and anxiety respectively (Antony et al., 1998; Brown et al., 1997). Moreover, several previous studies found that DASS-Depression and DASS-Anxiety were able to discriminate between anxious and depressed patient groups (Antony et al., 1998; Brown et al., 1997; Clara et al., 2001).

In terms of discriminant validity, the DASS appears to perform at least as well as other self-report measures purporting to distinguish between depression and anxiety, with correlations between DASS-Depression and DASS-Anxiety ranging from .44 (Antony et al., 1998) to .70 (Crawford and Henry, 2003), and moderate-to-high correlations of DASS-Depression and DASS-Anxiety with