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Special review article

The relationship between sleep and postpartum mental disorders: A systematic review

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ABSTRACT

Background: Postpartum mental disorders (e.g., anxiety, depression, psychosis) are serious conditions that affect approximately 10–15% of women after childbirth, and up to 40% of women at risk for these disorders. Research reveals an association between poor sleep quality/quantity and symptoms of anxiety, depression and psychosis. The aim of this systematic review was to evaluate the available evidence for the relationship between sleep and postpartum mental disorders.

Methods: Searches included MEDLINE, EMBASE, and EBM Reviews – Cochrane Central Register of Controlled Trials, PsycINFO and EBSCOHost CINAHL through June 30, 2014. Manual searching was performed on reference lists of included articles. Published primary research in any language was included.

Results: There were 3187 unique titles/abstracts and 44 full-text articles reviewed. Thirty-one studies were included. Evidence was found for the impact of self-reported poor sleep during pregnancy and the postpartum on the development of postpartum depression, with not enough evidence for either postpartum anxiety or psychosis. The evidence for objectively assessed sleep and the development of postpartum disorders was mixed. Among the 31 studies included, 1 was strong, 13 were moderate and 17 were weak.

Limitations: Research design, method of assessment, timing of assessment, recruitment strategies, representative adequacy of the samples and inclusion/exclusion criteria all varied widely. Many studies did not use tools validated for the perinatal population and had small sample sizes without power analysis.

Conclusions: Sleep interventions represent a potential low-cost, non-pharmacological prevention and treatment strategy for postpartum mental illness. Further high-quality research is needed on this topic area.

Contents

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1. Introduction

Postpartum depression (PPD), anxiety (PPA) and psychosis (PPP) are serious conditions that affect approximately 10–15% of women after childbirth (Moses-Kolko and Roth, 2004; Steiner, 1998). Symptoms of all three postpartum mental disorders typically endure for anywhere from 2 to 12 months (Cooper et al., 1988; Heron et al., 2008), however postpartum mental illness and its consequences can persist for years following childbirth (Dennis et al., 2012). In some cases postpartum disorders become chronic and persist through more than one pregnancy (Kendler et al., 1993). Furthermore, between 20% and 40% of women with a previous history of postpartum depression are likely to suffer a relapse after birth (Austin and Lumley, 2003). Co-morbid disorders are common in women with postpartum disorders and mental illness is often complicated by issues of drug and alcohol abuse and domestic violence (Cooper and Murray, 1995). Postpartum mental illnesses are among the leading causes of morbidity and maternal death in the perinatal period (Austin et al., 2007).

Postpartum mental illness can also have a significant adverse effect on neonatal outcomes, such as low birth weight, decreased fetal growth and preterm birth (Apter et al., 2011; Dayan et al., 2002; Hoffman and Hatch, 2000; Kelly et al., 2002; MacCabe et al., 2007; Misri and Kendrick, 2007; Orr et al., 2002; Rogal et al., 2007; Steer et al., 1992; Wiencrot et al., 2012). These disorders can negatively impact infant development and health, as well as the health of other family members (Apter et al., 2011; Bacchus et al., 2004; Barnett et al., 1993; Campbell et al., 1995; Civic and Holt, 2000; Murray and Cooper, 1997; O'Connor et al., 2002). Parental relationships are often disrupted when one partner suffers from a mental illness, and some mothers must act as the primary caregiver for infants and young children while managing mental illness (Patel et al., 2004). Difficulties in the mother–child relationship (particularly attachment disruptions) and emotional dysregulation are major consequences of postpartum disorders (Apter-Danon and Candilis-Huisman, 2005). The most extreme outcomes include infant abuse, neglect (Chandra et al., 2006) and infanticide (Spinelli, 2004).

The causes of postpartum mental disorders are not fully understood, although certain factors have been found to correlate with increased risk. For example, it is well known that women who have symptoms of depression and/or anxiety during pregnancy or who have personal or family histories of depression are at high risk for developing PPD and PPA (Matthey et al., 2003; Steiner, 2002). Marital conflict, low socioeconomic status, stressful life events, and lack of social support are also known to be strongly associated with increased risk for PPD, PPA and PPP (Beck, 2001; Kendell et al., 1987; McKee et al., 2001; O'Hara and Swain, 1996; Steiner, 2002), while a history of bipolar disorder or postpartum psychosis (PPP) are significant risk factors for PPP (Doucet et al., 2011). Despite this and other research, no single causative factor has been isolated for PPD, PPA or PPP.

The association of sleep disruption with psychiatric disorders was first described by the founder of modern psychiatry (Kraepelin, 1909). Since this time evidence has accumulated that shows that insomnia and poor sleep quality/quantity independently increases the risk of depression and anxiety in non-psychiatric, non-postpartum populations (Alvaro et al., 2013; Baglioni et al., 2011; Breslau et al., 1996; Buysse et al., 2008; Riemann and Voderholzer, 2003; Taylor et al., 2003). For example, research indicates that major depression in up to 90% of cases is accompanied by disturbances of sleep continuity, regardless of diagnostic subtype (Mendelson, 1977; Winokur et al., 1969) and non-depressed people with insomnia have a twofold risk to develop depression, compared to people with no sleep difficulties (Baglioni et al., 2011). Recent studies have established high comorbidity rates between sleep disturbances and anxiety (Alfano et al., 2007; Spoormaker and van den Bout, 2005; Taylor et al., 2005), rates which vary across different anxiety disorders (Johnson et al., 2006). Longitudinal associations have also been established between sleep disturbances, anxiety, and depression (Baglioni et al., 2011; Fichter et al., 2009). Emerging research on this association in psychosis shows sleep disturbance to be a significant predictor of psychosis (Lunsford-Avery et al., 2013; Zanini et al., 2013), even when controlling for depression (Lee et al., 2012). According to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) sleep disturbances are one of the hallmarks of depression and anxiety, and are associated with psychosis (American Psychiatric Association, 2013).

Women experience dramatic changes to their sleep pattern and sleep quality beginning in late pregnancy and extending well into