Perinatal Sleep Problems

Causes, Complications, and Management

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KEYWORDS

• Sleep • Insomnia • Pregnancy • Peripartum • Postpartum

KEY POINTS

- Changes in sleep duration and sleep fragmentation during the perinatal period are well-documented using subjective and objective measures.
- Sleep deficiency indicating the need for more targeted sleep intervention is caused by sleep disorders, physiologic changes, or alterations in mood.
- Evidence-based behavioral and pharmacologic interventions are used effectively in this population.

Changes in sleep occur throughout pregnancy and the postpartum period, with sleep disturbance typically increasing in the later months of gestation and first few postpartum weeks. The course and nature of sleep disturbance in the perinatal period has been well-documented via self-report measures and objective measures, such as actigraphy (a wearable device designed to detect sleep and wake) and polysomnography (PSG; overnight sleep study). A growing body of literature has shown that these changes in sleep patterns, historically seen as normal and tolerable, have the potential to serve as a catalyst for negative physical and mental health consequences. Thus improving sleep can serve as a modifiable risk factor for intervention throughout this important period of adulthood.[1] This is particularly pertinent to women today because the number of women working throughout pregnancy and in early postpartum has grown exponentially in recent years,[2] limiting many of the more obvious options for treating perinatal sleep problems, such as sleeping in or scheduling naps.

The present review provides a synopsis of subjective and objective changes in sleep patterns during the perinatal period. Causes and complicating factors that increase the risk for problematic sleep deficiency and its consequences are then summarized, and potential management strategies are discussed.

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SUBJECTIVE SLEEP

Several different self-report methodologies have been used to explore perceived changes in sleep during the perinatal period, including single-item questions, structured interviews, questionnaires assessing multiple domains of sleep, and daily sleep diaries. Most studies have used the latter 2 options because they provide comprehensive information without the burden of time and resources to train and schedule staff to conduct interviews.

Questionnaires

Multiple self-report questionnaires have found a similar pattern of sleep changes throughout pregnancy and the early postpartum period. Two of the most common questionnaires used have been the General Sleep Disturbance Scale (GSDS)[3] and the Pittsburgh Sleep Quality Index (PSQI).[4]

The GSDS was initially designed for women and has often been used in perinatal populations.[5,6] This 21-item questionnaire assesses perception of sleep during the previous week, covering a variety of general sleep issues, including difficulty initiating sleep, waking up during sleep, quality of sleep, daytime sleepiness, and substance use. All questions are answered on a Likert scale from 0 to 7 and added together resulting in a total score between 0 and 147, with greater than 43 as a cutoff for poor sleepers. Several studies have found mean scores of women to be greater than 43 in the third trimester and first postpartum month, nearing or dropping below the cutoff around the third postpartum month.[6–10]

The PSQI has also been well-validated in this population.[11] This 19-item questionnaire assesses perception of sleep over the previous month, covering the domains of sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbances, use of sleep medications, and subsequent daytime dysfunction. Each domain is scored separately and the domains are added together to produce a global score between 0 and 21, with a score greater than 5 as a cutoff distinguishing poor sleepers from good sleepers. Several studies have used the PSQI to examine sleep earlier in pregnancy. Those studies that have observed women longitudinally reported a gradual increase in score (indicating worsening sleep) from early to late pregnancy, with a sharp increase in the days and weeks immediately following birth and a slow decline through the postpartum months (indicating a return toward good sleep).[12–18] Moreover, in most of the studies that have administered the PSQI at any point during this time period, mean scores at every time point from first trimester through early postpartum exceeded the cutoff score of 5, indicating poor sleep throughout this period.[12,14–17,19–21] The one exception to this was a study by Okun and colleagues, who found mean scores of 4.9 and 4.5 in the first and second trimester, respectively. This is perhaps because of a small sample size (n = 19) of primarily well-educated, married, working women with resources to help optimize sleep, although even this group neared the cutoff score.

Sleep Diaries

The purpose of a sleep diary is to prospectively assess daily sleep over a given period of time by having an individual complete several questions regarding the previous day and night, preferably on awakening, to help ensure within subject validity and consistency of data collection across subjects. Although there are several variations of sleep diaries in circulation, most provide the same standard sleep parameters, including total sleep time (TST) during the previous night and/or the previous 24 hours, sleep onset latency (SOL, amount of time taken to fall asleep), and wake after sleep onset (WASO,