



THE RESTLESS NIGHTS OF PREGNANCY: A COMPREHENSIVE ANALYSIS OF MATERNAL SLEEP HEALTH

Obstetrics & Gynaecology

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KEYWORDS

INTRODUCTION

Sleep is essential for the health of pregnant women and their babies¹. It supports physical restoration, cognitive function, and blood sugar regulation, while inadequate sleep increases the risk of complications such as painful labour, preterm birth, low birth weight, gestational diabetes, and preeclampsia².

Pregnancy-related physical, hormonal, and physiological changes—such as frequent urination, nausea, back pain, fetal movements, and discomfort with sleeping position—commonly disrupt normal sleep^{3,4}. These disturbances often present as difficulty falling asleep, insomnia, repeated awakenings, or early morning waking⁵.

Sleep disorders are highly prevalent in pregnancy, with estimates ranging from 46% to 79%, and sleep quality typically worsens in the third trimester⁶. Poor sleep is also associated with stress, antenatal and postpartum depression, and influenced by factors such as age, income, gestational stage, and overall economic or psychological stress⁶.

Lifestyle factors related to sleep remain under-explored, which motivates this study.

AIM & OBJECTIVES

Aim:

To assess sleep quality among pregnant women using the Pittsburgh Sleep Quality Index (PSQI).

Objectives:

- To determine the prevalence of poor sleep quality.
- To evaluate sleep latency, sleep duration, sleep efficiency, sleep disturbance, use of sleep medication, and daytime dysfunction.

MATERIALS AND METHODS

This cross-sectional study was conducted in OBG department at Akash Institute of Medical Sciences and Research Centre on 108 pregnant women in their second and third trimesters. Sleep patterns were evaluated using the Pittsburgh Sleep Quality Index (PSQI), which measures sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbances, use of sleep medications, and daytime dysfunction. Data were entered into Microsoft Excel and analyzed using SPSS version 26. Categorical variables were summarized using frequencies and percentages, and a p-value ≤ 0.05 was considered statistically significant.

Inclusion Criteria

Pregnant women in 2nd and 3rd trimester

Exclusion Criteria

Pregnant women with previously diagnosed sleep disorders, High risk pregnancy

RESULTS

The study found that sleep disturbances were highly prevalent among the 108 pregnant women assessed, with 36.1% experiencing poor overall sleep quality. Nearly 74% required more than 15 minutes to fall asleep, and more than half slept fewer than 7 hours per night, with 15.7% sleeping less than 5 hours. Sleep efficiency was reduced in many participants, with 43% scoring below 75% efficiency. Sleep disturbances were common, as 58.3% reported mild and 27.8% moderate disturbances, while none used sleep medications. Daytime dysfunction was also notable, with over 70% reporting mild to moderate impairment. Overall, the findings indicate that prolonged sleep latency, insufficient

sleep duration, and reduced sleep efficiency were the major contributors to poor sleep quality among pregnant women.

Participant characteristics are summarized in Table 1. PSQI component results are presented in Table 2 and Figures 1–5.

Table 1. Characteristics of Study Participants (n = 108)

Characteristic	Category	Frequency (n)	Percentage (%)
Age (years)	19–23	44	40.7
	24–28	51	47.2
	29–33	13	12.0
Trimester	2nd Trimester	48	44.4
	3rd Trimester	60	55.6
Parity	Primigravida	43	39.8
	Multigravida	65	60.2
Occupation	Working	26	24.1
	Housewife	82	75.9
BMI	Underweight	6	5.6
	Normal	90	83.3
	Overweight	10	9.3
	Obese	2	1.9
Smoking	Smoker	0	0.0
	Non-Smoker	108	100.0
Alcohol	Alcohol use	0	0.0
	No alcohol use	108	100.0

Table 2. Sleep Pattern of Participants (PSQI components)

Overall Sleep Quality

Category	Frequency (n)	Percentage (%)
Good	69	63.9
Poor	39	36.1

Sleep Latency

Latency	Frequency (n)	Percentage (%)
< 15 min	18	16.7
16–30 min	47	43.5
31–60 min	33	30.6
> 60 min	10	9.3

Sleep Duration

Duration	Frequency (n)	Percentage (%)
> 7 hours	23	21.3
6–7 hours	37	34.3
5–6 hours	31	28.7
< 5 hours	17	15.7

Sleep Efficiency

Efficiency	Frequency (n)	Percentage (%)
> 85%	33	30.6
75–84%	29	26.9
65–74%	27	25.0
< 65%	19	17.6

Sleep Disturbance

Disturbance	Frequency (n)	Percentage (%)
None	12	11.1
Mild	63	58.3
Moderate	30	27.8
Severe	3	2.8

Use of Sleep Medication

Category	Frequency (n)	Percentage (%)
None	108	100.0

Daytime Dysfunction

Dysfunction	Frequency (n)	Percentage (%)
Mild	46	42.6
Moderate	30	27.8
Severe	2	1.9

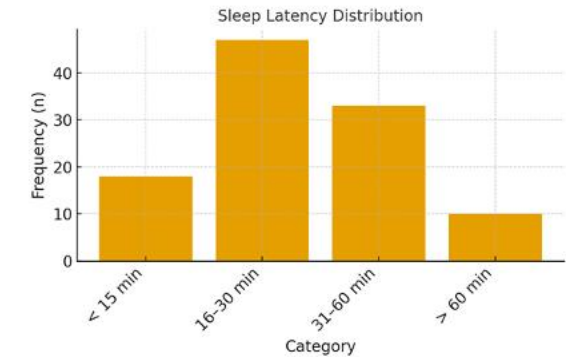


Figure 1. Sleep Latency Distribution

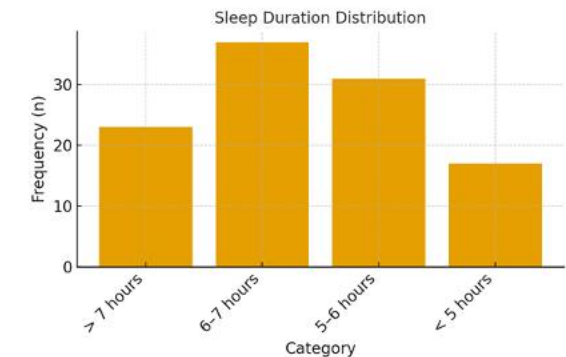


Figure 2. Sleep Duration Distribution

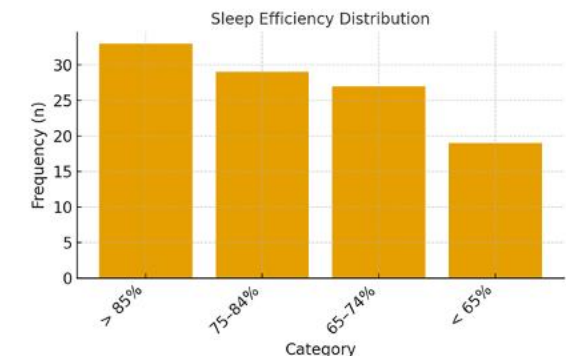


Figure 3. Sleep Efficiency Distribution

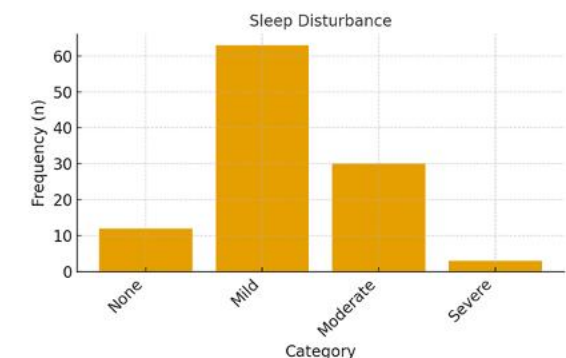


Figure 4. Sleep Disturbance

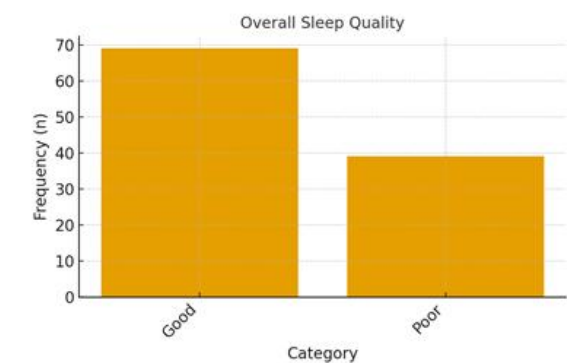


Figure 5. Overall Sleep Quality

DISCUSSION

In our study, sleep disturbances were highly prevalent among pregnant women, with 36.1% experiencing poor overall sleep quality. Prolonged sleep latency emerged as a major contributor, as nearly three-quarters of participants required more than 15 minutes to fall asleep, and a considerable proportion took over 30 minutes. This pattern is consistent with findings by Taskiran et al., who attributed delayed sleep onset to pregnancy-related discomforts such as back pain, frequent urination, and difficulty achieving a comfortable sleeping position⁴. Reduced sleep duration was also prominent, with almost half of the women sleeping fewer than 6 hours per night-aligning with reports from Smyka et al. and other international studies showing that sleep progressively worsens as pregnancy advances⁵. Sleep efficiency was similarly affected, with over 40% demonstrating efficiency below 75%, reflecting fragmented sleep and frequent awakenings commonly reported in late gestation. Although none of the participants used sleep medications, mirroring global concerns regarding fetal safety, daytime dysfunction was reported by more than 70% of women, supporting earlier evidence linking poor antenatal sleep to impaired cognition, fatigue, and reduced daily functioning. Taken together, our findings reinforce that maternal sleep quality declines with advancing pregnancy and is influenced by both physiological and psychosocial factors. This highlights the need for routine antenatal screening for sleep disturbances and the incorporation of non-pharmacological interventions such as sleep-hygiene counseling, relaxation techniques, and positional adjustments to improve maternal wellbeing and reduce adverse pregnancy outcomes.

CONCLUSION

A substantial number of pregnant women experience poor sleep quality, largely driven by prolonged sleep latency, inadequate sleep duration, and reduced sleep efficiency. These disturbances often intensify as pregnancy progresses and can contribute to a range of maternal complications, highlighting the importance of early detection and intervention. Incorporating routine screening for sleep problems into antenatal care, coupled with timely counselling and non-pharmacological support, can greatly enhance maternal wellbeing. By addressing sleep concerns proactively, healthcare providers can help reduce the risk of associated physical and psychological complications, promote healthier pregnancies, and improve outcomes for both mother and baby.

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