

A cross sectional study of correlation of Quality of sleep and Depression in pregnant women in tertiary care center in Marathwada

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Abstract

Background: The increasing recognition of antenatal depression is an emerging area of concern in developing countries. Several risk factors are associated with the maternal depression including poor quality of sleep. Maternal depression is further associated with poor pregnancy outcomes such as preterm delivery, preeclampsia, post-natal depression etc., hence, it’s important to study the correlation between quality of sleep and maternal depression.

Aim and objective: The study explores the correlation of quality of sleep and depression in pregnant women.

Material and Methods: This is a cross sectional study conducted in outpatient as well as Inpatients in the department of Gynecology. The study included 150 subjects. Sample size was calculated using Cochran’s Formula and previous studies showing prevalence of ~10.3. The Quality of sleep was assessed using Pittsburgh

Sleep Quality Index and Maternal depression was assessed using Edinburgh Postnatal Depression scale. Descriptive and analytical statistics was applied.

Significance: Current study sheds light on quality of sleep and depression in pregnant women. As poor quality of sleep is associated with maternal depression, the findings will further emphasis on the correlation between the two variables. As maternal depression is associated with adverse perinatal outcomes, the findings have implications for timely interventions for mother for better quality of life and improving the outcomes of pregnancy.

Results: Total 146 women were included who fulfilled the inclusion and exclusion criteria. Out of 146 women, 13 had poor quality of sleep (8.9%) as measured by PSQI and 6 women (4%) had possible features of depression as measured by EPDS.

Conclusion: Acc to the study, poor sleep-in pregnant women is associated with increased risk of developing

depressive features. The findings indicate the critical role of sleep quality as a determinant of mental well-being during pregnancy. The study highlights the importance of screening of pregnant women for poor quality of sleep and depressive symptoms and offering the timely intervention to address the sleep issue and decrease the risk of perinatal depression. Designing interventions like sleep hygiene education, cognitive behavioral therapy, pharmacological interventions could be explored.

Keywords: Depression, Pregnancy, Sleep.

Introduction

Pregnancy is a miraculous interplay of biology, emotions and Societal significance. Women experience a lot of changes throughout the pregnancy. A behavior to change the most dramatically is Sleep. Sleep is essential for normal growth and development of mind and body. During pregnancy, good and adequate sleep is important for the normal growth and development of the fetus. Most sleep professionals advocate at least 7-8 hrs of sleep every night.(2) Sleep deprivation is a lack of sufficient amount of restorative sleep over the period of time ,which causes psychiatric and physical symptoms and affects day to day performance (2).According to National sleep foundation women and sleep , almost 79% pregnant women experience sleep disturbances(3).According to a few cross sectional studies, poor quality of sleep is associated with the development of perinatal depression(4) (19) (13). Perinatal depression includes development of depression in antenatal period upto one year postpartum(4) affecting almost 7-13%of pregnant women(6.)while previous Indian studies have reported a wide range of prevalence of antenatal depression between 9.8%-36.75%(7)Therefore sleep during pregnancy becomes an important element to be assessed and corrected if there is a problem. t.(5).Several other risk factors are associated

with the development of maternal depression during antenatal period including poor social support, poor nutrition ,disturbed sleep ,economic deprivation, unplanned pregnancy, ,gender based violence to name a few. Women who experience symptoms of depression are more likely to have difficulties in establishing and sustaining mother-infant interactions, difficulties in adhering to preventive health services to the infant and diminished maternal role gratification (1) Furthermore, maternal depression not only affects mother but also is associated with adverse perinatal outcomes such as preterm birth, preeclampsia, Intrauterine growth retardation ,low birth weight, postpartum depression(2,)(18)

Hence, antenatal depression is an area of growing concern amongst developing countries.(7) In this study , we aim to assess the quality of sleep in pregnant women attending OPD as well as IPD services at tertiary care hospital , Aurangabad using Pittsburgh Sleep Quality Index (PSQI)and its correlation with antepartum depression using Edinburgh Postnatal Depression (EPDS) scale.Both scales have been validated in Indian population(8,9).This data will add some critical information in our current understanding of the relation between sleep quality and depression.

Aim

To study the correlation of quality of sleep and depression in pregnant women in tertiary care centre in Marathwada

Objectives

1. To study the quality of sleep-in pregnant women.
2. To study the prevalence of depression in pregnant women.
3. To study the correlation between the quality of sleep and depression in pregnant women.

Material and Methods

Study design

Cross sectional observational study

Study Setting

Outpatient as well as Inpatient Department of Gynecology GMCH Aurangabad.

Study Population

Pregnant women attending OPD as well as IPD services in the Department of Gynecology and Obstetrics.

Sample Size Using Cochran's formula, sample size has been calculated between 142-156

Inclusion Criteria

Pregnant women who will give consent for the study.

Exclusion criteria:

Patients not willing to participate in study, patients with known case of psychiatric illness, persons with physical disability

Sampling technique

Convenient sampling technique was used.

Approval for the study

Written approval from Institutional Ethics committee was obtained beforehand. Written approval of Psychiatry department and related department was obtained. After obtaining informed consent from patients, such subjects were included in the study.

Methods of Data Collection and Questionnaire

Pre-designed and semi structured questionnaire was used to record the necessary information. Questionnaires included general information, sociodemographic details such as sex, age, address, education, occupation etc. Questionnaire also included h/o psychiatric illness in the past &/ family, obstetrics history, marital and sexual history. Clinical examination with detailed mental status examination was conducted.

Pittsburgh Sleep Quality Index was applied to assess the quality of sleep and Maternal depression was assessed using Edinburgh Post natal depression scale.

Analysis

Data was entered in Microsoft Excel and the statistical Analysis was done using the trial version of SPSS software.

Results and Observations

Total 146 women were included who fulfilled the inclusion and exclusion criteria. Out of 146 women, 13 had poor quality of sleep (8.9%) as measured by PSQI and 6 (4.1%) had possible features of depression as measured by EPDS.

Average age of the subjects in the study is 25.99 +/-3.45 (Mean +/- SD).

Table 1: Age wise distribution of PSQI

		PSQI	
		Poor	Good
Age	<25	6	40
	>=25	7	93

Total 13 women had poor quality of sleep, out of which 6 were <25 yrs of age, & 7 were >= 25 yrs.

Table 2: Obstetric history wise distribution of Poor & Good PSQI

		PSQI	
		Poor	Good
Obstetric history	Primi	4	57
	Multi	9	76

Out of 13 women who had poor quality of sleep, 4 were primigravida and 9 were multigravida.

Table 3: History of psychiatric illness wise distribution of PSQI

		PSQI	
		Poor	Good
H/O Psychiatric illness	Yes	5	1
	No	8	132

Out of 13 women who had poor quality of sleep, 5 had history of psychiatric illness in family.

Table 4: Age wise distribution of EPDS

		EPDS	
		>8	</=8
Age	<25	3	44
	>/=25	3	96

6 women out of 146 participants scored more than 8 which is suggestive of having a possibility of depression.

Table 5: Obstetric history wise distribution of EPDS

		EPDS	
		>8	</=8
Obstetric history	Primi	2	60
	Multi	4	80

Out of 6 women who had a possibility of having depression, 2 were primigravida and 4 were multigravida.

Table 7: History of Psychiatric illness wise distribution of EPDS

			EPDS	
			>8	</=8
H/O Psychiatric illness	Yes	1	5	
	No	5	135	

Out of 6 women who had a possibility of depression, 1 had family history of psychiatric illness.

Table 8: Association of PSQI and EDPS

Variable		EPDS		p Value
		Score >/=9	Score </=8	
PSQI	Poor	6	7	.00001
	Good	0	133	

When we compare the PSQI with EPDS for association by applying Fisher exact test that in trial version SPSS software, p-value is 0.00001 which is less than 0.05 and hence we say that PSQI and EPDS have statistically significant association.

Discussion

The aim of the study to study the correlation of poor quality of sleep and depression in pregnant women.

In the study, it was found that out of 146 females who participated, 8.9% had poor quality of sleep as compared to 17% found by Gelaye et al as measured by PSQI. 4.1% of the study participants showed possible features of depression as measured by EDPS. Wide variation in prevalence of antenatal depression has been observed in India in previous studies 9.8%-36.75%. When we applied Fisher Exact test, poor quality of sleep has a significant association with depression in pregnant women.

Conclusion

According to the study, poor sleep in pregnant women is associated with increased risk of developing depressive features. The findings indicate the critical role of sleep quality as a determinant of mental well-being during pregnancy. The study highlights the importance of screening of pregnant women for poor quality of sleep and depressive symptoms and offering the timely intervention to address the sleep issue and decrease the risk of perinatal depression. Designing interventions like sleep hygiene education, cognitive behavioural therapy, pharmacological interventions could be explored.

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