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Assessment of anxiety and quality of sleep in postpartum mothers

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Dr Satya prakash[1], Dr Vikram Singh[2], Dr Suresh Gocher[3]

1. Dr Satya prakash, Associate Professor, Department of Psychiatry, VIMS Gajraula UP, India,S.prakash9395@gmail.com
2. Dr Vikram Singh, Assistant Professor, Department of Psychiatry, Government Shri Kalyan Medical College, Sikar, Rajasthan, India
3. Dr Suresh Gocher, Professor and Head, Department of Psychiatry, RNT Medical College, Udaipur, rajasthan, India, sureshgocher1981@gmail.com

Corresponding author:
Dr Satya prakash, Associate Professor, Department of Psychiatry, VIMS Gajraula UP, India,S.prakash9395@gmail.com

Abstract

Background:
Postpartum depression (PPD) occurs in 15% to 20% of mothers worldwide and is associated with adverse outcomes for mother and child. Prior research has established a relationship between concurrent sleep quality and PPD.

Aim and objective: To determine the sleep quality, sleep efficiency, and level of anxiety in postpartum mothers.

Method: This multi-centered, cross-sectional study was conducted on 120 postpartum mothers. The data were collected from VIMS Gajraula, UP. A non-probability convenient sampling technique was used. post-partum mothers. Mothers aged between 14 and 45 years within one year of postpartum, coming to OPDs of psychiatry departments, were included in thestudy**.** Standard Pittsburgh Sleep Quality Index (PSQI), Beck Anxiety Inventory questionnaires, and a checklist containing demographic fertility were used for data collection.

Results: The mean age of mothers was 27.9 ± 4.8 years (range 22–40). We found that 62.5% of mothers were using both breast and bottle feed to feed their babies. About 20% breastfeed their babies, while 64.2% use both breast and bottle feeding. No female was a smoker, but many had experienced passive smoking. There were 87.5% of mothers with moderate sleep difficulties, whereas 54.17% of the mothers had a moderate level of anxiety.

Conclusion: Lactating women experience a moderate level of anxiety. Havefairly good quality of subjective sleep, relatively better sleep efficiency, and overall above average sleep quality within one year of postpartum.

Keywords: anxiety, postpartum, sleep efficiency, sleep quality.

Introduction

Anxiety is an unpleasant emotional state characterized by feelings of anxiety, sadness, excitement, stress, and panic [1]. Postpartum anxiety is a type of anxiety disorder in women [2], which reflects their concerns about their new responsibilities and their acceptance of the new motherhood role [3]. In some cases, due to the increasing severity of anxiety disorders, further evaluations and interventions are essential [4]. Evidence suggests that postpartum anxiety disorder is a common mental disorder in the postpartum period, which affects 20% to 50% of young mothers [5]. It is a less commonly diagnosed disorder that may occur alone or along with depression [3]. In Iran, the rate of postpartum anxiety has been estimated at 15-20% [6]. It is known that postpartum anxiety can cause fatigue, low self-esteem, and reduced satisfaction with the motherhood role in women [7]. Besides, if postpartum anxiety persists, it can lead to anxiety disorders, which can increase the risk of postpartum depression [8].

Numerous factors, including sleep disorders, affect postpartum psychiatric disorders [9]. Sleep is an organized behavior that is repeated as a vital necessity based on the biological rhythm [10]. Sleep disorder is characterized by sleeping difficulties, poor sleep quality, and

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daytime dysfunction [11]. The prevalence of this disorder is twice higher in women than in men, and pregnant women are more vulnerable to it compared to their non-pregnant counterparts [12]. Generally, sleep disorders are one of the most common problems during pregnancy. Their prevalence varies from 13% in the early first trimester to 74% in the late third trimester [13]. From almost 12 weeks of gestation until two months after delivery, pregnant women experience sleep problems, reduced sleep time, repeated late-night waking, sleeping difficulties, and disturbances in the deep stages of sleep, especially stages 3 and 4, which determine the quality of sleep, daytime drowsiness, excessive and frequent snoring, and breathing problems, such as obstructive sleep apnea [14]. The cause of these changes is a gradual increase in the concentrations of estrogen and progesterone, which are hormones related to sleep homeostasis [15]. Besides, mechanical factors, such as fetal growth, uterine contractions, abdominal pain, recurrent diuresis, leg cramps, and gastroesophageal reflux disease (GERD), negatively affect sleep quality [16].

Mothers with poor quality of sleep experience fatigue, poor functional status, and early weaning from breastfeeding. Poor quality of sleep not only affects the mothers but can also impair the development of their infants. [17]Changes in psychological well-being and social status affect the quality of sleep of new mothers. [18-19] Nearly 84% of the postpartum women reported that they are experiencing sleep disturbances for at least a few nights per week for up to 6 months postpartum. [20] Many postpartum women are unaware of the benefits of postpartum exercises, and they remain physically inactive. Hung and Chenreported a significant reduction in stress and hence sleep quality with exercise and suggested that women should perform gymnastic exercises with moderate intensity in the postpartum period. [21] Another study found that the women who performed physical activities during their pregnancy period are less prone to the risk of having depression symptoms in their postpartum period. [22] The aim of the study was to explore the sleep quality, sleep efficiency, and the level of anxiety within one-year postpartum mothers.

Material and Method

This cross-sectional study was conducted on 120 postpartum mothers. By opting for the non-probability convenient sampling technique, data were collected from VIMS Gajraula, UP. Sample size was calculated on Epitool software, and it was 120. The project was briefed out to the patients, and after their willing consent, data were taken. The study was approved by the institutional ethical committee, and informed consent was obtained from all women. Lactating mothers aged between 14 and 45 years within one year of postpartum, both multiparous, were included in the study. Mothers having any metabolic disease or any kind of infection, any diagnosed psychological disorder, e.g., depression, schizophrenia, insomnia, etc., and single mothers were excluded. The Pittsburgh Sleep Quality Index **(**Cronbach's alpha: 0.83, test-retest reliability: 0.85) was used for evaluation of sleep quality. 10 It is a standardized questionnaire broadly used to assess the quality of sleep in multiple components, including subjective sleep quality, sleep latency, sleep efficiency, medication use for sleep, sleep disturbances in the daytime, etc. The Beck Anxiety Inventory questionnaire (Cronbach's a = 0.89, test retest reliability = 0.75) was used for anxiety level assessment. A checklist containing demographic fertility was also added to the questionnaire.

Statistical Analysis

The data were analyzed by SPSS version 18. Measure of central tendency and central. Dispersion was calculated for quantitative variables, whereas frequencies and percentages were measured for qualitative or categorical variables.

Result

The mean age of mothers was 27.9 ± 4.8 years (range 22–40). Mothers with one child minimum and four children maximum had participated in the study (Table 1). Various demographic variables are shown in Table 2. The Pittsburgh sleep quality index was analyzed deeply and extracted subjective sleep quality, sleep duration participants had, sleep efficiency, overall sleep quality, and level of difficulty faced while sleeping (Table 3).

ISSN: 0975-3583, 0976-2833 VOL11, ISSUE 4, 2020

Table 1: Descriptive statistics for age, parity, and sleep efficiency (n = 120)

Variable	Mean	Standard devition
Age	27.9	4.8
Parity	1.74	0.64
Sleep Efficiency	84.08	13.18

Table 2: Descriptive statistics for demographic variables.

Variable	**Construct**	**Frequency**	**%**
Type of delivery	Cesarean section	**65**	**54.17**
	Normal vaginal delivery	**55**	**48.8**
Type of feed	Bottle feeding	**20**	**16.7**
	Breast feeding	**25**	**20.8**
	Both	**75**	**62.5**
Physical Activity	Less than 1 hour per week	**40**	**33.3**
	Less than 2-3 hours per week	**55**	**48.8**
	More than 3 hours per week	**25**	**20.8**
Occupation	House wife	**85**	**70.8**
	Employed	**25**	**20.8**
Smoking	Yes	**0**	**0**
	No	**120**	**100**
Passive Smoking	Yes	**20**	**16.7**
	No	**100**	**83.3**
Time in minutes take to fall asleep	Between 5 and 20 minutes	**105**	**87.5**
	Between 21 and 35 minutes	**14**	**11.67**
	Between 36 and 50 minutes	**1**	**0.83**

Table 3: Descriptive statistics for Pittsburgh Sleep Quality Index (n = 120)

Variable	**Construct**	**Frequency**	%
Sleep Duration	More than 7 hours	75	62.5
	Between 6 and 7 hours	25	20.8
	Between 5 and 6 hours	16	13.3
	5 hours or less	4	3.3
During the past month, how would you rate your sleep quality overall?	Very good	5	4.2
	Fairly good	65	54.2
	Fairly bad	40	33.3
	Very bad	10	8.33
Difficulty level while	Mild difficulty in	2	1.7

ISSN: 0975-3583, 0976-2833 VOL11, ISSUE 4, 2020

sleeping	sleeping		
	Moderate difficulty in sleeping	105	87.5
	Severe difficulty in sleeping	13	10.8
	Very good	5	4.2
Subjective Sleep Quality	Fairly good	60	50
	Fairly bad	45	37.5
	Very bad	10	8.3
Sleep Quality	Poor sleep quality	40	33.3
	Good sleep quality	80	66.7

Table 4: Descriptive statistics for Beck Anxiety Inventory (BAI) (n = 120)

Variable	**Construct**	**Frequency**	%
	Low Anxiety	**50**	41.7
Level of Anxiety	Moderate Anxiety	**65**	54.17
	Potentially concerning levels of anxiety	**5**	4.16

The Beck Anxiety Inventory was used for measuring the level of anxiety within one year of postpartum (Table 4).

Discussion

The current study showed that a mild level of anxiety was mostly present in the lactating women. We used the Petersburg Sleep Quality Questionnaire and the Beck Anxiety Inventory for assessment of sleep quality and level of anxiety. Same was found in an earlier study. [23] Low-intensity exercises can improve the subjective sleep of postpartum lactating mothers. [24-25] The current study found a fairly good level of sleep quality in postpartum women. But in contrast to the current study, another study found poor quality of sleep during pregnancy and postpartum in the Korean population. [26] According to a study, women with symptoms of depression experienced bad quality of sleep, while women without the symptoms of depression experienced good quality of sleep during the postpartum period. [27]Anxiety during pregnancy and the postpartum period is highly prevalent. In the current study, a moderate level of anxiety was more present in mothers. One study found that in every 5 postpartum women, one was highly anxious. [28]

The postpartum period of a mother requires care and attention from other housemates. During the postpartum period, a woman sacrifices her sleep to take care of the newborn baby. Night awakenings disturb the sleep pattern of a mother. Because of disturbed sleep, a mother becomes less active, less attentive, and lacks concentration. Many studies suggested that a little exercise during that important period will improve the sleep quality of a mother. Moderate levels of anxiety were found in the current study. It is important that the husband and the family share the burden of the mother so that the motherwith anxiety levels moderate or high must be counseled for meditation and mental relaxation. will be able to have a good quality of sleep. Women with anxiety levels moderate or high must be counseled the generalitation and mental rethem intion. Moreover, educational seminars should be conducted for general population to guide them effective strategies to experience better sleep quality and efficiency.

Conclusion

Lactating women experienced a moderate level of anxiety and sleeping difficulty. They had fairly good quality of subjective sleep, relatively better sleep efficiency, and overall above-average sleep quality within one year of postpartum.

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ISSN: 0975-3583, 0976-2833 VOL11, ISSUE 4, 2020

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