

Sleep Quality among Pregnant Women during COVID-19 Pandemic: A Short Report

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Abstract

Background and Objective: During the coronavirus disease 2019 (COVID-19) pandemic, one of the vulnerable groups was pregnant women. This study aimed to determine sleep quality in pregnant women in the third trimester of pregnancy referred to Ibn Sina Health Center in Tabriz, Iran.

Materials and Methods: We performed a cross-sectional study among third-trimester pregnant women in May 2021. To study sleeping habits, we used the Pittsburgh Sleep Quality Questionnaire (PSQI), which had acceptable reliability and validity in Persian to evaluate sleep quality. Participants filled out the questionnaires with the help of healthcare providers in the health center.

Results: A total of 176 pregnant women participated in this study. The mean and standard deviation (SD) of participants' age was 25.9 ± 1.2 years. This study showed that the mean of sleep quality in the third trimester was 9.97 ± 1.81 and the majority of pregnant women (87.79%) had poor sleep quality.

Conclusion: The findings of the current study demonstrated that most pregnant women during COVID-19 had poor sleep quality. Finding ways to improve their sleep quality is important.

Keywords: Sleep quality; Pregnant women; COVID-19

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Introduction

The World Health Organization (WHO) announced the coronavirus disease 2019 (COVID-19) pandemic happened on March 11th, 2020 (1). One of the vulnerable groups was pregnant women (2). For pregnant women, severe respiratory infections, like COVID-19, commonly lead to unfavorable health effects for both the women and infants; the consequences include a high maternal mortality rate, preterm labor, and low birth weight (3).

During the COVID-19 pandemic, considerable alterations in the care of pregnancy consisting of prenatal and postpartum implemented by health

services happened (4). The directly facing visits reduced and the application of telehealth increased. These alterations could have effects on the health of pregnant women (5). Informal comments from healthcare provider groups indicate that the limitations during COVID-19 are developing meaningful mental pressure on pregnant women with surging effects on the gestational providers such as gynecologists, midwives, and allied health professionals caring for pregnant women (4).

Sleep disorders are prevalent conditions during pregnancy and may deteriorate during the COVID-19 pandemic (3). Nearly 60% of pregnant women during the last trimester complained of being tired and more than 75% reported troubled sleep, reduced carefulness, and a demand to sleep during the day (6). Prenatal troubled sleep and tiredness have independently anticipated extended

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labor and cesarean surgery (7). These difficult situations could have adverse clinical effects on not only the mother but also the infant both in a short and long time. Adverse clinical effects include a high risk of gestational hypertensive diseases, gestational diabetes, preterm labor, and postpartum depression (6). Pregnant women's sleep quality has been demonstrated to alter. The prevalence of poor sleep quality at the time of pregnancy differed extensively. A meta-analysis by Sedov et al. before the COVID-19 pandemic reported that near half of pregnant women suffered from poor sleep quality (8). Another study during the COVID-19 pandemic found that because of home quarantine, a meaningful decrease in sleep quality among pregnant women happened (9). The other meta-analysis by Cevik et al. found that the COVID-19 pandemic did not change the prevalence of depression symptoms and anxiety among pregnant women, but it decreased sleep quality (10). While a poor sleep quality ratio was reported at 39.6% in the studies performed before the pandemic, it was reported approximately 90% in the studies performed during the pandemic (11). However, to the best of our knowledge, no studies have been performed in Iran to assess sleep quality among pregnant women in the third trimester of pregnancy, which raises the risk for impaired obstetrical complications and maternal health troubles (7).

This study aimed to determine sleep quality in pregnant women in the third trimester of pregnancy referred to Ibn Sina Health Center in Tabriz, Iran.

Materials and Methods

We performed a cross-sectional study among the third-trimester pregnant women in Ibn Sina Health Center in Tabriz, the largest city in north-west of Iran, in May 2021. Inclusion criteria were: healthy pregnant women during the third trimester, and experiencing no illness. To study sleep quality, we used Pittsburgh Sleep Quality Questionnaire (PSQI), which had acceptable reliability and validity in Persian to evaluate sleep quality (12). The questionnaire has 19 items and contains 7 main factors. Each factor was scored from 0 to 3 points; a lower point suggested no problem, while a higher score showed a worsening condition (12). All 7 factors were summed up to calculate a total score of 0 to 21 points. Then, the total scores were dichotomized into two categories: 5 and less than 5 (good sleep quality), and

more than 5 (poor sleep quality) (12). Participants filled out the questionnaires with the help of healthcare providers in the health center. At the same time, the health providers asked about daily physical activity in minutes. This study was approved by the Ethics Committee of Tabriz University of Medical Sciences (IR.TBZMED.REC.1400.280).

Results

A total of 176 pregnant women participated in this study. The mean and standard deviation (SD) of participants' age was 25.9 ± 1.2 years. This study showed that the mean of sleep quality in the third trimester was 9.97 ± 1.81 and the majority of pregnant women (87.79%) had poor sleep quality. We used independent t-test to compare continuous variables between pregnant women with good and poor sleep quality (Table 1). Our study demonstrated that mean age ($P = 0.030$) and mean daily physical activity ($P = 0.002$) were statistically different between pregnant women with good and poor sleep quality.

Table 1. Comparing age and physical activity between pregnant women with good and poor sleep quality

Variables	Good sleep quality (mean \pm SD)	Poor sleep quality (mean \pm SD)	P-value
Age (year)	26.90 \pm 1.20	32.40 \pm 2.30	0.030
Physical activity (minute)	15.23 \pm 2.58	7.12 \pm 3.14	0.002

SD: Standard deviation

Discussion

Our study evaluated the effect of the life-threatening COVID-19 pandemic on the sleep quality in third trimester in pregnant women. In our study, we observed that the mean score of sleep quality was 9.97 ± 1.81 and more than eighty percent of women had poor sleep quality. Our findings were consistent with a previous study, performed before COVID-19 pandemic in Mashhad, Iran (13). The latter study demonstrated that the mean of sleep quality in the third trimester was 8.27 ± 2.91 and most pregnant women had poor sleep quality (13). The mean sleep quality score was higher in our study (poorer sleep quality) and it may be associated with COVID-19 pandemic-related consequences.

Our study found that mean daily physical activity was statistically different between pregnant women with good and poor sleep quality. Con-

sistent with our study, a relationship existed between the level of pregnant women's physical activity and their sleep quality at 32-36 weeks of gestation (14). However, the universal prevalence of physical activity during pregnancy is low; due to the changes in the woman's body and a feeling of uncertainty and complications associated with pregnancy, pregnant women have decreased levels of physical activity (15). Studies demonstrated that pregnant women who increased their levels of physical activity in the third semester of pregnancy showed improved sleep quality, in comparison with women who kept or diminished their physical activity levels in the third semester of pregnancy (15, 16). On the whole, the pandemic affects women in the third trimester in terms of sleep quality. Maybe possible adverse effects of COVID-19 can be preventable. Therefore, managing an intense, regular, and close prenatal and postnatal care program during the pandemic is required. However, as COVID-19 and other pandemics are ongoing, our information should be approved. In addition, studies in the future should be performed on a more extensive population.

Conclusion

The findings of the current study demonstrated that most pregnant women during COVID-19 had poor sleep quality. Finding ways to improve their sleep quality is important.

Conflict of Interests

Authors have no conflict of interests.

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