Original Article

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Daytime Napping and Nighttime Sleep During Pregnancy and Preterm Birth in Iran

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Objectives: This study investigated the relationship between sleep quality during pregnancy and preterm birth.

Methods: This longitudinal study was conducted between August 2018 and May 2019. The participants were 150 pregnant women who had been referred to 7 healthcare centers in the city of Qazvin, Iran and met the inclusion criteria. The Petersburg Sleep Quality Index, the Epworth Sleepiness Scale, and 2 questions about daytime sleep status and a demographic questionnaire were administered at 14-18 weeks and 28-32 weeks of gestation. Data were analyzed using the Mann-Whitney test, the Fisher exact test, and univariate and multivariable logistic regression.

Results: In the present study, poor sleep quality affected 84.7% of the participants at 14-18 weeks and 93.3% at 28-32 weeks of gestation. The final model for preterm birth prediction incorporated age and the Petersburg Sleep Quality Index score in the second and third trimesters. Preterm birth increased by 14% with each unit increase in age. With each unit increase in the Petersburg Sleep Quality Index score in the second and third trimesters, preterm birth increased by 42% and 28%, respectively, but the *p*-values of these factors were not significant.

Conclusions: Although a significant percentage of pregnant women had poor sleep quality, no significant relationship was found between sleep quality during pregnancy and preterm birth.

Key words: Pregnancy, Premature birth, Sleep, Iran

INTRODUCTION

Preterm birth, which is defined as prenatal birth before 37 weeks of gestation, is the leading cause of infant mortality and is associated with many complications [1]. Each year, approxi-

mately 15 million babies are born prematurely worldwide [2]. The preterm birth rate in the United States has been on the rise since 2014, reaching 9.93% of births in 2017 [3]. In developing countries, especially in South Asia and sub-Saharan Africa, the preterm birth rate is estimated to be more than 15% [4]. Approximately 90% of preterm deliveries occur in developing countries, of which 85% are reported in Asia and Africa [5]. The preterm birth rate in Iran is estimated to be between 5.40% and 19.85%, indicating that preterm birth is a relatively common problem [6].

The etiological, epidemiological, and clinical nature of preterm birth in many cases is unidentified and idiopathic. Researchers have identified preterm birth as a multifactorial complication and have attributed it to individual, social, environ-