

Conference Paper

Sleep Quality of Second Trimester Pregnant Women

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Abstract

Background: Most women experience sleep problem during pregnancy. Poor sleep can adversely affect health, also impacts critically toward the mother as well as the fetus. According to the previous studies, most of the results state that the sleep problem increases along with the gestational age. Yet, the research which focuses on the sleep quality in the second trimester of pregnancy is limited. **Objectives:** The purpose of study is to describe sleep quality of second trimester pregnant women in the Semarang City. **Methodes:** Cross sectional study was conducted in 4 Public Health Centers of Semarang City with purposive sampling in mothers with 20-24 weeks of pregnancy. Number of respondents is 73 pregnant women. Inclusion criteria are pregnant women with 20-24 week of pregnancy, live together with husband, don't have any chronic illness. The instrument backed up using Sleep Condition Indicator (SCI). Results was divided into 4 criteria namely severe sleep problems, some sleep problems, good shape sleep and great shape sleep. Data analysis was using a computer program. **Results:** The result of the study shows that those 73 pregnant women are grouped into several categories, most of them are senior high school (64,38%), second pregnancy (37.8%), Islamic religion (98.63%), household care work (71,23%) and early adulthood (63,01%). Furthermore, it shows that most of pregnant women have a good shape sleep (52,05%), while the pregnant women who have some sleep problem are 16,44%. **Conclusion:** Although the result shows that the percentage of pregnant women who has sleep problem is not as high as the ones who do not, this should not be taken for granted since this problem will influence both the mother's and the fetus' health conditions. For further research it is needed to find the causes of poor sleep quality on pregnant women to solve this problem and to prevent disease which is caused by it.

Keywords: sleep quality, second trimester, pregnant women

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1. Introduction

Sleep is one of basic human needs no to mention for pregnant women. Most women experience sleep problems during pregnancy. Sleep problem is mostly occurred in the first second and third trimester of pregnancy. [1] states that the rate of sleep problem also changes across trimesters, ranging from 13% in the first trimester, 19% in the second, and 66% in the third trimester. In the first trimester, the most common causes of sleep problem are nausea/vomiting, urinary frequency, and backache. Furthermore, on the

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second and third trimesters, it is caused by fetal movements, heartburn, cramps or tingling in the legs, and shortness of breath [2].

Poor sleep could adversely affect health, and it also has critical impact such as hypertension and gestational diabetes. Poor sleep could disturb body's ability to regulate stress hormones which leads to high blood pressure. Lack of sleep increases the risk of diabetes. The risk of Gestational Diabetes Melitus (GDM) was highest in women with poor sleep and longer nighttime sleep duration during early pregnancy [3].

Based on previous research, sleep problem during pregnancy increases with increasing gestational age [1]. However, rarely discussed about sleep problems occur in the second trimester of pregnancy. Previous researcher have discussed sleep quality in the first and third pregnancy [4]. In second trimester, pregnant women should be able to adapt to their pregnancy, yet some of them have poor sleep quality. This research was conducted to see the sleep quality in second trimester to find problem that arise in that phase and so that this problem does not continue in the third trimester as the previous research. Thus this paper aims to describe sleep quality of second trimester pregnant women.

2. Methods

2.1. Study design

This research is a quantitative survey research with cross sectional design.

2.2. Sample

Research sample is 73 pregnant women with 20-24 weeks of pregnancy using purposive sampling. Inclusion criterion is the pregnant women with 20-24 week of pregnancy who live with the husband. We excluded mother with chronic illness. Sample were obtained from the calculation of the Slovin formula with a population of 90 pregnant women in 4 Public Health Centers in Semarang.

2.3. Instrument

The data collection used the Sleep Condition Indicator questionnaire with $r=0,09$ and $\alpha=0,86$ [5]. This questionnaire was developed by Colin Espie, Profesor of Sleep Medicine at The Oxford University. This instrument contains 9 questions with 5 options of answer

and every option has score from 0 until 4 which depend on level of sleep condition. This instrument investigates the time of sleep, time of awakening at night, time of awaken up at the morning, time when the sleep problem occurred and sleep's influence to mood, energy, relationship, concentration and productivity. This questionnaire doesn't have domain on it. Only 9 questions with 4 final results of assessment. The sum of the scores obtained is then grouped into the following: 0-9 means severe sleep problem, 10-18 means some sleep problem appeared, 19-27 means good shape of sleep, 28-36 means great shape of sleep.

2.4. Data collection Procedure

The data collection was conducted in November 2017 at 4 Public Health Centers of Semarang City. The data collection was conducted after ethical consideration from Medicine Faculty Universitas Diponegoro was done. Participants were obtained when they visited the Public Health Centers. Participants filled out the instrument at home accompanied by enumerators. Before collecting the data, researcher was doing a discussion in order to have the same perception with the enumerators (fresh graduates of Bachelor Nurse). After filling out the instrument and checking the data, questionnaire was returned to researcher for analysing.

2.5. Data Analysis

This research is a descriptive quantitative research with one variable. The data was divided into several categories (age, religion, job, educational level, and sleep quality). The collected data was processed by using analysis of computer program (SPSS 17). The data was put on the program according to the data types. The demographic data was analyzed by using distribution frequencies and percentage. Cross tabulation was conducted to all of the demographic data as well as the data of sleep quality in order to draw the data distribution based on the age, religion, job, and educational level without relating the two variables, demographic and sleep quality. This was meant to increase the reliability of the analysis toward the sleep quality which is based on the demographic data.

3. Results

The result from the questionnaire which was filled by 73 of pregnant women shows that characteristics of pregnant women namely senior high school graduates (64,38%), second pregnancy (37.8%), Islamic religion (98.63%), household care work (71,23%), and early adulthood (63,01%). Most of pregnant women state that they have good sleep (52,05%). Meanwhile, the percentage of pregnant women who show some sleep problem is 16,44%. The detailed result is showed at table 1.

TABLE 1: Distribution Frequencies of Demographic and Sleep Quality.

Variable	f (%)
Age (year)	
Late teenager (17-25)	23 (31,51)
Early adulthood (26-35)	46 (63,01)
Late adulthood (36-45)	4 (5,48)
Religion	
Muslim	72 (98,63)
Kristen	1 (1,37)
Education	
Elementary	8 (10,97)
Junior	13 (17,83)
High School	47 (63,41)
Senior High School	2 (2,76)
Diploma Bachelor	3 (4,13)
Work	
Household care work	52 (71,21)
Government employers	3 (4,13)
Private employees	8 (10,97)
Trader entrepreneur	1 (1,37)
	9 (12,32)
Sleep quality	
some sleep problems	12 (16,44)
good shape sleep	38 (52,05)
great shape	23 (31,51)

4. Discussion

Based on data, 16,44% pregnant women have some sleep problem. The sleep quality on the pregnant women alters, furthermore the sleep disturbances are also reported occurred on pregnant women. [6], found that there was reduction in the sleep time

TABLE 2: Cross Tabulation of Distribution Frequencies Demographic Data and Sleep Quality.

Variable	f Some sleep problem (%)	f Good shape sleep (%)	f Great shape sleep (%)
Age			
Late teenager	2 (2,76)	12 (16,44)	9 (12,32)
Early adulthood	9 (12,32)	23 (31,51)	14 (19,18)
Late adulthood	1 (1,37)	1 (1,37)	2 (2,76)
Religion			
Muslim	12 (16,44)	38 (52,05)	22 (30,14)
Kristen	0 (0)	0 (0)	1 (1,37)
Education			
Elementary	1 (1,37)	5 (6,85)	4 (5,48)
Junior High School	1(1,37)	6(8,21)	6(8,21)
Senior High School	7(9,58)	24(32,87)	15 (20,55)
Diploma	0 (0)	2(2,76)	0(0)
Bachelor	2(2,76)	1(1,37)	0(0)
Working as			
Household care work	9(12,33)	28(38,36)	15(20,55)
Government employers	1(1,37)	2(2,76)	0 (0)
Trader	0 (0)	1(1,37)	0 (0)
entrepreneur	3(4,13)	6(8,21)	0 (0)

during the second trimester to 8.0 hours. Alteration in the sleep quality during pregnancy is the effect of neuro-hormonal change especially by the increase of the progesterone level during pregnancy [7].

Data result shows that 52,05% pregnant women have a good sleep quality. That means more than a half sample able to adapt to their pregnancy. Research conducted by[8] states that the pregnant women who sleep less than 6 hours per night has possibility undergoing caesarean section 4 to 5 times greater than those who have more than 6 hours sleep. Thus, pregnant women are advised to sleep 8 hours per night.

All data shows that sleep problem is the smallest number of sleep quality of pregnant women in second trimester except education level. In this case, most of bachelor graduation has a sleep problem. Yet, the research which focuses on corelation between education and the sleep quality in the second trimester of pregnancy is limited. Researcher can not find any data on it.

This research subjectively assesses the sleep quality. It is not covered the investigation on the effects of the sleep problem toward both mother’s and the fetus’ health. The detailed investigation is needed in order to get better understanding on the effect of

th sleep problem toward mother and the fetus. Moreover, the number of the sample is considered as small, in which it may be considered as one of the limitation of this study. Hence further studies toward larger population are required for a better understanding about sleep quality in second trimester pregnant women.

5. Conclusion

The results shows that most of pregnant women have a good sleep, only 16,44% has some sleep problem. Although only a little number of pregnant women has sleep problem but this must not be taken for granted because that will influence both mother's and fetus' health condition.

Conflict of Interest

The authors have no conflict of interest to declare.

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