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Effect of Night Sleep Quality on the Risk of Preeclampsia in Pregnant Women at Pmb Vitri Suzanti Palembang

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Abstract. According to the WHO, in 2020, the prevalence of pregnant mothers who are experiencing sleep disturbance globally is around 41.8%. Data from the United States Health Agency revealed that 78% of pregnant women reported experiencing sleep disturbances during pregnancy. It is known that the effect of night sleep quality on the risk of preeclampsia in pregnant women. The design of this study used a cross-sectional method. The population in this study was all pregnant women with a gestational age of more than 20 weeks who came to PMB Vitri Suzanti S.Keb, Palembang in 2024. The sample of this study was 30. The results of the study showed that the frequency distribution table of pregnant women who had good sleep quality was 13 people (63.3%) and those who had poor sleep quality were 17 people (36.3%), the frequency distribution of pregnant women who did not experience preeclampsia was 18 people (60%), while pregnant women who experienced preeclampsia were 12 people (40%). Bivariate analysis results Based on the results of statistical tests using the chi-square test, the P Value = 0.000 <0.05 was obtained, so Ho was rejected and Ha was accepted, which means that there is an effect of night sleep quality on the risk of preeclampsia in pregnant women at PMB Vitri Suzanti S.Keb Palembang in 2024. It is hoped that health workers, especially midwives, will explain to pregnant women that quality night sleep (7-9 hours) is very important to maintain the health of the mother and fetus, and help prevent complications such as high blood pressure and preeclampsia, then ensure that pregnant women who have sleep problems routinely check their blood pressure to detect the risk of preeclampsia early on.

Keywords: Quality Night Sleep, Preeclampsia, Mother Pregnant.

INTRODUCTION

Number case preeclampsia in Indonesia in 2020 is estimated there are 934 cases preeclampsia every day all over world, with around 342,000 mothers pregnant women who experience it . Preeclampsia is included in the three main causes of complications in pregnancy and childbirth: bleeding (30 percent), preeclampsia or eclampsia (25 percent), and infection (12 percent). (1) Preeclampsia is Wrong One causes of AKI. Worldwide, preeclampsia is a leading cause of maternal and neonatal death and mortality. 5% to 7% of all pregnant women develop preeclampsia, causing 700,000 maternal deaths and 50,000 fetal deaths each year worldwide. In Ethiopia, 10% of all maternal deaths, both direct and indirect, are due to preeclampsia. The onset of hypertension and proteinuria due to pregnancy after 20 weeks of gestation or immediately after delivery is called preeclampsia (2) . Obstructive sleep apnea or sleep apnea is recorded in around 65% of all pregnant women in this country. On average, pregnant women who experience sleep disorders are identified in the last trimester of pregnancy, according to data from (3) . Data from the South Sumatra Provincial Health Office shows that the Maternal Mortality Rate in 2022 was 107 people and in 2023 it increased to 119 people and the main causes of maternal mortality in South Sumatra were bleeding and preeclampsia. The incidence of preeclampsia in mothers in South Sumatra Province in 2022 was 283,390 people and in 2023 it was 645,104 people (4) . Sleep is very important for health, and meeting this need is very easy. Physical disorders and imbalances can be caused by poor or poor sleep quality. In the third trimester of pregnancy, pregnant women may experience sleep problems. This is because of the physiological and psychological changes that occur, such as abdominal growth, anatomical changes, and hormonal changes, so pregnant women need 7 to 9 hours of sleep per night, and less than that will have a negative impact on their health. During the third trimester, pregnant women may experience discomfort and difficulties that can interfere with their sleep (5) . To support the growth and development of the fetus in the womb, a person must change their sleep routine during pregnancy. It turns out that the quality of sleep of pregnant women can affect the growth and development of the fetus. a number of studies. show that poor sleep quality, such as insomnia, poor sleep patterns, and difficulty breathing while the mother

sleeps, can have a negative impact on pregnancy. Pregnant women who experience sleep problems are often associated with hypertension, gestational diabetes, and fetal growth problems. All of these problems increase the risk of stillbirth. When the fetus is sleeping, blood flow from the mother to the fetus is at its peak. Blood pressure can be associated with sleep disorders such as sleep apnea or stopping breathing at certain times. Changes in blood vessels and increased blood pressure can occur as a result of the cessation of blood pressure. This may cause the volume of blood pumped by the heart to decrease, which means that blood flow to the fetus through the placenta is reduced. As a result, the nutrients and oxygen received by the fetus can be reduced. As a result, fetal growth and development can be disrupted (6) .

METHODS

Study This use cross-sectional design, where data concerns quality Sleep Evening And risk preeclampsia on Mother pregnant collected on One same time. Research This nature quantitative, Time study This Implemented On Date October 7 - November 2, 2024 At PMB Vitri Susanti S.Keb Palembang. Data in study in the form of primary data and Population on study This is All Mother pregnant with age pregnancy more from 20 weeks to come to PMB Vitri Susanti S.Keb Palembang as many as 30 mothers pregnant . Technique data analysis used in study This that is Analysis chi- squre test If connection No meaningful in a way significant so will done Fisher exact test (Is test alternative from chi-square test).

This study used a *cross-sectional design* , where data on night sleep quality and the risk of preeclampsia in pregnant women were collected at the same time. This study is quantitative, because the data obtained will be processed and analyzed statistically to find the relationship between the independent variable (night sleep quality) and the dependent variable (risk of preeclampsia).

RESULTS AND DISCUSSION

The data collection method used was field observation. The data used in this study were the results of filling out the Pregnancy Sleep Quality Questionnaire and Urine Protein Examination. The collected data were then processed and then univariate and bivariate analysis were carried out.

3.1 Results Analysis Univariate

Table 1 Respondent Characteristics
At PMB Vitri Suzanti S.Keb
Palembang 2024

Age	Frequency	Percentage
20-25 Years	5	16.6%
26-30 Years	10	33.3%
31-40 Years	15	50%
Age Pregnancy		
Trimester 2	10	33.3%
Trimester 3	20	73.3%
Work		
Civil Servant	1	3.3%
Private	1	3.3%
Mother House Stairs	28	93.3%
Education		
SD	1	3.3%
Junior High School	5	16.6%
High School	23	76.6%
S1	1	3.3%

From Table 1 above, it is obtained data that the subjects of this study were mostly pregnant women aged 31-40 years, as many as 15 respondents (50%), Based on the gestational age, many pregnant women with Trimester III were 20 respondents (73.3%). Based on the work, many were housewives, as many as 28 respondents (93.3%). Based on education, many pregnant women had a high school education, as many as 23 respondents (76.6%).

Table 2 Frequency Distribution of Pregnant Women's Night Sleep Quality
At PMB Vitri Suzanti S.Keb
Palembang 2024

Quality Sleep	Amount	%

Bad	17	56.3%
Good	13	43.3%
Amount	30	100%

From Table 2 above, data was obtained that the research subjects of pregnant women who had poor sleep quality were 17 people (56.3%) and those who had good sleep quality were 13 people (43.3%).

Table 3 Frequency Distribution of Pregnant Women with Preeclampsia Risk At PMB Vitri Suzanti S.Keb Palembang 2024

Risk Preeclampsia	Amount	%
Risk	12	40%
No At risk	18	60%
Amount	30	100%

From Table 3 above data was obtained that subject study This Mother pregnant who is experiencing risk preeclampsia as many as 12 people (40%), while Mother pregnant who is experiencing preeclampsia That as many as 18 people (60%).

3.2 Results Analysis Bivariate

Table 4 Results of Chi-Square Test of Night Sleep Quality Data and Risk of Preeclampsia in PMB Vitri Suzanti S.Keb 2024

Quality Sleep at night	Risk Preeclampsia				Total		OR (95% CI)	*P Value*
	At risk Preeclampsia		No At risk Preeclampsia					
	n	%	n	%	N	%	22,000 (2,274-212,860)	0.005
Bad	11	64.7%	6	35.3%	17	100%		
Good	1	7.7%	12	92.3%	13	100%		
Total	12		18		30			

From Table 4 it can be seen that seen that Mother pregnant with quality bad sleep that is experienced risk preeclampsia That as much as 64.7%, while mothers pregnant with quality Sleep its good that its not experience risk preeclampsia as much as 7.7% . And for results *Chi-Square* Test obtained (*P value* = 0.005) then There is significant influence between quality Sleep Evening to risk preeclampsia on Mother pregnant. Results OR calculation shows quality bad sleep for Mother pregnant will at risk experience risk preeclampsia as much as 22.0 times compared to with Mother pregnant with quality Sleep its good

Based on results test statistics use test *chi-square* obtained mark *P Value* = 0.005 < 0.05 then Ho is rejected and Ha is accepted which means can stated There is Influence quality Sleep Evening to risk preeclampsia on Mother pregnant at PMB Vitri Susanti S.Keb Palembang in 2024.

3.3 Discussion

This study is in line with research (7) which states that there is a correlation using the chi-square test which shows that *the p value of* 0.005 is less than the significant value of 0.05 which means that there is an influence between the quality of night sleep and the risk of preeclampsia or Ha is accepted and Ho is rejected and both variables have a positive correlation direction with a very strong correlation. This study is in line with research (8) this study is an analytical study using a *cross-sectional method* with a quantitative approach. With a total of 30 respondents with inclusion and exclusion criteria. Using the Purposive sampling technique. This study uses the Pittsburgh Sleep Quality Index questionnaire.

The results of this study are in line with research (9) , This study used the Pittsburgh Sleep Quality Index, or PSQI, which measures seven factors: a person's sleep quality, sleep latency and duration, sleep efficiency and disturbance, use of sleeping medication, and daytime sleep problems. This tool produces seven scores that correspond to the areas or areas mentioned earlier. The value for each component in the PSQI sum and score ranges between 0 and 21; a global score <5 means good sleep quality, and a higher global score means poor sleep quality. The PSQI questionnaire has been translated and tested in Indonesian. No reliability test was conducted in this study because the PSQI sleep quality questionnaire has been widely used and has been tested for reliability by the University of Cronbach. The PSQI has a reliability coefficient (Cronbach Alpha) of 0.83 for all seven components mentioned above.

This study is in line with research (5) because pregnant women need 7 to 9 hours of sleep per night, and less than that will have a negative impact on their health. During the third trimester, pregnant women may experience discomfort and difficulties that can interfere with their sleep. Complaints during sleep and the length of sleep time are two factors that can determine a person's sleep quality.

Based on the results of the study and the theory of the discussion above, Because the quality of night sleep affects the risk of preeclampsia, then during pregnancy, a mother is expected to have good quality sleep. To get good quality sleep, it is necessary to have support from the environment around the pregnant woman such as family and health workers. As health workers, midwives should be able to provide information to pregnant women and their families in order to create quality sleep for pregnant women such as information about sleeping positions. Poor sleep quality conditions can increase the risk factors for preeclampsia, so pregnant women are expected to carry out pregnancy checks through ongoing Antenatal Care so that preeclampsia can be detected early so that it can prevent complications for both the mother and her fetus.

CONCLUSIONS

Based on Analysis Univariate known table characteristics Mother pregnant who is experiencing Quality Sleep bad that is as many as 17 people (36.3%) and who have quality good sleep as many as 13 people (63.3%). Then For urine protein test on Mother pregnant who is experiencing preeclampsia That as many as 12 people (40%). and For Mother pregnant who is not at risk preeclampsia That as many as 18 people (60%) and results Analysis Bivariate known table distribution frequency can seen quality bad sleep that is experienced risk preeclampsia as much as 64.7%, while Mother pregnant with quality Sleep its good that its not experience risk preeclampsia as much as 7.7% analysis bivariate obtained mark *P-value* 0.005< 0.05 then Ho rejected and Ha is accepted which means There is influence quality Sleep Evening to risk preeclampsia at PMB Vitri Susanti S.Keb Palembang in 2024.

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