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Article

MATERNAL SLEEP QUALITY AGAINST NEWBORN APGAR SCORE

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A B S T R A C T

1 out of 4 pregnant women who experienced sleep disorders complained in the first trimester and increased to 75% in the third trimester. Sleep disturbance in pregnant women causes an increase in CRH levels in pregnancy. Chronic stress will stimulate the activation of the HPA Axis. This process causes preterm labor and affects the Apgar Score of the baby. This study aims to determine the relationship between maternal sleep quality and infant Apgar Score at Bpm Hj. Desi Erafia and Hj. Yulma Sastri, Kerinci Regency in 2020. This type of research is descriptive correlational with a cross-sectional approach. The study was conducted from February to April at BPM Hj. Desi Erafia And Hj. Yulma Sastri, Kerinci Regency in 2020.The population of this study were all pregnant women who were recorded, namely 44 people. The research sample is a total sampling. The results showed that the low sleep quality was 55.3%, and the Apgar Score was not standard as much as 23.7%. The analysis showed a significant relationship between sleep quality and the Apgar Score with a p-value of 0.005 (p <0.05). So it is concluded that there is a significant relationship between sleep quality and the Apgar Score. It is hoped that health workers provide counseling for pregnant women to implement a good lifestyle, such as maintaining sleep quality and providing information about the importance of quality sleep.

I. INTRODUCTION

Pregnancy is the process of meeting between sperm and ovum, which produces a single cell (zygote) (Janiwarti & Pieter, 2013; Taufan, 2014). During pregnancy, a pregnant woman will experience physiological changes. Nausea, vomiting, chills, and weakness will be felt in women who are pregnant. However, in the third trimester of pregnancy, stomach enlargement, anatomical changes, and hormonal changes cause various complaints in pregnant women (Venkata & Venkateshiah, 2015).

Women experience some inconveniences in third trimesters, like shortness of breath, lower back pain, hemorrhoids, sleep disturbances, pain in the pelvic area, dizziness, stomach cramps, frequent urination, and discomfort due to contractions that appear suddenly arrived. One of the complaints in pregnant women often occurs when they sleep, even though the pregnancy is normal (Pieter & Lubis, 2010; Prawirohardjo, 2010; Santiago, Nolledo, & Kinzier, 2011).

Sleep disorders in pregnant women caused by physical and psychological changes due to the growth and development of the reproductive organs and the fetus. The physical changes that occur in pregnant women during pregnancy include enlarging the breasts, abdomen, and pelvis, gaining weight, enlarged feet, and hands, looking weak, and the body looks sluggish (Pieter & Lubis, 2010; Rafknowledge, 2004; Susanti, 2008).

Sleep disorders complained of pregnant women by 25% in the first trimester and continue to increase to 75% in the third trimester (Okun, Schetter, and Glynn, 2011). Sleep disorders in pregnant women include excessive daytime sleepiness, snoring or sleep obstructive apnea, restless legs syndrome, insomnia, and reduced sleep duration. These sleep disturbances will worsen the quality of sleep for pregnant women (Khazaie et al., 2013).

Low sleep quality can impact various body systems of pregnant women, including the cardiovascular, neuroendocrine, metabolic, and immune systems. Based on Zaky (2015) research, low sleep quality that occurs during pregnancy impacts the incidence of preterm birth, intrauterine growth restrictions, fetal distress, asphyxia, meconium aspiration, and more susceptibility to gestational hypertension, preeclampsia, diabetes mellitus, and later delivery. Longer than pregnant women have good sleep quality.

Sleep quality can be measured by the Pittsburgh Sleep Quality Index (PSQI) scale. PSQI has been translated into 48 languages and is widely used in various countries. This questionnaire-shaped instrument consists of 9 question items. sleep that is often experienced during the day. (Curcio et al., 2012)

In addition to physical changes, pregnant women also experience emotional changes, such as feelings of fear, sadness, and joy even though only in a few minutes, tend to be sensitive, easily

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jealous, ask for more attention, feelings of ambivalence and insomnia (Pieter & Lubis, 2010). In the third trimester, increased physical changes, such as a more extensive stomach condition, make it difficult for pregnant women to move, tire quickly, and become anxious, making emotional situations challenging to regulate and become more sensitive (Urva & Wasisto, 2012). The enlargement of the uterus affects the amount of time needed for sleep. This is because pregnant women cannot get a position they think is comfortable. Another cause of insomnia in pregnant women is psychological changes due to hormonal changes (Tiran, 2007 in Wita, 2011). Another study by O 'Brien et al. (2014) and Sharma et al. (2016) showed that one of the components of sleep quality assessment, namely sleep disorders such as snoring or sleep obstructive apnea that occurs in pregnant women, can increase the risk of developing hypertension in pregnancy. This happens due to intermittent hypoxia and fragmented sleep, leading to an increase in the body's inflammatory response.

Therefore, the researcher was interested in conducting a study to determine the relationship between maternal sleep quality and infant Apgar Score in BPM Hj. Desi Erafia and Hj. Yulma Sastri, Kerinci Regency ".

II. METHODS

This is a cross-cestional study. This research was conducted in midfery private practice from February to April 2020. The population in this study were pregnant women in working area of midfery private practice. This study's sample was 38 respondents using total sampling.

This study's data collection measurement tool was a questionnaire regarding pregnant women sleeping quality. They were analyzed using Chi Square with a significance level of $p < 0.05$ in bivariate analysis with SPSS 15 for Windows.

III. RESULT

Table 1. distribution frequency of pregnant women sleep quality

Sleep quality	f	%
Good quality	21	55,3
Low quality	17	44,7
Total	38	100,0

In table 1, The results of the study showed that 21 out of 38 (55.3%) pregnant have a good quality of sleep quality. On the other hand, 17 out of 38 (44.7%)pregnant women have a low sleep quality rate.

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Table 2. distribution frequency of Newborn APGAR Score

APGAR Score	f	%
Ashphyxiate	9	23,7
Normal	29	76,3
Total	38	100,0

In table 2, The results of the study showed that 29 out of 38 (76.3%) have a standard APGAR Score. On the other hand, 9 out of 38 (23.7%) newborns experienced asphyxiation.

Table 3. Relationship of Maternal Sleep Quality Against Baby Apgar Score

Sleep quality	APGAR Score				Total		P-value
	Non-normal		Normal				
	N	%	N	%	N	%	
Low	1	4,8	20	95,2	21	100	0,005
Normal	8	47,1	9	52,9	17	100	
	9		29		38	100	

Based on the table above's research results, it can be seen that of the 21 respondents who had low sleep quality, 95.2% had a standard APGAR Score. Meanwhile, of the 17 respondents who had normal sleep quality, 47.1% had an abnormal APGAR Score.

Based on the statistical test analysis results using the Chi-Square test, the p-value was 0.005 ($p < 0.05$), meaning that there was a significant relationship between sleep quality and the respondents' APGAR Score.

IV. DISCUSSION

Sleep is the most significant behavior, covering about one-third of human life. There is no awareness and awareness of the environment during sleep, but it can be awakened by 18 sensory stimuli or by other stimuli. Rest must be distinguished from a coma, which is the loss or absence of awareness and cannot be awakened. Although sleep is seen as a passive process, sleep is associated with high brain activity and higher oxygen absorption than waking (Sherwood, 2012; Hall, 2016).

This study's results are in line with research conducted by Safrini (2017) concerning the Effect of Yoga Exercise on Sleep Quality for Third Trimester Pregnant Women, namely that 96.6% of the third-trimester pregnant women have poor sleep quality.

Sleep disturbances can occur in pregnant women. Sleep disorders complained of pregnant women by 25% in the first trimester and increased to 75% in the third trimester (Okun, Schetter,

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and Glynn, 2011). Sleep disorders in pregnant women include disturbed sleep quality, disturbed sleep continuity, sleep duration too long or short, restless legs syndrome, and breathing problems during sleep. Sleep continuity disturbances are sleep interruption, including sleep latency, number of wakes during sleep, and the number of minutes spent when awake (Khazaie et al., 2013).

The results of this study are in line with research conducted by El Sinta B et al. About the Effect of Sleep Quality in Pregnant Women with the Incidence of Preeclampsia, which was published in 2016, shows a significant relationship between the quality of sleep of pregnant women and the incidence of preeclampsia. The need for adequate sleep is determined by the number of hours of sleep (quantity of sleep) and the depth of sleep (sleep quality). Several factors influence the amount and quality of sleep, namely, physiological factors, psychological factors, environment, and lifestyle. During pregnancy, many changes occur in a pregnant woman, both from the pregnant woman's anatomical structure, physiology, and psychology.

Pregnancy is defined as fertilization or fusion of spermatozoa and ovum, followed by bullying or implantation. In each trimester that is passed, a woman will usually experience and show different changes. As the fetus develops, the mother's body also undergoes modifications intended for the baby's growth and development. Changes in body systems that occur in pregnant women result in discomfort that indirectly affects the quality of sleep in pregnancy. Several factors influence human sleep needs, such as psychological, physiological, and environmental factors that can affect the mother's sleep (Laura, 2015).

Pregnant women experience abnormal sleep and associate it with ongoing physical changes and body size changes. Pregnant women often wake up at night, insomnia, difficulty maintaining sleep, and restlessness at the end of pregnancy (Hollenbach et al., 2013).

Sleep disturbances in pregnant women cause the mother to experience stress. High levels of maternal stress can cause an increase in CRH levels in pregnancy. Chronic stress during pregnancy will increase, and the release of hormones that play a role in childbirth, including CRH, ACTH, cortisol, estrogen, progesterone, prostaglandins, and other hormones. Chronic stress will stimulate the activation of the HPA Axis. All of these processes lead to preterm labor (Hacker, 2010; Cunningham et al., 2014; Ganong, 2015)

Changes in the levels of CRH and cortisol production in mid to late pregnancy in response to stress affect the hormone progesterone's decrease, which functions to maintain pregnancy. With an imbalance in estrogen and progesterone ratio, the result is a decrease in the hormone progesterone due to cortisol, which stimulates the appearance of the prostaglandin hormone,

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which becomes triggers contraction and increases contraction intensity. This is what can lead to an increased risk of preterm birth (Klimaviciute, 2006; Latendresse and Ruiz, 2011)

According to the researcher's assumption, there are respondents whose low sleep quality. However, the Apgar score shows normal things because, from the assessment results on the questionnaire, the support from the respondent's family and close friends is excellent, starting from providing time to be together, understanding unstable emotions and family still want to hear the respondents' complaints.

V. CONCLUSION

Sleep disturbances in pregnant women cause the mother to experience stress. High levels of maternal stress can cause an increase in CRH levels in pregnancy.it is important to educate pregnant women to control their sleep quality to improving newborn health status.

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