

RELATIONSHIP OF THE ARM AND THE HEMOGLOBIN LEVELS ON PREGNANT WOMAN TRIMESTER III WITH BABY BODY WEIGHT

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ABSTRACT

Nutritional status is the fulfillment of adequate nutritional needs is absolutely needed by pregnant women in order to meet the nutritional needs for the growth and development of the baby it contains and the physical preparation of the mother to face childbirth safely. Fulfillment of balanced nutrition during pregnancy will improve the health condition of infants and mothers, especially in the face of the puerperium as initial capital for breastfeeding. This study uses an observational analytic research design with the approach used is case control, aims to determine the relationship between lila and hemoglobin levels in trimester III pregnant women with birth weight babies in Medan Johor Health Center working area in 2019. Analytic observational research design with a prospective approach is The study measured exposure status at the start of the study and a cohort was followed to look at birth weight. Based on the results of bivariate analysis using chi square obtained p value = 0.37 ($p < 0.05$) with a 95% confidence level. This p value statistically shows that there is a significant relationship between Lila and the baby's birth weight. While based on the results of bivariate analysis using chi square obtained p value = 0.02 ($p < 0.05$) with a 95% confidence level. This p value statistically shows that there is a significant relationship between hemoglobin levels and the birth weight of a baby.

Keywords : *upper arm circumference, hemoglobin levels and birth weight*

INTRODUCTION

The nutritional status of pregnant women is a state of balance in the body of pregnant women as a result of the intake of food consumption and the use of nutrients used by the body for survival in maintaining bodily functions (Supriasa, 2012).

The nutritional status of the mother before and during pregnancy can affect the growth of the fetus being conceived. If the nutritional status of the mother is normal in the period before and during pregnancy, it will most likely give birth to a healthy baby, just months with normal weight. In other words, the quality of babies born is highly dependent on the nutritional state of the mother before and during pregnancy (Eva Sibagariang, 2010).

Upper Arm Circumference is the nutritional status of pregnant women by measuring the size of the upper arm circumference, if it is less than 23.5 cm, the pregnant woman experiences chronic

energy deficiency, so that the pregnant woman may be at risk of giving birth to a low birth weight baby (Putri, 2015).

Hemoglobin is a protein found in red blood cells or erythrocytes that gives blood a red color. Hemoglobin consists of iron which is an oxygen carrier (Munthe, et al, 2019).

Hemoglobin level is a low hemoglobin content thus indicating anemia. Depending on the method used, the hemoglobin value becomes accurate to 2-3% (Supriasa, 2012). The initial symptoms of anemia are weak body, lack of appetite, lack of energy, decreased concentration, headache, firefly eyes, besides the eyelids, lips, and nails look pale. Prevention of anemia in pregnant women can be done by administering iron tablets and improving the quality of daily food.

Based on preliminary surveys in the Medan Johor Health Center, the total number of pregnant women is 60 people.

From these data there are 9 pregnant women who experience anemia or hemoglobin levels less than normal. From 9 pregnant women, there are 2 pregnant women who give birth to babies with low birth weight.

Based on the description above, the author would like to know more clearly about the "Relationship between Lila and Hemoglobin Levels in third trimester pregnant women with birth weight babies born in Medan Johor Health Center in 2019.

MATERIAL AND METHODS

This research uses analytic observational research design with the approach used is case control, aims to determine the relationship of upper arm circumference and hemoglobin levels in trimester III pregnant women with birth weight babies born in Medan Johor Health Center working area in 2019. Analytic observational research design with an approach Prospective research is to measure the status of exposure at the beginning of the study and a cohort followed to see the weight of the baby born (Notoatmodjo, 2010).

The sample used in this study were 30 third trimester pregnant women in the Medan Johor Health Center in 2019. The sampling technique in this study was non-probability sampling (non-random sampling). In the use of non-probability sampling, one's knowledge, beliefs, and experience are taken into consideration to determine the population members chosen as a sample.

RESULT

Characteristics

1. Univariate Analysis

Frequency Distribution Based on Age of Pregnant Women

Univariate analysis seen in the independent variable (Age) is the frequency distribution with the Weight of Babies Born in the Work Area of Medan Johor Health Center in 2019 with a risk category <20 years ->

35 years, no risk of 20-35 years. As shown in table 4.1 below.

Table 4.1
 Frequency Distribution of Respondents by Age of Pregnant Women in Medan Johor Puskesmas Work Area in 2019

Age	Frequency	Percent %
1. Risk (<20 years -> 35 years)	5	16,7
2. No Risk: 20-35 years	25	83,3
Total	30	100,0

Based on table 4.1 above, it can be seen that from a total of 30 pregnant women respondents studied, the majority of respondents who were at risk were 5 respondents (16.7%) and those who were not at risk were 25 respondents (83.3%).

Frequency Distribution Based on Parity in Pregnant Women

Univariate analysis seen from the independent variable (Parity) is the frequency distribution with Birth Weight of Babies in the Work Area of Medan Johor Health Center in 2019 with a category of parity > 3 with parity <3 as shown in table 4.2:

Table 4.2
 Frequency Distribution of Respondents Based on Parity of Pregnant Women in Medan Johor Health Center Working Area in 2019

Parity	Frequency	Percent %
1. parity <3	26	86,7
2. parity >3	4	13,3
Total	30	100,0

Based on table 4.2 above, it can be seen that from the 30 pregnant women respondents studied, the majority of respondents who obtained > 3 were parity > 3 (13.3%), and parity <3 were 26 people (86.7%).

Frequency Distribution Based on Education in Pregnant Women

Univariate analysis seen from the independent variable (Education) is the frequency distribution with Birth Weight of Babies in the Work Area of Medan Johor Health Center in 2019 with the categories of low education (SD-SMP), and higher education (SMA-GRADUATE) as shown in table 4.3 :

Table 4.3

Distribution of Respondents Frequency Based on Education to Pregnant Women in Medan Johor Health Center Working Area in 2019

Education	Frequency	Percent %
1. Low education (elementary / junior high school graduates)	10	33,3
2. Higher education (high school / diploma / graduate)	20	66,7
Total	30	100,0

Based on table 4.3 above, it can be seen that from a total of 30 pregnant women respondents studied, the majority of respondents who received a low education level were 10 people (33.3%), and higher education were 20 people (66.7%).

Frequency Distribution Based on Occupation in Pregnant Women

The univariate analysis seen from the independent variable (Occupation) is the frequency distribution with Baby Weight Born in Medan Johor Puskesmas Work Area in 2019 by working and not working as shown in table 4.4:

Table 4.4

Frequency Distribution of Respondents Based on Occupation of Pregnant Women in Medan Johor Health Center Working Area in 2019

Profession	Frequency	Percent %
1. Does not work	23	76,7
2. Works	7	23,3
Total	30	100,0

Based on table 4.4 above it can be seen that from a total of 30 pregnant women respondents studied, the results obtained the majority of respondents who worked as many as 7 people (23.3%), and did not work as many as 23 people (76.7%).

2. Bivariate Analysis

Frequency distribution of upper arm circumference in pregnant women trimester III with birth weight babies

Bivariate analysis by comparing the cross distribution between upper arm circumference with birth weight in Medan Johor Health Center working area in 2019, found in the table below :

Based on table 4.5 above it was found that from 30 respondents, who had an upper arm circumference (Risk of Chronic Energy Deficiency) of 10 people (76.9%) who were underweight, normal birth weight babies 2,500-4,000 grams were 10 babies (37.3%) Weight of babies born less <2,500 grams as many as 3 babies (100.0%). While the respondents who have arm circumference (Not a Risk of Chronic Energy Less) as many as 17 people (100.0%) who have birth weight, normal birth weight babies 2,500-4,000 grams as many as 17 babies (63.0%) Weight of birth babies less < 2,500 grams of 0 infants (0.0%).

Frequency Distribution of Hemoglobin Levels in Trimester III Pregnant Women With Birth Weight of Babies

Bivariate Analysis by comparing the distribution of upper arm circumference and hemoglobin levels in trimester III pregnant women with birth weight babies born in Medan Johor Puskesmas work area in 2019.

Based on the above table, it can be explained that from 30 respondents, who have normal hemoglobin levels of 22 people (100.0%) who have birth weight, normal birth weight babies from 2500 to 4000 grams of 22 babies (81.5%) weight Infants born less <2,500 grams are 0 infants (0.0%). Whereas respondents who had mild hemoglobin levels were 5 people (62.5%) who had birth weight, normal birth weight 2,500-4,000 grams as many as 5 babies (18.5%) Birth weight less than 2,500 grams as many as 3 babies (100.0%).

CONCLUSION

From the results of research on the relationship of upper arm circumference and hemoglobin levels in third trimester pregnant women with birth weight babies in the Medan Johor Medan Puskesmas Work Area in 2019 with 30 respondents the following conclusions can be drawn:

1. From the statistical test results obtained p value = 0.37 ($p < 0.05$). This means that there is a significant relationship between upper arm circumference and birth weight.
2. From the statistical test p value = 0.02 was obtained ($p < 0.05$). This means that there is a significant relationship between hemoglobin levels and birth weight.

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