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THE STATUS OF CED, ANEMIA IN PREGNANCY, AND LOW BIRTH WEIGHT IN PUSKESMAS PETARUKAN PEMALANG WORK AREA

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ABSTRACT

Low birth weight (LBW) is a term used to describe babies who are born weighing less than 2,500 grams and whose risk of morbidity and mortality are higher than babies with normal birth weight. The nutrition status of a pregnant mother with chronic energy deficiency (CED) and anemia affected health conditions and fetal growth. The prevalence of LBW around the Puskesmas Petarukan work area in 2020 was 3.27%. This study aimed to describe the status of CED, anemia in pregnancy, and LBW around the Puskesmas Petarukan Pemalang work area. It was descriptive quantitative research with a retrospective approach. The sample of the research was all of the newborns with LBW and mothers who gave birth to LBW with a total of 20 respondents. The univariate analysis obtained the average Mid Upper Arm Circumference (MUAC) of the pregnant mothers was 24.95 cm, the mean Hb level at 11.55 g/dl ± 0.52 and the lowest birth weight was 1,700 grams. This study concluded that there are pregnant mothers with CED status, anemia, and LBW.

***Keywords**: Low birth weight (LBW), CED, Anemia*

1. INTRODUCTION

World Health Organization (WHO) describes babies with Low Birth Weight (LBW) are babies born weighing less than 2,500 grams (Jayanti, Dharmawan, and Aruben, 2017). Low Birth Weight has a higher risk of morbidity and mortality compared to babies with normal birth weight. The delivery under 37 weeks of pregnancy may result in complications from the incomplete growth of the organ. The other possible problem is baby weight loss if the baby weighs under the normal weight, growth monitoring from week to week is needed after the baby is born (Hartiningrum and Fitriyah, 2017).

The prevalence of low birth weight in Central Java was 6.10% (Institute of Health Research and Development of Central Java, 2018). Based on the data from Public Health Department in 2020, the infant mortality rate in Pemalang was 5.14 deaths per 1,000 live births. This rate decreased from the previous year with 5.58 per 1,000 live births. In 2020, it was found that there were 802 LBW cases out of 25,488 with a percentage of 3.15%. the percentage shows a decrease from the 2019 percentage of 3.64% (Public Health Department of Pemalang, 2020). Infant mortality in Pemalang is mainly caused by asphyxia, LBW, and infection (Pemalang Government, 2019).

Nutrition status is the representation of the human body condition as the effect of food and nutrient consumption (Mardalena, 2017). A mother's good nutrition status before and after the pregnancy plays a big role in the infant's growth. Chronic energy deficiency (CED) and anemia could risk fetal growth and health. The prevalence of pregnant mothers with CED in Indonesia in 2018 was 17.3% and the prevalence of pregnant mothers with anemia was 48.9% (Ministry of Health Republic of Indonesia, 2018).

Pemalang has 25 Puskesmas (Community Health Center), such as Puskesmas Petarukan. The work area of Puskesmas Petarukan includes six villages which are Iser, Serang, Kalirandu, Bulu and Tegalmlati. The prevalence of Low Birth Weight in Puskesmas Petarukan during 2020 was 3.27% (Public Health Department of Pemalang, 2020).

The general objective of this research is to describe the status of CED and anemia in pregnancy, also the low birth weight in the Puskesmas Petarukan Pemalang work area.

2. RESEARCH METHODS

It was descriptive quantitative research with a retrospective approach. The sample of the research was babies with LBW and mothers who

gave birth to babies with LBW registered at Puskesmas Petarukan from January – October 2021 which were 20 respondents. The sample was taken by using non-random purposive sampling. The data used for the research was secondary data obtained from the KIA (Maternal and Child Health) book and cohort.

The inclusion criteria used were low birth weight <2500 grams registered at Puskesmas Petarukan Pemalang and mothers living in Petarukan District. The exclusion criteria were mothers with no KIA book and mothers who gave birth to normal birth weight.

The data obtained were then processed by using a computer program. Univariate analysis which was aimed to describe the characteristic of the studied variables (the status of CED and anemia in pregnancy, also LBW). The data was then presented in a frequency distribution table and the form of the percentage of each variable.

3. FINDING AND DISCUSSION

General Description of the Sample

Table 1
Frequency Distribution of the General Description of the Sample

Variable	Number	Percentage (%)
1. age		
<20	5	25
20 – 35	14	70
>35	1	5
Total	20	100
2. Parity		
Primipara (1 child)	13	65
Multipara (2 – 5 children	7	35
Total	20	100
3. Education		
Elementary School	4	20
Junior High School	6	30
Senior High School	9	45
University	1	5
Total	20	100
4. Occupation		
Housewife	18	90
Private Sector Employee	1	5
Civil Servant	1	5
Total	20	100

Based on table 1, it could be seen that most of the respondents are 20 – 25 years old with 14 mothers (70%), the primiparous mother parity is 13 mothers (65%), and Senior High School background with 9 mothers (45%), and housewife with 18 mothers (90%).

Pregnant mothers whose age is under 20 years old have the risk of LBW related to unfulfilled nutrition needs. Pregnant mothers whose age is above 35 years old may have the risk of hypertension and diabetes mellitus which affect the process of fetal food intake through the placenta (Supriyanto, Paramashanti, and Astiti, 2017).

Research (Dwi Ertiana and Urrahmah, 2020) explained that multiparous mothers with 2 or 3 children don't have the risk of giving birth to LBW, meanwhile, the mother with 1 and >3 parity have a 26.594 higher risk of LBW case. In the case of a mother with >3 parity, the uterus wall might be damaged due to the multiple pregnancies which affect the fetal growth and birth weight.

Mothers' educational background affects their action intake the advantage of the health facility available and their diet patterns. The high educated mothers can well receive the obtained information, compared to the lower educated mothers. It is very important to deal with the implementation of a healthy lifestyle, which further affects the condition of the newborn baby (Nuryani and Rahmawati, 2017).

Based on the research conducted in Puskesmas Karang Intan I Banjar and Puskesmas Simpang Empat 2 Banjar work area showed that either working mothers or housewives can give birth to babies with low birth weight and normal birth weight in nearly the same number (Noor *et al*., 2020).

a CED Status of Pregnant Mother

The description of CED status in the mother giving birth to babies with LBW based on the MUAC in the first trimester is categorized as follows:

Tabel 2
Frequency Distribution Based on the CED status of Pregnant Mother

CED Status	$\bar{x}$ ± SD	Number	Percentage (%)
Non-CED (≥ 23.5 cm)	26.84 ± 2.44	13	65
CED (<23.5 cm)	21.42 ± 1.51	7	35
Total		20	100

Table 2 shows that out of the mothers who give birth to LBW, there are 13 pregnant mothers (65%) with no CED status in the first trimester of pregnancy. For the MUAC, the highest is 31 cm, and the lowest is 19 cm, with a mean of 24.95 cm and a standard deviation of 3.39.

Based on the research conducted at UPTD Puskesmas III Dinas Kesehatan Kecamatan Denpasar Utara, it was mentioned that pregnant mothers with CED status risk 3.333 times higher of giving birth to LBW, compared to mothers with non-CED status (Sumiati, Suindri, and Mauliku, 2021).

b Anemia in Pregnancy

The result of the percentage distribution of mothers with anemia during the first trimester based on the Hb level as presented in table 6 is as follows:

Table 3
Frequency Distribution Based On Anemia Status in Pregnancy

Anemia Status In Pregnancy	$\bar{x}$ ± SD	Number	Percentage (%)
Non Anemia (>11 g/dl)	11.63 ± 0,48	18	90
Anemia (8 – 11 g/dl)	10.80 ± 0	2	10
Total		20	100

Based on table 3, it is described that most pregnant mothers don't have anemia status, with a total of 18 mothers (90%). The mean of the Hb level is 11.55g/dl ± 0.52 with the lowest Hb level 10.80 g/dl and the highest 12.80 g/dl.

Research conducted in the Puskesmas Tanta Tabalong work area shows OR value of 9.19. It was concluded that mothers with anemia risk 9 times higher in the delivery process compared to mothers without anemia. The case of miscarriage, neonatal death, birth defect, anemia, and low birth weight is the effect of mothers with anemia during pregnancy (Suhartati, Hestinya, and Rahmawaty, 2017).

C Low Birth Weight

The research found that out of 20 babies, the lowest weight is 1700 grams and the highest is 2400 grams. The average low birth weight is 2105 grams ± 208.31. The length of the baby with the lowest weight is 40 cm and the length of the baby with the highest weight is 48 cm. The average length of the full-term newborn baby is 44.30 cm and the standard deviation is 2.08.

Based on the research conducted in Sedayu District of Bantul Yogyakarta, it was described that out of 190 respondents, 46 babies (24.2%) were born with low birth weight, meanwhile, 144 babies (75.8%) were born with normal weight. A history of low birth weight could have 6.16 higher stunting risk compared to those with normal weight (Supriyanto, Paramashanti, and Astiti, 2017).

4. CONCLUSION

Related to the CED status, it is found that among mothers who give birth to low birth

weight, there were 13 mothers (65%) without CED status during the first trimester of pregnancy. On the other hand, for the anemia status, it is found that among mothers who give birth with low birth weight, there were 18 mothers (90%) without anemia during the first trimester of pregnancy.

5. SUGGESTION

It is expected that the medical workers in Puskesmas Petarukan could improve the education about nutrition in pregnant mothers to have a healthy pregnancy routine and give birth to a baby with normal weight.

Pregnant mothers are expected to regularly check their pregnancy in the available health care to prevent the case of low birth weight.

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