International Journal of Nursing and Midwifery Science (IJNMS)

http://ijnms.net/index.php/ijnms
ORIGINAL RESEARCH

e- ISSN: 2686-2123
p- ISSN: 2686-0538

THE RELATIONSHIP OF PREGNANT WOMEN WITH CHRONIC LACK OF ENERGY AND THE INCIDENT OF LOW BIRTH WEIGHT BABIE

Veryudha Eka Prameswari, Heni Frilasari
Universitas Bina Sehat PPNI Mojokerto
Corresponding Email : veryudhaekap@gmail.com

ABSTRACT

Low Birth Weight is the cause of infant death in East Java. This is influenced by chronic energy deficiency which results in babies being born prematurely. The research aims to determine the relationship between chronic energy deficiency in pregnant women and the incidence of Low Birth Weight. The analytical research design uses a Retrospective Cohort using 53 samples calculated by the Slovin formula and total sampling in the technique. The data analysis used was univariate and bivariate chi-square. Getting results from 16 respondents who experienced BBLR as much as 30.2%, as many as 20 respondents who were pregnant women experienced KEK 37.7%. Based on analysis tests, it was found that half of pregnant women with KEK had a Low Birth Weight of 50.0%. Meanwhile, the results of the bivariate analysis with Chi-square obtained a p-value of 0.014 where $p < \alpha$ 0.05, which states that there is a relationship between KEK pregnant women and the incidence of Low Birth Weight in PMB Cemandi. The OR value is 4.5 which states that pregnant women with CED have a 4.5 times risk of having a Low Birth Weight baby.

Keywords

Low Birth Weight, Pregnant Women, KEK

INTRODUCTION

The growth and development of the fetus is influenced by consumption during pregnancy (Notoatmodjo, 2010). Lack of consumption of food and supplements as well as a lack of Blood Supplement Tablets and Provision of Additional Food for pregnant women will affect the hemoglobin levels and nutritional status of pregnant women which can cause Anemia and Chronic Energy Deficiency. Usually, low birth weight babies which cause death compared to other low birth weight babies are caused by a lack of nutrition in the pregnant mother (Krisnawati, 2010).

The 2022 East Java Health Service report found that 18,432 pregnant women experienced chronic energy deficiency. Pregnant women who experience Chronic Energy Deficiency can experience one of

them, Low Birth Weight Babies. The reason for Chronic Energy Deficiency in pregnant women is the lack of information regarding nutrition that mothers must fulfill during pregnancy, as well as the lack of economic support which is the cause of Chronic Energy Deficiency. According to 2021 Riskesdas data, the risk of Chronic Energy Deficiency is 29.8% for pregnant women in East Java and 21.8% for non-pregnant women. Meanwhile, the national figure for Chronic Energy Shortage cases is said to exceed the national average of 28%, indicating a case of Chronic Calorie Shortage in East Java (Kemenkes RI, 2020).

According to (Ariyani, Endang Laksmining, Anis Irawati, 2012) Chronic Energy Deficiency in pregnant women causes miscarriage, anemia in babies, abortion, stillbirth in the womb, birth with low birth weight babies, dead babies, and congenital defects. Disturbances in oxygen and nutrients that affect placental function are caused by pregnant women with chronic energy deficiency. The decreased function of the placenta interferes with the growth and development of the fetus, as well as the high risk of babies being born with low birth weight (Putri, 2016).

The nutritional status of pregnant women as measured using anthropometry with Upper Arm Circumference can affect low birth weight babies. Upper Arm Circumference Measurement aims to determine the risk of a person's Chronic Energy Deficiency. If the upper arm circumference is ≤23.5 cm or there is a red band, then the pregnant mother will give birth to a low birth weight baby (Supariasa, 2012)

According to (Mayanda, 2017), the management that pregnant women can when there is Chronic Energy Deficiency is by providing counseling regarding good food and adequate nutrition well as storing protein and iron, fat, carbohydrates, calcium, and vitamins, monitoring weight gain, and also monitoring the mother's upper arm circumference, Giving the mother additional food such as biscuits which contain protein and carbohydrates, Telling the mother to check at least 4 times during pregnancy so that she checks her pregnancy regularly, Giving the mother Fe tablets which must be consumed as many as 90 tablets during the pregnancy. pregnancy. (Mayanda, 2017)

METHOD

The research used was analytical research with a retrospective cohort design regarding the relationship between chronic low energy pregnant women and the incidence of LBW. A retrospective cohort study was conducted in 2 groups, a study group and a control group. These two groups were then followed continuously over a period of time to determine whether there were outcomes for people who were not exposed to the risk factors. The population of this study consisted of all pregnant women recorded in the cohort for the period January – December 2022 at TPMB Cemandi Sidoarjo, totaling 53 pregnant women. The sample used was a total sampling of 53 pregnant women

RESULTS

Table1.1 Image of a pregnant KEK mother at TPMB Cemandi

Pregnant women	Frequency (f)	Percentaage (%)
KEK	20	37,7
Not KEK	33	62,3
Total	**53**	**100,0**

Based on table 1.1, almost half of the pregnant women respondents experienced KEK, 20 respondents (37.7%).

Table 1.2 Description of LBW incidents at TPMB Cemandi

Baby's Weight	Frequency (f)	Percentaage (%)
BBLR	16	30,2
Not BBLR	37	69,8
Total	**53**	**100,0**

Based on table 1.2, almost half of the respondents experienced LBW, 16 respondents (30.2%).

Table 1.3 Relationship between Pregnant Women with KEK and BBLR Incidents at PMB Cemandi

Pregnant women	Berat badan bayi lahir				Total		p	OR
	LBW		Not LBW					
	f	%	f	%	f	%		
KEK	10	50,0 %	10	50,0 %	20	100,0%	0,014	4,5
Not KEK	6	18,2 %	27	81,8 %	33	100,0%		

Based on table 1.3, it is found that half of pregnant women with CED have a low birth weight of 50.0%. After carrying out bivariate analysis using Chi square, the p-value was 0.014, where $p < \alpha$ 0.05. So it was concluded that there was a relationship between KEK pregnant women and the incidence of BBLR at TPMB Cemandi. The OR value is 4.5 which states that pregnant women with KEK have a 4.5 times risk of having a BBLR bab

DISCUSSION

The upper arm circumference threshold for chronic energy deficiency in Indonesia is 23.5 cm. So pregnant women are at risk of Chronic Energy Deficiency thinking they will give birth to a Low Birth Weight baby. Low birth weight itself carries the risk of growth disorders, chronic energy deficiency, nutritional deficiencies, and child development disorders. It is best if the mother has an upper arm circumference of less than 23.5 to postpone the birth of the baby (Notoatmodjo, 2010)

Nutrition is the most important thing in the circulation of human life. Chronic Energy Deficiency in pregnant women can cause low birth weight, prematurity, which can have an impact on low nutritional status in babies (Supariasa, 2012)

If the nutrition of a pregnant woman is poor then the fetus in the womb tends to be disturbed in its growth and tends to be at risk of giving birth to a Low Birth Weight baby due to several factors such as lack of fetal brain growth, anemia in the baby, easy infection in the baby, abortion and so on so there is a risk of giving birth to a baby. with Low Birth Weight (Supariasa, 2012)

Based on research, it was found that half of pregnant women with chronic energy deficiency had a low birth weight of 50.0%. After carrying out bivariate analysis using Chi-square, the p-value was 0.014, where $p < \alpha$ 0.05. Thus, it can be concluded that there is a relationship between chronic energy deficiency in pregnant women and the incidence of low birth weight in PMB Cemandi. The OR value is 4.5 which states that pregnant women with chronic energy deficiency have a 4.5 times higher risk of giving birth to babies with low birth weight.

Fulfillment of nutrition for the fetus is carried out when the mother is pregnant. These nutrients must be balanced so that fetal development develops. According to (Pantiawati, 2010) during pregnancy, additional nutrition is very necessary such as vitamins and minerals. Later, if the nutrition you get is insufficient, the baby will have a bad impact.

The fetal growth process depends on the mother's nutrition. If the mother's nutrition is very poor, it can cause miscarriage, stillbirth, deformed babies, anemia, and low birth weight (Krisnawati, 2010).

Lack of good nutrition during pregnancy can result in abortion, low birth weight, lack of fetal brain growth, infant anemia, babies easily infected, stillbirths, and rarely causes congenital defects. Chronic malnutrition during childhood, with/without recurrent illness, will cause a stunted body shape in adulthood. Mothers who experience this condition often give birth to Low Birth Weight babies (nuryanti, 2022)

Inadequate energy and protein consumption will cause problems with low birth weight in pregnant women. So low birth weight will appear due to a reflection of nutrition during pregnancy, even before pregnancy. Later this will have an impact on death or congenital defects because low birth weight can cause brain inhibition, anemia, and infections in babies (nuryanti, 2022).

The nutritional status of pregnant women as measured using anthropometry with Upper Arm Circumference can influence Low Birth Weight. Upper Arm Circumference Measurement aims to determine the risk of a person's Chronic Energy Deficiency. If the upper arm circumference is ≤23.5 cm or there is a red band, then the pregnant mother will give birth to a low birth weight (Supariasa, 2012)

Risks that occur in pregnant women due to Chronic Energy Deficiency include abnormal body weight in the mother, anemia, infection, and bleeding. Meanwhile, in babies, it will cause prolonged labor, premature birth, surgery, and bleeding after delivery (Supariasa, 2012)

Chronic Energy Deficiency in pregnant women causes miscarriage, baby anemia, abortion, stillbirth, birth with Low Birth Weight, stillbirth, and congenital defects. (Mayanda, 2017) Disturbances in oxygen and nutrients that affect placental function are caused by pregnant women with chronic energy deficiency. The decreased function of the placenta interferes with the growth and development of the fetus as well as the high risk of low birth weight babies (Putri, 2016)

CONCLUSIONS

From the results of a cohort study of pregnant women, it was found that 37% of pregnant women experienced chronic energy deficiency. Pregnant women who experience labor with newborn babies with low birth weight are 30.2%. So it can be concluded that there is a relationship between pregnant women with Chronic Energy Deficiency and Low Birth Weight in PMB Cemandi which has a p-value of 0.014 ($p<0.05$). Chronic energy deficiency in pregnant women causes miscarriage, anemia, abortion, stillbirth, birth with low birth weight, stillbirth, and congenital defects. Disturbances in oxygen and nutrients that affect placental function are caused by pregnant women with chronic energy deficiency. The decreased function of the placenta interferes with the growth and development of the fetus, as well as the high risk of low birth weight babies.

REFERENCES

Ariyani, Endang Laksmining, Anis Irawati, D. E. (2012). *Validitas Lingkar Lengan Atas Mendeteksi Risiko Kekurangan Energi Kronis pada Wanita Indonesia*. *7*(2), 83–90.

Kemenkes RI, K. R. (2020). *Profil Kesehatan Indonesia*. Jakarta : Kemenkes RI.

Krisnawati, K. (2010). *Gizi Ibu Hamil. Bantul*. Nuha medika.

Mayanda, V. (2017). HUBUNGAN STATUS GIZI IBU HAMIL DENGAN BERAT BADAN LAHIR RENDAH (BBLR) RSIA MUTIA SARI KECAMATAN MANDAU. *Menara Ilmu*,

11(74), 93. https://doi.org/DOI: https://doi.org/10.33559/mi.v11i74.93

Notoatmodjo, N. (2010). *Metode Penelitian Kesehatan. Jakarta: Rineka Citra*. Jakarta: Rineka Citra.

nuryanti, pepi. (2022). *Faktor-Faktor yang Berhubungan dengan Kejadian Kekurangan Energi Kronik (KEK) pada Ibu Hamil di Wilayah Kerja BLUD UPT Puskesmas Cibaliung Kabupaten Pandeglang Tahun 2021*. *11*(2). https://doi.org/10.35890/jkdh.v11i2.213

Pantiawati, P. (2010). *Bayi dengan Berat Badan Lahir Rendah*. Yogyakarta : Nuha Medika.

Putri, A. R., Muqsith. (2016). HUBUNGAN LINGKAR LENGAN ATAS IBU HAMIL DENGAN BERAT BADAN LAHIR BAYI DI RUMAH SAKIT UMUM CUT MEUTIA KABUPATEN ACEH UTARA DAN RUMAH SAKIT Tk IV IM.07.01 LHOKSEUMAWE TAHUN 2015. *Averrous*, *2*(1), 1–7. https://doi.org/10.29103/averrous.v2i1.399

Supariasa, S. (2012). *Penilaian Status Gizi*. Jakarta : EGC.