Age Is A High Risk Of Low Birth Weight In
The Working Area Of Seluma District

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Abstract—High mortality rate one of the babies is caused by LBW. Based on data in the Seluma District Health Office in 2016 there was an increase in LBW rate of 94.2%, in 2015 1.5% to 3.2% in 2016. So the nutritional status, maternal age, pregnancy distance, parity, and normal Hb levels became very important so that it can help reduce the incidence of LBW births. The purpose of this study was to find out the relationship of nutritional status, maternal age, pregnancy distance, parity, anemia with the incidence of LBW in the Seluma District Health Center Work Area in 2016. The study design was case control with a retrospective approach. Totaling 3338 people with a sample of 196 people in which 98 cases and 98 controls used systematic random sampling technique, secondary data (nutritional status, maternal age, pregnancy distance, parity, anemia, infant RR) were obtained by filling out the data collection format, analyzed by Univariate, Bivariate, Multivariate using test Chi-Square and Logistic Regression. The results showed that 52.6% of nutritional status of SEZ, 34.7% of mothers aged <20 years and >35 years, 48.5% of gestational distance <2 years, 59.7% parity >2 children, 42.3% anemia.

There was a relationship between maternal nutritional status, the distance <2 years, 59.7% parity >2 children, 42.3% anemia. mothers aged <20 years and >35 years, 48.5% of gestational distance <2 years, 59.7% parity >2 children, 42.3% anemia. There was a relationship between maternal nutritional status, maternal age, the distance of pregnancy, parity, anemia with the incidence of LBW. Multivariate logistic regression analysis, the biggest influence statistically was the age factor OR 3.120.

Keywords—Red watermelon juice, yellow watermelon juice, blood pressure, pre-elderly, pre-hypertension

I. INTRODUCTION

Infant mortality is a sensitive indicator to determine the health status of a country. The high infant mortality at the age of up to one year shows the still low quality of the health sector in the country. Currently, the Infant Mortality Rate is 27 people per 1000 live births[1]. The research results of the Indonesian Statistical Center in 2016, recorded in 2014 AKB was 26.5% per 1000 live births.

In 2015, it was 26.0% IMR per 1000 live births, while in Bengkulu Province, the 2016 infant mortality was 6 / 1,000 live births, increasing to 7 per 1000 live births in 2017. Seluma District in Bengkulu Province was the highest district with Infant mortality that is 12/1000 KH, with the primary cause of death is LBW [2]. Data on the medical records of the Tais Regional General Hospital in 2016 obtained delivery that is too close, multiparity.

And anemia status of pregnant women. Therefore, it is a factor for low birth weight is maternal nutritional status, risky age, a distance of necessary to study the risk factors for LBW events in Seluma Regency in 2016. The incidence of LBW at 5.4%. One risk.

II. METHODS

This study uses a case-control design. The study population was all newborns recorded and recorded in the KIA register in Seluma District Health Center in 2016 totaling 3338. The sample in this study amounted to 98 people calculated using the Lemeshow formula taken by systematic random sampling. Data were analyzed using computer program applications, including univariate, bivariate and analysis Chi-Square, multivariate with logistic regression.

Complete group random design sampling technique is used in this research. Subject on this research are 15 respondents were divided into three groups: red watermelon juice group, yellow watermelon juice group and control group.

III. RESULT

<p>| TABLE 1 DISTRIBUTION OF FREQUENCY OF NUTRITIONAL STATUS, MATERNAL AGE, PREGNANCY DISTANCE, PARITY, ANEMIA LEVELS N THE SELUMA DISTRICT HEALTH CENTER WORK AREA IN 2016 |</p>
<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency (F)</th>
<th>Percent age (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KEK</td>
<td>103</td>
<td>52.6</td>
</tr>
<tr>
<td>Nutritional Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LILA ≤ 23.5 cm</td>
<td>93</td>
<td>47.4</td>
</tr>
<tr>
<td>LILA &gt; 23.5 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100</td>
</tr>
<tr>
<td>Maternal Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20 years and &gt;35 years</td>
<td>68</td>
<td>34.7</td>
</tr>
<tr>
<td>20 years -35 Years</td>
<td>128</td>
<td>65.3</td>
</tr>
</tbody>
</table>
Table 1 above shows that of 52.6% of pregnant women experiencing SEZ, 34.7% of mothers with risky age, 48.5% with a pregnancy interval of <2 years, and 59.7% of mothers with high parity (≥2 children) and 42.3% had anemia in pregnancy.

The results found that there was a relationship between nutritional status and the incidence of LBW with a value of $p = 0.000$, $OR = 3.110$. There is a significant relationship of age with the incidence of LBW value $p = 0.000$, $OR = 3.744$. There is a relationship between <2 years’ gestational distance and the incidence of LBW with a value of $p = 0.045$, $OR = 1.855$. There is a parity relationship with the incidence of LBW with a value of $p = 0.009$, $OR = 0.441$. There is a correlation between the incidence of anemia and the incidence of LBW with a value of $p = 0.004$, $OR = 2.443$.

### IV. DISCUSSION

The results of this study indicate that there is a significant relationship between nutritional status and the incidence of LBW. Mothers with Chronic Energy Deficiency status (KEK) are at higher risk of giving birth to LBW, this is in accordance with Fitrianingsih, et al., 2012[3] study that there is a relationship between mothers with KEK risk and the incidence of LBW, 6 times pregnant women have the chance to deliver LBW compared to mothers which are not KEK.

According to Francin, et al., 2005[4] that LBW can occur in mothers with low nutritional status due to low energy and nutrient intake before and during pregnancy so that fetal growth in the womb becomes obstructed. If food intake in pregnant women is less, and the absorption of substances in the body are not proper, there will
be a lack of nutritional intake in the mother which causes a decrease in red blood cells and the risk of insufficient increase in blood in the heart resulting in a reduction of blood supply and nutrients in the fetus, the size of the placenta becomes less, so the decrease of substance transfer nutrition that is directly related to the fetus is impaired, making fetal growth inhibited and finally the occurrence of LBW [5].

The same research results were also revealed by Rahmawati, 2017 [6] who said there was a significant relationship between the nutritional status of KEK mothers and the incidence of LBW where the p-value was 0,000, and the OR value was 19,855 which meant that mothers with KEK nutritional status had the opportunity to deliver babies with LBW 19 times respondents routinely perform physical exercise activities every week. While in the treatment group of yellow watermelon juice only 3 from 5 respondents who do physical exercise activity regularly. Lack of exercise can also increase the risk of blood pressure being higher. People who are less mobile tend to have higher heart rate so that the heart muscle must work harder during contractions [15].

The results of this study found that maternal age <20 years was at risk of giving birth to LBW babies. In this study the mother's age when pregnant was the most dominant factor in the incidence of LBW. Young pregnant women are associated with readiness to accept the pregnancy. In Seluma, the number of young marriages is very high; this has an impact on young pregnant women are associated with readiness to accept the pregnancy.

It is by the results of Fitrianingsih, 2012[3] study that there is a maternal age associated with the incidence of LBW. Mothers aged <20 years is a period of growth so that in the event of pregnancy there will be competition for nutritional needs for pregnancy with growth. The same research results Hidayatuz, 2015 [7], that the risk factors for LBW incidence were maternal age <20 years and> 35 years with a p-value of 0.030.

The results of this study indicate that the p-value is 0.045 which means there is a relationship between the distance of pregnancy with the incidence of LBW with a value of OR 1.855 which means that the mother with a pregnancy risk distance (<2 years) has 1.855 times the chance to give birth to LBW babies. This result is supported by research conducted by Maryam, 2016 [8] that there is a relationship between the distance of pregnancy and the incidence of LBW.

This study found that parity was related to LBW incidence. Mothers with multi-parity have the opportunity to give birth to LBW babies, by Nurbaity's, 2013 [9] study that parity is a factor that influences LBW behavior. Previous research also found that the risk of LBW events was more significant in mothers with high parity.

This risk is likely due to the deterioration of endometrial and corpus uterine functions due to too many giving birth, thus affecting circulatory nutrition and consequently susceptible to LBW. This is by research from Erlinya who said that high parity is at risk with the incidence of LBW with a p-value of 0.000.[9]

Anemia is a risk factor for LBW. During pregnancy, the mother experiences psychological changes that begin at six weeks, where there is an imbalance in the number of blood plasma and red blood cells. This balance can be seen in the form of a decrease in hemoglobin levels. Low levels of hemoglobin, especially in the third trimester of pregnancy which at that time requires more iron and rapid growth in the fetus. It will affect oxygen to the uterus and interfere with intrauterine conditions, especially the growth of the placenta which results in fetal growth will be disrupted so that the fetus is born with LBW [10]. The results of this study indicate that out of 83 mothers with anemia status (Hb level <11 g / dl), 52 people or most (53.1%) gave birth to babies with LBW, and 31 people or almost half (31.6%) mothers give birth to a baby with the baby's weight is born healthy. So that it can be obtained p = 0.004 which means there is a relationship between anemia and the incidence of LBW with an OR value of 2.443 which means that mothers with anemia (Hb level <11g / dl) can have a risk of giving birth to LBW as much as 2,443 times.

V. CONCLUSION

Risk factors for nutritional status, age, pregnancy distance, parity, anemia have a relationship with the incidence of LBW in the Seluma District Health Center in 2016. Age risk factors that most influence the prevalence of LBW in the Seluma District Health Center area in 2016. It may help to improve the activity of the integrated service post, the activeness of classes of pregnant women and toddlers in order to provide counseling on the cultural patterns of consumption of food that only consume vegetables without using animal protein is slightly reduced so that the community understands the importance of nutrition when pregnant and giving birth so that in Seluma District the incidence of SEZ can be reduced, and can further enhance the participation and
activeness of officers in providing education about health.

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