Quantitative Study of the Factors That Influence the Incidence of Low Birth Weight

Retno Dewi Prisusanti[1*], Achmad Jaelani Rusdi[2], Rahma Putri Kasimbara[3], Suwito[4], Dewi Anggraeni[5]
[1-5] Prodi Rekam Medis dan Infokes ITSK RS dr. Soepraoen Malang, Indonesia

Corresponding Author: retnodewi2503@gmail.com*

Abstract: *Background: Adolescents undergo changes where In Indonesia, the incidence of LBW is still relatively high, this is evidenced by the presence of data which shows that the birth rate of babies with normal weight is still below the expected rate. The global prevalence of LBW is 15.5%. A total of around 20 million LBW are born every year and 95.5%of them come from developing countries. The infant mortality rate (IMR) in Indonesia increased in 2012 from 19 per 1,000 live births to 22.23% per 1,000 live births (SUPAS, 2015). Based on the results of the East Java National Socio- Economic Survey (Susenas) 2011–2013, the infant mortality rate (IMR) in East Java in 2013 was 27.23% per 1,000 livebirths (East Java Province Health Profile, 2014). Purpose: This study aims to determine the factors that influence the incidence of low birth weight babies. Method: This type of research is analytic observational. With the analytical designof the case study study (case study) and using a retrospective approach. The sample used in this study was an accidental sample of all babies born at Bangil Hospital, Pasuruan Regency with birth weight less than 2,500 grams, as many as 34 babies. Result: From the results of research conducted at Bangil Hospital, Pasuruan Regency, the results of the factors that influence the occurrence of low birth weight in Bangil Hospital, Pasuruan Regency, namely, the nutritional factors of pregnant women with a result of 58.8%, Parity of a mother who experiences pregnancy> 4 times tends to experiencinglow birth weight with a percentage of 29.4%, followed by maternal age as much as 14.7%. Conclusion: It is expected thatpregnant women with high risk factors for pregnancy in the categories of pregnant women <20 years, parity of pregnant women> 4x, and nutritional status (LILA <23.5cm) can reduce the incidence of low birth weight at Bangil Hospital, Pasuruan Regency.*

Keywords: *Factors, Low Birth Weight Baby, Quantitative Study*

1. INTRODUCTION

Low birth weight (LBW) is a risk factor that contributes greatly to infant mortality, especially during the perinatal period. LBW contributes 60-80% of all neonatal deaths. (WHO, 2013).

Premature delivery or LBW is influenced by several factors including: history of previous premature pregnancy, poor nutrition during pregnancy, age <20 years or> 35 years, the distance between pregnancy and childbirth is too close, employment status, chronic maternal disease (hypertension, heart disease, blood vessel disorders, smokers), antepartum bleeding, uterine abnormalities, hydramnios, primigravida, pregnancy with hydramnios, multiple pregnancy, antepartum hemorrhage, preeclampsia, eclampsia, premature rupture of membranes, infections in the uterus and congenital anomalies (Maryunani and Puspita, 2013).

Mitayani (2011) noted that low birth weight correlates with maternal age. Pregnant women aged <20 years and> 35 years usually show excessive anxiety and fear of themselves. For example, changes in body shape so that the mother does the wrong diet and will result in nutritional disturbances in the growth of the baby or LBW (Yafie & Haqqi, 2019). The growth of the fetus in the womb is influenced by the nutritional status of pregnant women. In addition, infant mortality due to LBW (Low Birth Weight), which is less than 2.5 kg and premature babies, is also due to poor nutritional status of the mother (Pujiastuti, 2013).

The hope of the SGDs (Sustainable Development Goals) in 2016 is to achieve the reduction target of 23 per 1,000 live births, so improving access and quality of services for newborns (neonatal) is a top priority. The global commitment in the SDGs sets targets related to neonatal mortality, namely reducing the neonatal mortality rate until 2016-2030 at least to 12 per 1,000 live births.

2. METHODS AND RESULTS

The type of research that the researcher uses is analytic observational. With the analytical design of a case study (case study) and using a retrospective approach. Data collection techniques in this study used manual techniques, where risk factors were studied using a retrospective approach. The data collection technique in this study was to collect data through the medical records of the Bangil Hospital, Pasuruan Regency, then put it in a checklist sheet.

The results of the chi square test are the factors that influence the incidence of low birth weight Based on the nutritional status of pregnant women.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	20,238[a]	1	,000		
Continuity Correction[b]	16,944	1	,000		
Likelihood Ratio	24,443	1	,000		
Fisher's Exact Test				,000	,000
Linear-by-Linear Association	19,643	1	,000		
N of Valid Cases	34				

a. 1 cells (25,0%) have expected count less than 5. The minimum expected count is 4,12.

b. Computed only for a 2x2 table

The results of the chi square test are the factors that influence the incidence of low birth weight Based on mother's Parity. The results of the chi square test are the factors that influence the incidence of low birth weight based on the age of pregnant women

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	11,241[a]	1	,001		
Continuity Correction[b]	8,642	1	,003		
Likelihood Ratio	10,892	1	,001		
Fisher's Exact Test				,002	,002
Linear-by-Linear Association	10,911	1	,001		
N of Valid Cases	34				

a. 1 cells (25,0%) have expected count less than 5. The minimum expected count is 2,94.

b. Computed only for a 2x2 table

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2,443[a]	1	,118		
Continuity Correction[b]	1,064	1	,302		
Likelihood Ratio	3,831	1	,050		
Fisher's Exact Test				,291	,153
Linear-by-Linear Association	2,371	1	,124		
N of Valid Cases	34				

a. 2 cells (50,0%) have expected count less than 5. The minimum expected count is 1,47.

b. Computed only for a 2x2 table

Researchers analyzed using Chi Square with a significance level of <0.05, the Chi Square test results were as follows:

a. based on the age of pregnant women who are <20 years with a probability value of 0.118. Then H1 is rejected.

b. based on mother's parity <4x with a probability value of 0.001. then H1 is accepted.

c. based on the nutritional status of pregnant women (LILA <23.5 cm) with a probability of 0.000. Then H1 is accepted.

In this study, data processing until the results of the research were processed by the author sourced from Patient Medical Records at Bangil Hospital, Pasuruan Regency, so it is necessary to pay attention to the status of a respondent that is different from other respondents, such as the example in the R2 code the nutritional status of the mother may be one of the the trigger for the occurrence of babies with low birth weight, this is evidenced by the presence of data showing that the mother's arm circumference is less than the minimum limit of the normal arm circumference criteria for pregnant women, namely 23 cm, while the minimum limit of normal arm circumference for pregnant women is 23.5 So the parietas status and maternal age of R2 do not experience any problems. However, this is not the case for the occurrence of LBW in mothers with code R3 where the factor suspected to be the cause of LBW is the pregnancy age that has not reached theminimum

age, which is 20 years. Meanwhile, maternal parity and nutritional status did not experience problems, or in other words, the parietas status was normal (not more than 4 times), and the nutritional status was also good (LILA> 23.5). However, it would be nice if a mother who is prepared to face pregnancy and childbirth is far from these three factors, because the safety of mother and baby is a top priority in the scope of midwifery.

3. CONCLUSION

After conducting the research, conclusions can be drawn about several factors that were identified by the researcher. shows that nutritional status is the highest factor that influences the incidence of LBW in Bangil Hospital, as many as 20 people (58.8%), in the second place there are 10 people (29.4%), and in the last order the age of pregnant women is 5 people (14.7%).

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