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LOW-BIRTH-WEIGHT BABIES DURING THE CORONAVIRUS DISEASE-2019 PANDEMIC: A DESCRIPTIVE STUDY

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ABSTRACT

Coronavirus disease-2019 (COVID-19) has become a non-natural disaster that has an impact on everyone. Maternal mortality and neonatal mortality in Indonesia are still a big challenge and need attention in the COVID-19 disaster situation. Neonatal deaths reported that the most deaths occurred in the first six days of life. The highest cause of neonatal death in 2019 was Low-Birth-Weight (LBW). LBW is usually caused by the mother's condition during pregnancy (adolescent pregnancy, malnutrition, and pregnancy with complications), twins' pregnancy, congenital fetal anomalies, and placenta disorder that inhibit the baby's growth (Intra Uterine Growth Restriction (IUGR)). This study aimed to determine the incidence of LBW during the pandemic at the Public Health Center of Juwiring, Klaten. The method of this study was a descriptive study. The sample in this study was total sampling using secondary data from October 2020 - June 2021 as many as 35 babies, and data analysis using univariate analysis. The results showed that the babies in category of LBW were 30 (85.7%), Very-Low-Birth-Weight (VLBW) was 3 (8.6%), and Extremely-Low-Birth-Weight (ELBW) was 2 (5.7%). The findings of this study from the maternal age group under 35 years old are 32 (91.4%), the multipara parity was 21 (60%), and the gestational age under 37 weeks was 22 (62.9%).

Keywords: COVID-2019 pandemic; LBW; neonates

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INTRODUCTION

COVID-19 has been declared a global pandemic by the World Health Organization (WHO). COVID-19 has become a non-natural disaster that has an impact on everyone. Maternal and neonatal mortality in Indonesia is still a big challenge and needs attention during COVID-19. According to the Indonesia Demographic and Health Survey (2017) , the neonatal mortality rate is 15 per 1,000 live births, while the infant mortality rate is 24 per 1,000 live births. In 2019, out of 29,322 under-five deaths, 69% (20,244 deaths) of them occurred in the neonatal period. Neonatal deaths were reported of 16,156 deaths occurred in the first six days of life. The highest contributing factor to neonatal death in 2019 was LBW babies with 7,150 deaths. The condition of LBW is usually caused by the mother's condition during pregnancy (adolescent pregnancy, malnutrition, and pregnancy with complications), twins' pregnancy, congenital fetal anomalies, and placenta disorder that inhibit the baby's growth (General of Public Health RI, 2020).

LBW is an expression to replace premature babies because of two things. There is the birth of a baby weighing less than 2,500 grams because the gestational age is less than 37 weeks and the weight is lower than it should be even though it is sufficient months or a combination of the two. Lack of food intake and micronutrient supplements can cause LBW (Manuaba, 2010). LBW is the most serious challenge for infant survival, healthy growth, and development. The major determinant of infant morbidity, mortality, and disability in childhood (Shrijana, 2021). The obstetric characteristics of the mother should play a role in the occurrence of LBW. Primiparity, mothers with short and thin stature were found to be predictors of LBW. Other factors included are mothers with body mass index, maternal height, and the interval between pregnancies <2 years, maternal age at delivery <20 years old are also associated with LBW. LBW is strongly associated with hypertensive disorders of pregnancy because this multi-organ disorder can cause IUGR (Bililign et al., 2018). LBW is associated with a group of factors that can be considered high-risk factors. These included low socio-economic status, anemia in pregnancy, primiparity, short maternal height, and less than average weight (Khan et al., 2016). Momeni et al (2017) that the factors that influence the occurrence of LBW are premature delivery, inbreeding, maternal age <18 years old and >35 years old, and maternal medical risk factors. The most common causes of neonatal death are LBW, respiratory distress syndrome, and sepsis (Shiva et al, 2021).

Klaten Regency consists of 34 health centers. Juwiring Health Center is one of the health centers in the Klaten district with the highest number of cases of LBW babies. According to information from the Klaten District Health Office (2019) there were 43 cases in 2018 and 45 cases in 2019. This case was increasing every year. This has an impact on morbidity or infant mortality so there was a major concern to reduce mortality. The aim of this study was to determine the incidence of LBW babies during the pandemic at the Juwiring Klaten Public Health Center.

METHOD

This study uses an analytic survey using a descriptive approach. The population in this study was LBW infants. The sample in this study was total sampling using secondary data at the Juwiring Health Center in October 2020 - June 2021 with 35 babies and data analysis using univariate analysis.

RESULTS

Table 1.
Survey Summary Statistics for Respondent Demographics (n= 35)

Category	f	%
LBW Incident		
LBW	30	85.7
VLBW	3	8.6
ELBW	2	5.7
CED in Pregnancy		
CED	10	28.6
No CED	25	71.4
Maternal Age		
>35 years old	3	8.6
<35 years old	32	91.4
Parity		
Primipara	14	40
Multipara	21	60

Category	f	%
Gestational Age		
<37 weeks	22	62.9
>37 weeks	13	37.1
Babies Gender		
Male	19	54.3
Female	16	46.3

The results of this study are explained in table 1. Data showed that the majority of respondents were born with LBW with the age of pregnant women less than 35 years old. The parity of the respondents found during the study was multipara, while the gestational age of pregnant women was less than 37 weeks and the sex of the baby born was male. Pregnant women who experienced Chronic Energy Deficiency (CED) were 10 cases.

DISCUSSION

The findings of the study showed that the incidence of LBW weighing 1500-2500 grams was on 30 respondents (85.7%) included in the LBW category. Babies with a weight of 1000-1500 grams consist of 3 respondents (8.6%) included in VLBW and with a weight of <1000 grams were 2 respondents (5.7%) included in the ELBW category. The three categories classified as LBW are influenced by several findings in the study such as maternal age at <35 years old of age, 32 parity respondents of pregnant women, multipara 21 respondents, gestational age <37 weeks were 22 respondents, and pregnant women who experienced CED were 10 respondents. Patale (2018) stated that maternal education, socioeconomic status, parity, maternal weight gain during pregnancy, maternal height, smoking habits, and birth order were factors that were significantly associated with low birth weight and increased use of health services during pregnancy, all of which are important for reducing LBW. This is in line with the results of the study which showed that there were 21 multipara respondents. Multiparas are very at high risk of giving birth to LBW. This happens especially if the condition of the mother's uterus has not recovered to get pregnant again and the pregnancy distance is too close or less than 2 years.

The results showed that 10 respondents experienced CED which contributed to the occurrence of LBW. The mother does not consume enough calories or nutritional intake to support the growth and development of her pregnancy. Nutrients that must be fulfilled by pregnant women are not only macronutrients consisting of carbohydrates, proteins, and fats, but also adequate micronutrients such as iron, zinc, vitamins, especially B12 and iodine. Mothers who did not get adequate and balanced nutritional intake during pregnancy are at risk of having babies with LBW, which is less than 2,500 grams. The occurrence of LBW in pregnant women begins with pregnant women who suffer from CED which makes the amount of blood in the mother's body decrease and the cardiac output of pregnant women is not enough, resulting in a decrease in blood flow to the placenta causing inhibition of fetal and placental growth (Permana & Wijaya, 2019).

Food intake during pregnancy and the gestation period was found to be significantly associated with LBW babies. The problem of LBW babies can be reduced because most of these factors can be easily overcome by providing adequate and effective antenatal care services with maximum utilization and focusing on the education of mothers and family members, thereby reducing infant mortality and child mortality (Bansal et al., 2018). Lack of food intake during pregnancy causes the birth of premature babies, this is in accordance with research by (Malla et al., 2015). Women with inadequate nutritional status at the time of

conception are at a greater risk of getting the disease. General risk factors for LBW were significantly related to low socioeconomic status, maternal age, maternal education, maternal occupation, maternal smoking, maternal alcohol intake, and a number of ANC visits. LBW, which is mostly related to maternal factors, can be addressed directly by improving socio-economic factors (mother's age, education level, and economic status) and the health status of pregnant women through supplementation, family planning services, and maternal education (Shrestha et al., 2016). According to Masithah (2019), maternal age, parity, and economic status are risk factors for LBW. Maternal education level, place of residence, haemoglobin, parity, number of antenatal care visits, and gestational age are risk factors that can cause LBW (Mohammed et al., 2019).

Momeni et al (2017) that the factors that influence the occurrence of LBW are premature delivery, inbreeding, maternal age <18 years old and >35 years old, and maternal medical risk factors. This is supported by the results of the study that the gestational age factor is <37 weeks. It is said that the baby was born prematurely. Baby growth generally increases rapidly in the last weeks of pregnancy. Babies born early do not have enough time to grow and develop so they tend to have lower body weight and small stature. In addition, low birth weight also often occurs due to intrauterine growth restriction (IUGR), which is a condition when the baby does not grow properly while in the womb.

Babies with LBW have a very complex and complicated problem because they contribute to poor health because it not only results in high mortality rates but can also cause disability, disruption or hinder cognitive growth and development, and also chronic diseases (Ferinawati & Sari, 2020). This is due to the unstable condition of the baby's body. Premature birth, LBW, and their combination continue to be a common public health problem in several countries (Pusdekar et al., 2020).

CONCLUSION

The conclusion of this study is that the involvement of husbands and families in assisting pregnant women can help in overcoming various problems during pregnancy.

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