

Conference Paper

Low Birth Weight (LBW) Analysis in the South Konawe Regency, Southeast Sulawesi Province, Indonesia

Rina Asriani¹, Ramadhan Tosepu^{2*}, Devi Savitri Effendy²¹Student of Postgraduate Program of Public Health, University of Halu Oleo, Indonesia²Faculty of Public Health University of Halu Oleo, Southeast Sulawesi province, Indonesia**Abstract.**

Low Birth Weight (LBW) is one of the public health problems. It becomes the single risk factor for early neonatal mortality and morbidity. The high number of LBW cases affects the baby's health in the future, including infants' slow growth, impaired cognitive development, susceptibility to diseases, such as disorders of the respiratory, cardiovascular, gastrointestinal, and kidney systems. It also causes increased morbidity and mortality. The Health Office of South Konawe Regency from 2017 to 2020 data was used in this research. LBW as the main cause of neonatal death in South Konawe increased year by year. The LBW cases in South Konawe from 2017 to 2020 increased in 2020, with the highest cases occurring in coastal areas of the South Konawe Regency, called Tumbu-Tumbu Jaya sub-district.

Corresponding Author:

Ramadhan Tosepu; email:
ramadhan.tosepu@uho.ac.id**Published:** 13 September 2022Publishing services provided by
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1. INTRODUCTION

Birth weight is very important factor of a newborn's health and future health or well-being. It indicates intrauterine growth conditions and health during pregnancy period [1][2]

Low birth weight defined by the World Health Organization (WHO) as a birth weight less than 2500 grams regardless of gestational age.[3][4][5]. LBW is one of the strongest single risk factors for early neonatal mortality and morbidity. According to the World Health Organization (WHO), the prevalence of LBW in global is 15.5%, and 96.5% of babies are born in developing countries [6] [7] [8].

Maternal and child health problems are becomes health care service indicator. In SE Asia, there is baby death of one month age by infectious and 20% premature birth and low birth weight babies (WHO, 2016). LBW is generally used as an indicator of health status that is important for developing health policies in a country [9]. The high maternal mortality rate (MMR) in several regions of the world reflects inequality to access the quality health services. Indonesia is one of the country that has high maternal mortality

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rate (MMR) after Myanmar and Laos. In 2017, the high maternal mortality rate (MMR) in Indonesia is 177 deaths per 100.000 live births. It is decrease slowly from 207 per 100,000 live births in 2013 to 177 per 100,000 live births in 2017[10].

The highest maternal mortality rate (MMR) will effect to the future baby such as including infants slow growth, impaired cognitive development, susceptibility to diseases, such as disorders of the respiratory, cardiovascular, gastrointestinal, and kidney systems. However it cause increase morbidity and mortality death [11]. According to the Indonesia Health Profile state that maternal mortality rate (MMR) the first factor cause neonatal deaths is maternal mortality rate (MMR) by 35,3% (7. 150 death cases). Southeast Sulawesi has maternal mortality rate (MMR) cases maternal mortality rate (MMR) out of 46.921 new born baby. East Java is the province with highest maternal mortality rate (MMR) 39.739 (7,1%) out of 558.257 new born baby [12]

According to the 2019 Indonesian Health Profile, the most common cause of neonatal death was low birth weight (LBW) incidence rate is 35.3% (7,150 deaths cases). In Southeast Sulawesi Province, the incidence of LBW was 1,815 (3.9%) out of 46,921 newborns weighed. Meanwhile, the province with the highest percentage of LBW incidence was East Java, which was 39,739 (7.1%) out of 558,257 newborns weighed [12].

In 2018, the LBW rate in Southeast Sulawesi was 1,107 (2.2%) of 50,387 babies born. The highest was in Wakatobi Regency was 64 (3.49%) of 1,836 babies born and the lowest was in Muna Regency was 14 (0.35%) of the 3,944 infants born [13]. The LBW in South Konawe was 305 (4.1%) of the 7,301 babies born in 2020. Meanwhile, the highest incidence of LBW was in Tumbu-tumbu Jaya District, namely 11 (9.2%) out of 119 babies born and the lowest was in Sabulakoa District was 1 (0.8%) out of 129 babies born [14].

2. METHOD

South Konawe Regency is one of the regency in Southeast Sulawesi Province, Indonesia. Andoolo sub-district is the capital. Total area of South Konawe Regency is 451,421 HA or 11.83% of the land area. The sea is more than 9,268 km². South Konawe Regency consists of 25 sub-districts with 25 Public Health Centers which is located in each sub-district with working area covering both land and coastal areas. There are nine Public Health Center around coastal area namely Tinanggea Health Center, Amondo Health Center, Pamandati Health Center, Lainea Health Center, Lalowaru Health Center, Moramo Health Center, Kolono Health Center, Tumbu-tumbu Jaya Health Center and Laonti Health Center[15].

This study is using various sources from the Indonesian Government Agencies. Information on LBW cases and deaths due to LBW was obtained from the South Konawe District Health Office from 2017 to 2020. It was the annual Health Service Profile published by the South Konawe District Health Office. The results of the study are presented on the images as follow

3. RESULT

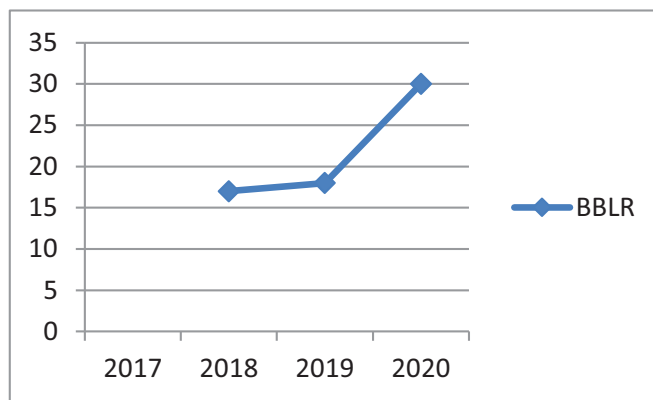


Figure 1: Number of neonatal deaths due to low birth weight in South Konawe.

According to the Health Office of the South Konawe Regency, the number of Neonatal deaths due to LBW in 2019 was 18 cases, and increase to 12 cases in 2020, namely 30 cases (Figure 1)

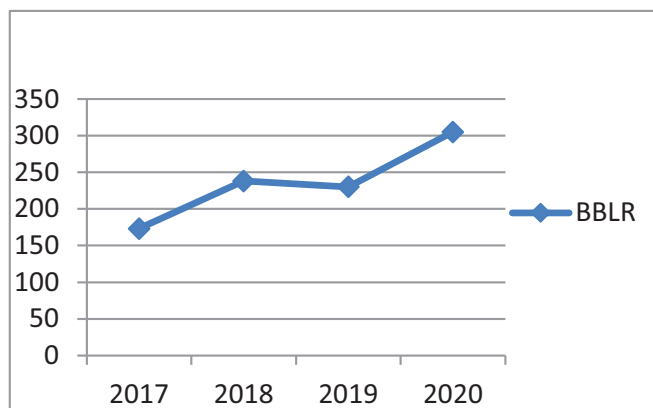


Figure 2: Number of LBW in South Konawe Regency.

The result of study showed that by 2017 to 2020 the incidence of Low Birth Weight Babies (LBW) is increasing. In 2019, there was a small numbers decrease from the previous year. However, in 2020 there was an improvement cases which illustrates that services in efforts to prevent Low Birth Weight Babies in South Konawe Regency still need to be re-evaluated (Figure 2)

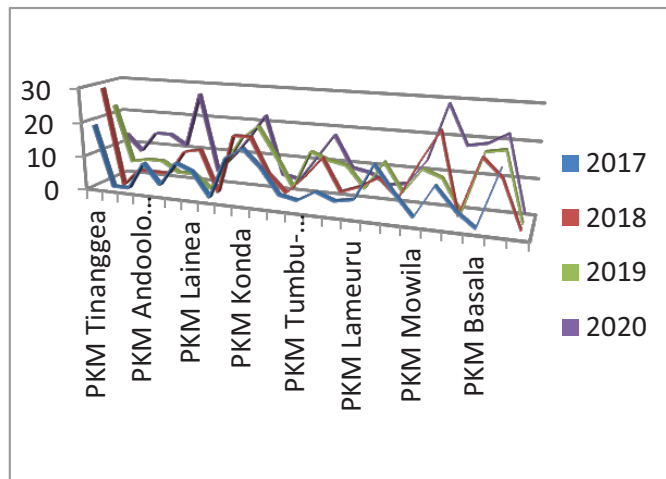


Figure 3: Number of LBW in sub districts South Konawe regency.

Based on the sub-districts in Konawe Selatan, it is known that in 2018 and 2019 the incidence of Low Birth Weight Babies mostly occurred in the Basala sub-district, in 2017 the most in the Palangga sub-district, while in 2020 the highest incidence was in the Tumbu-tumbu jaya sub-district (Figure 3).

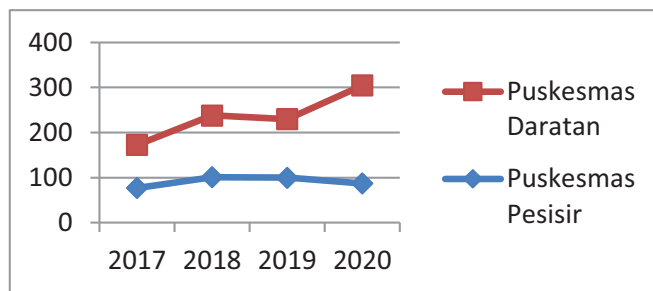


Figure 4: Number of LBW in coastal and land area in South Konawe Regency.

The above figure showed distribution cases of Low Birth Weight Babies in the Coastal Health Center area in 2017. The cases tended to be constant and decline in cases in 2020. There was an increase cases in the mainland health center areas in 2020.

3. DISCUSSION

Infant mortality in South Konawe regency contributes to the high incidence of LBW in 2020. Moreover, history of pregnancy complications, access to health services, frequency of ANC visits and preparation for delivery can reduce maternal and infant mortality. This can be done by preventing detection, and enabling treatment of problems during pregnancy.[16]

The prevalence improvement of Low Birth Weight Babies illustrates that evaluation of risk factors is needed, especially maternal factors such as maternal age, maternal parity, birth spacing and maternal nutritional status[17]. The needs of pregnant women are increasing than usual include amount of food consumption needs to be added. The consumption of food sources for energy is needs by the mother and fetus. Mothers who experience SEZ have a greater potential to give birth to LBW babies[18]

Based on the sub-districts, it is known that the low birth babies in 2020 is mostly happen in Tumbu-Tumbu Jaya sub-district, which is a coastal area. This is related to the fact that most pregnant women in coastal areas have a normal BMI before pregnancy which indicating the availability of nutritional reserves during later pregnancy to support her pregnancy[19]. This is likely cause less weight gain during pregnancy which can give birth to babies with low birth weight.[20].

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