



Determinants of Stunting in Landak District

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ABSTRACT

Stunting becomes one of the obstacles in Indonesia's achievement of the gold of 2045. The number of stunting incidents in the West Kalimantan Province is still high at 24.5% in 2023. Landak district also includes the highest number, which is 31.0%. The study aims to analyze the determinants of stunting incidence in the Landak District. The type of research used is analytical research with a cross-sectional approach. The total sample of 148 respondents was obtained through total sampling. Data analysis was carried out univariately and bivariate with Chi-Square statistical tests. In this study, maternal age during pregnancy, the history of Low Birth Weight, non-exclusive breastfeeding, and early Breastfeeding Complementary Food (MP-ASI) are determinants of stunting (p-value < 0.05). The conclusion is it is necessary to educate adolescents about the maturity of the marriage age and future mothers about patterns of childcare.

Keywords: Maternal Age During Pregnancy, Exclusive Breastfeeding, Low Birth Weight, Stunting.

ABSTRAK

Stunting menjadi salah satu penghambat dalam pencapaian Indonesia emas tahun 2045. Angka kejadian stunting di Provinsi Kalimantan Barat masih tergolong tinggi yaitu sebesar 24,5% di tahun 2023. Kabupaten Landak juga termasuk angka kejadian stunting yang masih tinggi, yaitu sebesar 31,0%. Penelitian ini bertujuan untuk menganalisis determinan kejadian stunting di Kabupaten Landak. Jenis penelitian yang digunakan adalah penelitian analitik dengan pendekatan Cross Sectional. Jumlah sampel sebesar 148 responden yang diperoleh melalui teknik total sampling. Analisis data dilakukan secara univariat dan bivariat dengan uji statistik Chi Square. Hasil penelitian ini diperoleh usia ibu yang melahirkan anak pertama, riwayat berat badan lahir bayi, pemberian ASI yang tidak eksklusif dan pemberian MP-ASI secara dini merupakan determinan stunting pada balita (p value < 0.05). Kesimpulannya adalah diperlukan edukasi kepada remaja tentang pendewasaan usia perkawinan dan pada calon ibu tentang pola asuh pada anak.

Kata Kunci: Usia Ibu Saat Hamil, Pemberian ASI Eksklusif, Berat Bayi Lahir Rendah, Stunting.

INTRODUCTION

Stunting is a problem of nutritional status that can inhibit growth and development from the beginning of a young child's life and can be a problem at the time of productive age (Migang, 2021). The fetal growth process is interrupted by the nutritional condition of pregnant mothers before and after pregnancy, so when a pregnant mother is undernourished, she will be at risk of giving birth to a baby with a low birth weight, and this is the main cause of the child becoming stunted (Wati, Monarisa, & Rikandi, 2019).

The prevalence of stunting in Indonesia ranks 115th out of 151 countries in the world (Kemenko PMK, 2021). According to the results of the 2021 Indonesian nutritional status study (SSGI), the prevalence in Indonesia is 24.4% and remains a very high category (Kemenkes RI, 2021). According to Electronic Registration and Public Nutrition Reporting (e-PPGBM) for 2021, stunting prevalence in West Kalimantan was 17.75%, and stunting incidence in Landak District was 22.35% (Dinas Kesehatan Provinsi Kalbar, 2021). In 2022, West Kalimantan showed a 27.8% increase in stunting prevalence, while Landak District saw a 32.5% increase, resulting in Landak County's ranking rising from 7th in 2021 to 5th in 2022 (SSGI, 2022). Referring to the Vice President's statement, Ma'ruf Amin stated that the results of the Indonesian Health Survey (SKI) compared to 2022 and 2023 show a decline in stunting of only 0.1 in Indonesia. The number of stunting incidents in the West Kalimantan Province is still high at 24.5% in 2023. Landak district also includes the highest number, which is 31.0% (Kemenkes RI, 2023).

When exposed to stunting, Toddlers (under five years old) will be more susceptible to disease, and older people will be at risk of degenerative disease when walking into adulthood (Jupri, Putra, P, Rozi, & Husain, 2022). The risk factors that can affect stunting include the sex of the child, birth length, birth weight, medical history, exclusive breastfeeding history, primary immunization history, maternal age at birth, mother's height, parental education, parent work, and family income (Nursyamsiyah, Yulida, & Bani, 2021; Olo, Mediani, & Rakhmawati, 2020). Previous studies found that low birth weight, exclusive breast milk history, and prematurity were associated with stunting (Sulistianingsih & Sari, 2018; Suwarni, Selviana, Vidyastuti, Abdullah, & Adi, 2023).

Mothers with a higher level of education tend to prefer and provide nutritious food for their children, in contrast to uneducated or poorly educated mothers who, when caring for their babies, may not pay as much attention to the nutrients in their food packages. Therefore, the education of mothers plays a significant role and indirectly contributes to stunting incidents related to the way they provide nutritious food for their children (Sary, Sari, Hermawan, Aryastuti, & Rahayu, 2024; Yanti, Betriana, & Kartika, 2020).

Moreover, the milk's composition includes enzymes, hormones, immunological components, and anti-infection elements, ensuring the body's resilience against infection, disease prevention, and optimal nutritional satisfaction for babies during their growth and development (Bahriyah, Jaelani, & Putri, 2017; Sihombing, 2018). Previous research found that newborns who did not receive exclusive milk during the first 6 months were higher in the stunting group (88.2%) compared to the healthy group (61.8%), and showed that there was a relationship between exclusive breast and stunting (Maiza, Julinar, & Andri, 2022; Zurhayati & Hidayah, 2022).

Low birth weight also affects stunting in children. Low birth weight, specifically under 2,500 grams, significantly impacts the growth and development of the fetal organs, resulting in a slower growth rate at birth. Thus, the digestive process will be impaired, which will affect the low level of nutrient absorption. As a result, the nutritional intake will not be optimal during the flowering process, especially in the first two years of age, leading to a short or stunted period (Murti, Suryati, & Oktavianto, 2023; Oktavia & Widajanti, 2017). Earlier studies showed that there was a relationship between the birth weight of the baby and the stunting incidence of young people aged 2–5 years in the village (Eka Wijayanti, 2019). The study aims to analyze the determinants of stunting incidents in the Landak district.

METHODS

Analytical research employs a cross-sectional approach. Mothers with young children aged 0-59 months were the population in this study, with as many as 148 respondents. Age 0-59 months is a golden period because it's the most important stage in growth and development

at the beginning of a child's life. The study used a total sample of 148 respondents. By administering the questionnaire, we directly collected data from the respondents. We then encode and present the collected data in a frequency distribution format. This study employs both bivariate and univariate data analyses. Univariate analysis described the general information of the respondents, supplied as frequency and percentage. We used chi-square in bivariate analysis to examine each independent and dependent variable. Ethical Clearance No. 010/KEPK-FIKES/UM-PONTIANAK/2023 has approved this study, including all instruments and procedures.

RESULTS

Table 1. Univariate Analysis

Characteristic	Frequency	
	n	%
Maternal Age During Pregnancy		
<20 Years	100	67,6
≥20 Years	48	32,4
Exclusive Breastfeeding		
No	117	79,1
Yes	31	20,9
Low Birth Weight		
<2500 Gram	10	6,8
≥2500 Gram	138	93,2
Breastfeeding Complementary Food		
<6 months	115	77,7
≥ 6 months	33	22,3
Stunting		
Yes	68	45,9
No	80	54,1
Total	148	100,0

Table 1 showed that the majority of mothers give birth to their first child at the age of less than 20 years (67.6%), non-exclusive breastfeeding (79.1%), not low birth weight (≥ 2500 grams) (93.2%), or Breastfeeding Complementary Food (MP-ASI) less than 6 months (77.7%). Furthermore, the results revealed that 45.9% of respondents were of insufficient age (stunting).

Table 2. Bivariate Analysis using the chi-square test

Variable	Stunting				OR 95% CI	p-value
	Yes		No			
	n	%	n	%		
Maternal Age During Pregnancy						
<20 Tahun	27	47,0	53	53,0	1,140 (0,571-2,279)	0,845
≥ 20 Tahun	41	43,8	27	56,3		
Low Birth Weight						
Yes (<2500 Grams)	6	60,0	4	40,0	1,839 (0,497-6,807)	0,552
No (≥ 2500 Grams)	62	44,9	76	55,1		
Exclusive Breastfeeding						
No	61	52,1	56	47,9	3,735 (1,493-9,341)	0,006
Yes	7	22,6	24	77,4		
Breastfeeding Complementary Food						
<6 months	61	53,0	54	47,0	4,196 (1,687-10,438)	0,002
≥ 6 months	7	21,2	26	80,0		

Table 2 shows that there is a significant correlation between exclusive breast milk (OR = 3,735; 95% CI = 1,493–9,341) and milk MP (OR = 4,196; 1,687–10,438) and stunting events (p -value < 0.05). Maternal age during pregnancy and low birth weight are not significantly associated with stunting but have a positive relationship trend (p -value > 0.05).

DISCUSSION

This study found that maternal age during pregnancy age less than 20 years was 1.140 times more likely to experience stunting than mothers who had their first child after the age of 20. There is no significant relationship between maternal age during pregnancy and stunting incidence, according to statistical test results (p -value > 0.05). However, the relationship trend is positive. This study is in line with some previous studies that showed that mothers who were born for the first time at less than 20 years of age were more likely to have a stunting child than those who were giving birth at more than 20 years of age (Fall et al., 2015; Kurniati, Krisnawaty, & Suwarni, 2023; Sari & Sartika, 2021; Sary et al., 2024). Pregnancy-related maternal age may have an impact on the baby's length at delivery. Marriage at an early age will have a negative impact on health, especially for women under the age of 20 due to premature childbirth (Dewi, Widyanthini, & Widarini, 2021). According to a study in India, women who married before the age of 18 had a higher risk of having a stunted child (43.8%) compared to those who married after the legal marriage age (34.9%) (Halli, Biradar, & Prasad, 2022). Mothers who give birth to their first child at a young age or under the age of 20 years experience delays, even declines in growth and development, and 60% of these young mothers are at a very high risk of stunting (Sawi, Hasym, Siregar, Roji, & Nadia, 2024). Therefore, we advise women not to marry at an early age to prevent stunting and to ensure the health of future generations in our nation.

The study found that babies born with a weight of less than 2500 grams were 1,839 times more likely to have stunts than those born with more than 2500 grams. There is no significant relationship between low birth weight and stunting incidence, according to statistical test results (p -value > 0.05). However, the relationship trend is positive. This study is consistent with previous studies that found a significant relationship between low birth weight and the prevalence of stunting. Previous research findings stated that the history of toddlers born experiencing low birth weight was 11 (39.3%) with 9 (81.8) toddlers suffering from stunting (Siregar, Sinurat, Wulandari, & Nasution, 2024). Research in the South African country of Zambia shows that toddlers with low birth weight are 3.2 times more likely to experience stunting (Murti et al., 2023; Sumaifa & Soripet, 2021; Trisiswati, Mardhiyah, & Maulidya Sari, 2021; Zakaria et al., 2024). Birth weight in general is closely related to long-term growth and development. So, the further impact of LBW can be failure to grow (growth faltering) on the survival of children (Nesa, Aprianti, & Hariati, 2024).

The analysis revealed that there was a significant relationship between non-exclusive breastfeeding and stunting events (p -value < 0.05). A baby who is not given exclusive breastfeeding has a stunting risk of 2,309 times higher than a baby who has exclusive breastfeeding. This study aligns with the findings that demonstrate a correlation between exclusive breastfeeding and stunting incidents reported in the news (Louis, Mirania, & Yuniarti, 2022; Maiza et al., 2022; Sudariyekti & Arifah, 2024). The best way to prevent stunting is to provide nutrition according to the child's needs by giving exclusive breastfeeding, so the baby will be satisfied with its nutritional needs (Latifah, Purwanti, & Sukanto, 2020). Eastern African research revealed that newborns who did not receive exclusive breastfeeding tended to have a stunting rate of 1.24 compared to those who received exclusive breast milk (Uwiringiyimana, Osei, Amer, & Veldkamp, 2022). The importance of exclusive breastfeeding during the first six months cannot be overstated (Irdawati, Fitri, Syaiful, & Nafisah, 2023; Oktaviani, Suwarni, & Selviana, 2023). Therefore, we cannot undervalue the importance of exclusive breastfeeding during the first six months.

The results of the study showed a significant relationship between Breastfeeding Complementary Food and stunting incidences. As a result, information with a stunting risk of 2,501 and a p -value of 0,002 is associated with a higher tendency for stunting (53%) when with a Breastfeeding Complementary Food of less than six months. It's crucial to monitor the timing of Breastfeeding Complementary Food (MP-ASI) to avoid replacing milk with supplements too early or at less than 6 months of age (Kalsum, Annisa, Abdullah, & Latif, 2022; Khoiriyah, Ismarwati, & Wantonoro, 2024; Sari & Sartika, 2021; Sari & Harianis, 2022). Breastfeeding Complementary Food (less than six months) is significant with stunting (Rehena, Hukubun, & Nendissa, 2021). The researchers surmise that the local community's habits or beliefs continue to encourage early Breastfeeding Complementary Food administration as a preventative

measure against pregnancy in infants. Furthermore, premature administration of Breastfeeding Complementary Food will affect the unprepared baby's digestive ability, increasing the risk of developing diarrhea. A previous study found that early Breastfeeding Complementary Food to babies aged 0–6 months accounted for 83% of cases of diarrhea (Merben & Abbas, 2023). Therefore, it is necessary to organize health education activities regarding Breastfeeding Complementary Food, and diarrhea disease, which should include explanations about diarrhea, its causes, and its prevention.

CONCLUSION

Based on the results of the research, it can be concluded that Maternal Age During Pregnancy (OR=1.140), Low Birth Weight (OR=1.839), Exclusive Breastfeeding (OR=3.735), and Breastfeeding Complementary Food (OR=4.196) are determinants of stunting in Landak district. It is expected that the health care officer will build or approve the prospective mother to marry at the age of more than 20 years. For mothers in pregnancy planning, always pay attention to nutritional intake and routine in the antenatal examination to prevent low birth weight in babies. Then it is advised to parents to give exclusive breast milk to babies until at least 6 months and to give Breastfeeding Complementary Food at the age of more than 6 months so that the growth and development of young children can be avoided from stunting.

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