**FACTORS RELATED TO STUNTING INCIDENCE IN THE WORKING AREA OF THE BAKAM HEALTH CENTER IN 2022**

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*ABSTRACT*

**Latar Belakang**: Stuntinme merupakan salah satu masalah gizi yang berdampak buruk pada kualitas hidup anak. Saat ini, ada sekitar 162 juta anak balita yang mengalami stunting. Berdasarkan data Kementerian Kesehatan tahun 2021 pada tahun 2018 sebesar 30,8% dan pada tahun 2019 Provinsi Bangka Belitung prevalensinya sebesar 4,3%, pada tahun 2020 sebesar 3,3% sedangkan pada tahun 2021 naik menjadi 5,9%.

**Tujuan:** Mengetahui faktor-faktor terkait kejadian stunting di Wilayah Kerja Puskesmas Bakam tahun 2022

**Metode:** Penelitian ini merupakan penelitian observasional dengan desain penelitian case control, Sampel yang dibutuhkan adalah 59 sampel kelompok kontrol dan kelompok kasus sehingga total sampel yang dibutuhkan adalah 118 balita, Tes statistik menggunakan uji Chi Square.

**Hasil:** Hasil uji Chi Square menunjukkan hubungan yang bermakna antara pemberian ASI eksklusif dan kejadian stunting (P-Value 0,002). Hasil uji Chi Square menunjukkan hubungan yang bermakna antara IMD dan kejadian stunting (P-Value 0,016). Hasil uji Chi Square menunjukkan hubungan yang signifikan antara status gizi dan kejadian stunting (P-Value 0,003). Hasil uji Chi Square menunjukkan hubungan yang bermakna antara MP-ASI dengan kejadian stunting (P-Value 0,014), jika dari semua variabel P-value adalah 0,05, maka H0 ditolak, yang berarti bahwa terdapat hubungan yang bermakna antara variabel independen dan variabel dependen.

**Kesimpulan**: Ada hubungan yang signifikan antara ASI eksklusif, IMD, status gizi dan MP-ASI terhadap kejadian stunting.

**Saran:** Untuk mencegah kejadian stunting, dapat memaksimalkan pemberian ASI eksklusif, IMD, status gizi yang baik dan kualitas MP-ASI.

**Kata Kunci:** Stunting, IMD, ASI Ekslusif, Status Gizi, MP-ASI

***ABSTRAC***

**Background:** Stunting is one of the nutritional problems that has a bad impact on children's quality of life. Currently, there are around 162 million children under five years old who are stunted. Based on data from the Ministry of Health in 2021 in 2018 it was 30.8% and in 2019 Bangka Belitung Province the prevalence was 4.3%, in 2020 it was 3.3% while in 2021 it rose to 5.9%.

**Purpose:** Knowing the factors related to the incidence of stunting in the Bakam Health Center Work Area in 2022

**Methods:** This study is an observational research with a case control research design, The samples needed are 59 samples control group and case group so that the total sample needed is 118 toddlers, Test statistic used Chi Square test.

**Results:** The results of the Chi Square test showed a meaningful relationship between exclusive breastfeeding and stunting incidence (P-Value 0.002). The results of the Chi Square test showed a meaningful relationship between IMD and stunting incidence (P-Value 0.016). The results of the Chi Square test showed a significant relationship between nutritional status and stunting incidence (P-Value 0.003). The results of the Chi Square test showed a meaningful relationship between MP-ASI and the incidence of stunting (P-Value 0.014), if of all the variables P-value was 0.05, then H0 was rejected, which means that there was a meaningful relationship between the independent variable and the dependent variable.

**Conclusion**: There is a significant relationship between exclusive breastfeeding, IMD, nutritional status and MP-ASI on stunting incidence

**Suggestions**; To prevent stunting events, it can maximize exclusive breastfeeding, IMD, good nutritional status and quality MP-ASI.

**Keywords: : Stunting, IMD, breastfeeding, nutritional status**

**Article Contents**

**INTRODUCTION**

Stunting is due to chronic malnutrition or growth failure in the past and is used as a long-term indicator for nutrition (Azriful et al., 2018).

Several factors are suspected to be the cause of stunting, such as the mother's pregnancy history, lack of nutritional intake during pregnancy. Other factors are the non-implementation of Early Breastfeeding Initiation (IMD), the failure of exclusive breastfeeding and the early weaning process. In addition to these factors, socio-economic and sanitation conditions are also related to the occurrence of stunting (Data Center and Information of the Ministry of Health of the Republic of Indonesia, 2018).

Data from the UNICEF World Global Health Observatory in 2021 for the prevalence of stunting children under 5 years old, the prevalence rate ranges from 21.3 – 22.7% with an average of 22% (Who, 2021)

Based on data from the results of Basic Health Research (Riskesdas) in 2007, the stunting rate in Indonesia was 31.8%, in 2013 it was 37.2 %, and in 2018 it was 30.8% (Riskesdas, 2018)

Based on the dashboard of the distribution of stunting in 2019, the prevalence of Bangka Belitung Islands Province was 4.3%, in 2020 it was 3.3%, while in 2021 it rose to 5.9%. Although the prevalence of stunting in Bangka Belitung province is not as high as West Sulawesi's 23.1% and East Nusa Tenggara's 22.4% in 2021, it still contributes to the high national stunting rate (Ministry of Home Affairs, 2021).

**RESEARCH METHODOLOGY**

This study is an observational research with a case control research design. This study is an observational research with a case control research design. In case studies, observation or measurement of the free variable and the dependent variable are not carried out at the same time. research was carried out in the working area of the Bakam Health Center in January 2023. The population is all toddlers aged 24-59 months who carry out examinations and record data in the work area of the Bakam Health Center, which amounted to 1724 toddlers in 2022 with the Sampling with Probability Proportional to Size (PPS) taking technique, then continued with Simple Random the number of samples of 59 samples per control group and case group so that the total sample needed is 118 toddlers.

**RESEARCH RESULT**

Univariate analysis

Table 1

Distribution of Respondent Frequency based on Pregnant Women's Nutritional Status History to Stunting Incidence in the Bakam Health Center Work Area in 2022

|  |  |  |
| --- | --- | --- |
| Nutritional status | n | % |
| MEZ(LILA < 23.5 cm) | 61 | 51,7 |
| Normal (LILA > 23.5 cm) | 57 | 48,3 |
| Total | 118 | 100 |

Table 2

Distribution of Respondent Frequency based on Exclusive Breastfeeding History on the incidence of stunting in the work area Bakam Health Center in 2022

|  |  |  |
| --- | --- | --- |
| Exclusive Breastfeeding | n | % |
| No (< 6 months) | 66 | 55,9 |
| Yes (0-6 months) | 52 | 44,1 |
| Total | 118 | 100 |

Table 3

Distribution of Respondent Frequency based on Early Breastfeeding Initiation History (IMD) on stunting incidence in the work area Bakam Health Center in 2022

|  |  |  |
| --- | --- | --- |
| IMD | n | % |
| No (< 1 hour) | 66 | 55,9 |
| Yes (1 hour) | 52 | 44,1 |
| Total | 118 | 100 |

Table 4

Distribution of Respondent Frequency based on History of Complementary Foods for BREAST MILK (MP-ASI) on stunting incidence in the work area Bakam Health Center in 2022

|  |  |  |
| --- | --- | --- |
| Nutritional status | n | % |
| No (not exactly) | 72 | 61 |
| good (precise) | 46 | 39 |
| Total | 118 | 100 |

Bivariate Analysis

Table 6

The Relationship between History of Nutritional Status and the incidence of Stunting in the Bakam Health Center Work Area in 2022

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Exclusive Breastfeeding** | **Stunting** | | **Normal** | | **Jumlah** | | **P-*value*** | **OR** | **POR(95% CI)** |
| **n** | **%** | **n** | **%** | **N** | **%** |  |  |  |
| **Nutritional status** | 39 | 66,1 | 22 | 37,3 | 61 | 51,7 | 0,003 | 3.280 | 1.542-6.973 |
| **MEZ(LILA < 23.5 cm)** | 20 | 39,9 | 37 | 62,7 | 57 | 48,3 |  |  |  |
| **Total** | 59 | 100 | 59 | 100 | 118 | 100 |  |  |  |

Table 7

The Relationship between Exclusive Breastfeeding History and the incidence of Stunting in the Bakam Health Center Work Area in 2022

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Exclusive Breastfeeding** | **Stunting** | | **Normal** | | **Jumlah** | | **P-*value*** | **OR** | **POR(95% CI)** |
| **n** | **%** | **n** | **%** | **N** | **%** |  |  |  |
| **No (< 6 months)** | 42 | 71,2 | 24 | 40,7 | 66 | 55,9 | 0,002 | 3.603 | 1.674-7.753 |
| **Yes (0-6 months)** | 17 | 28,8 | 35 | 59,3 | 52 | 44,1 |  |  |  |
| **Total** | 59 | 100 | 59 | 100 | 118 | 100 |  |  |  |

Table 8

The Relationship between Early Breastfeeding Initiation (IMD) and the incidence of Stunting in the Bakam Health Center Work Area in 2022

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **IMD** | **Stunting** | | **Normal** | | **Jumlah** | | **P-*value*** | **OR** | **POR(95% CI)** |
| **n** | **%** | **n** | **%** | **N** | **%** |  |  |  |
| **No (< 1 hour)** | 40 | 67,8 | 26 | 44,1 | 66 | 55,9 | 0,016 | 2.672 | 1.262-5.656 |
| **Yes (1 hour)** | 19 | 32,2 | 33 | 55,9 | 52 | 44,1 |  |  |
| **Total** | 59 | 100 | 59 | 100 | 118 | 100 |  |  |  |

Table 9

The Relationship between History of Complementary Foods (MP-ASI) and the incidence of Stunting in the Bakam Health Center Work Area in 2022

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Nutritional status**  **No (not exactly)** | **Stunting** | | **Normal** | | **Jumlah** | | **P-*value*** | **OR** | **POR(95% CI)** |
| **n** | **%** | **n** | **%** | **N** | **%** |  |  |  |
| **good (precise)** | 43 | 72,9 | 29 | 49,2 | 72 | 61 | 0,014 | 2.780 | 1.290-5.993 |
| **Nutritional status** | 16 | 27,1 | 30 | 50,8 | 46 | 39 |  |  |  |
| **Total** | 59 | 100 | 59 | 100 | 118 | 100 |  |  |  |

**DISCUSSION**

The results of the research that have been carried out state that there is a meaningful relationship between nutritional status and stunting incidence. With the results of bivariate analysis obtained (p-value 0.003), which means that there is a relationship between the nutritional status of KEK pregnant women and the incidence of stunting, and is 3,280 times more likely to experience compared to the nutritional status of normal pregnant women.

The results of the research that have been carried out state that there is a meaningful relationship between the History of Exclusive Breastfeeding and the incidence of stunting. With the results of bivariate analysis obtained (p-value 0.002), which means that there is a relationship between the history of not exclusive breastfeeding and the incidence of stunting and 3,603 times more likely to experience compared to those who do exclusive breastfeeding.

The results of the research that have been carried out state that there is a meaningful relationship between the History of Early Breastfeeding Initiation (IMD) and the incidence of stunting. With the results of bivariate analysis obtained (p-value 0.016), which means that there is a relationship between non-IMD history and stunting incidence, and 2,672 times more likely to experience compared to those who do IMD.

The results of the research that have been carried out state that there is a meaningful relationship between the History of Complementary Foods (MP-ASI) and the incidence of stunting. With the results of bivariate analysis obtained (p-value 0.014), which means that there is a relationship between the history of inappropriate MP-ASI administration and the incidence of stunting, and 2,780 times more likely to experience compared to those who do MP-ASI well.

**CONCLUSION**

There is a meaningful relationship between the nutritional status of pregnant women, history of exclusive breastfeeding, history of early initiation of breastfeeding (IMD), history of complementary foods (MP-ASI) and the incidence of stunting in the work area of the Bakam Health Center in 2022.

**SUGGESTION**

To prevent stunting events, it can maximize exclusive breastfeeding, IMD, good nutritional status and quality MP-ASI

**REFERENCE**

Akombi, (2017) B. J. et al. 2017. Stunting, wasting and underweight in Sub- Saharan. Africa: A systematic review. International Journal of Environmental.

Azriful et al. (2018). Factors Affecting Stunting in Toddlers Aged 24-59 Months at Cepu Health Center, Blora Regency. Semarang: Diponegoro University.

AL – Rahmad et al. 2013. The study of stunting in children under five was reviewed from exclusive breastfeeding, MP-ASI, immunization status, and family characteristics in Banda Aceh City. Nasawakes Journal of Scientific Health. 6(2) : 169 – 184.

Anisa, D.Z., Irdasari, S.Y., Sukandar, H. 2012. Analysis of the distribution and risk factors of stunting in toddlers in Purwakarta Regency. Community Epidemiology of FKUP Bandung

Dewi, N. T., & Widari, D. (2016). The Relationship between Low Birth Weight and Infectious Diseases with the Incidence of Stunting in Baduta in Maron Kidul Village, Maron District, Probolinggo Regency. Amerta Nutr, 2, 373- 381.

Desyanti, Chamilia and Nindya (2017) 'The Relationship between History of Diarrheal Disease and Hygienic Practice with the Incidence of Stunting in Toddlers Aged 24-59 Months in the Working Area of the Simolawang Health Center, Surabaya', Amerta Nutrition, pp. 243–251.

Directorate of Community Nutrition, Director General of Health of the Ministry of Health of the Republic of Indonesia. (2016). Guidelines and Management of Anemia in Adolescent Girls and Women of Childbearing Age (WUS). Jakarta: Ministry of Health of the Republic of Indonesia.

Provincial Health Office of Bangka Belitung Province. 2021. Bangka Belitung Province Health Profile 2021. Pangkalpinang: Bangka Belitung Provincial Health Office

Bangka Regency Health Office. 2021. Bangka Regency Health Profile in 2021. Sungailiat: Bangka Regency Health Office

E.PPGBM Nutrition. (2021). Handling Stunting at the Bakam Health Center

Fikawati,. (2020). The Relationship between Maternal Factors and the Incidence of Stunting in Toddlers at the Piyungan Health Center, Bantul Regency. Yogyakarta: Universitas 'Aisyiyah Yogyakarta.

Fitri, L. (2018) 'Stunting in the Fifty Pekanbaru Health Center', 3(1), pp. 131–137

Haile, et al. (2016). Factors Associated with Stunting Among Children of Age 24 to 59 Months in Meskan District, Gurage Zone, South Ethiopia: a case- control study. BMC Public Health, 14(800), 121-131.

Hales, baker. (2012). Risk Factors Of Stunting Among Children Under 5 Years Of Age In The Eastern And Western Provinces Of Rwanda: Analysis Of Rwanda Demographic And Health Survey 2011/2012.

Helena (2013) Overview of Nutritional Knowledge of First Trimester Pregnant Women and Diet in Nutrition Fulfillment.

Helmyati (2019). The Relationship between Maternal Height and History of MP-Breastfeeding with the Incidence of Stunting in Toddlers Aged 24-59 Months. Amerta Nurt, 78-84.

Khoiron. (2018). The Relationship Between Infectious Diseases and Malnutrition in Children Aged 2-5 Years. Journal of Nurses LENTERA, 06, 1-9.

Ministry of Health of the Republic of Indonesia. (2018). The Situation of Short Toddlers. Jakarta: Ministry of Health of the Republic of Indonesia.

Ministry of Health of the Republic of Indonesia. (2010). Guidelines for Integrated Antenatal Services. Jakarta: The Ministry of Health Director General of Public Health Development.

Ministry of Health of the Republic of Indonesia. (2016). Maternal and Child Health Book. Jakarta: Ministry of Health and JICA.

Lyana Firsta Sentana, Juraida Roito Hrp, Zuchrah Hasan, (2018). Factors related to the incidence of stunting in children aged 12-24 months in Kampung Tengah Village, Sukajadi District, Pekanbaru. Amerta Nurt, 392-401.

Lolu Senbanjo, I., et al. 2016. Prevalence of and Risk factors for Stunting among School Children and Adolescents in Abeokuta, Southwest Nigeria. Journal of Health, Population and Nutrition. 29(4):364-370

Myaatl et al. (2018). Principles and Methods of Epidemiological Research. Yogyakarta: Gadjah Mada University Press.

Maenda 2015. Principles of Nutritional Assessment. Second Edition. Oxford University Press Inc, New York

Marmi. (2013). Factors related to the incidence of stunting in toddlers aged 24-59 months in East Semarang District.: Semarang State University

Nurillah, et al. (2012). Risk Factors for Stunting in Toddlers Aged 24-36 Months in East Semarang District. Semarang: Diponegoro University.

Nur Sholikhah, Khristina Dias Utami, MPH (2019) The relationship between the nutritional status of pregnant women and the incidence of stunting in the working area of the Kalibawang Health Center, Kulon Progo Regency. Journal of Indonesian Clinical Nutrition, 31-37.

Ni'mah, K. (2015). Factors Associated with the Incidence of Stunting in Toddlers. Surabaya: Universitas Airlangga.

Notoatmodjo, S. (2014). Health Research Methodology. Jakarta: Rineka Cipta. Regulation. (2021). Health Research and Development Agency of the Ministry of Health

Data and Information Center of the Ministry of Home Affairs of the Republic of Indonesia. (2021). Jakarta Stunting Distribution Dashboard: Data and Information Center.

Riskesdas. (2018). Main Results of Riskesdas 2018. Jakarta: Ministry of Health of the Republic of Indonesia.

Sukmawati (2018). Nutritional status of mothers during pregnancy, birth weight of infants with stunting in toddlers at the Bontoa Health Center, Maros STIKES Bhakti Husada Mulia.

National Team for the Acceleration of Poverty Alleviation. (2017). 100 Priority Districts/Cities for Stunting Intervention. Jakarta: Secretariat of the Vice President of the Republic of Indonesia.

Taufik, Rosihan, Triawati (2012). Factors Related to the Incidence of BBLR in the Hospital. Prof. Dr. Hi. Aloei Saboe, Gorontalo City in 2012. Gorontalo: Gorontal State University.

UNICEF. (2015). UNICEF's Approach to Scaling Nutrition for Mother and Their Child. New