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Exploring Two Years of Stunting Trends: Insights from Tidore Kepulauan

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ABSTRACT

Stunting, as a complex issue, demands a serious and comprehensive approach. Accelerating efforts to reduce stunting is imperative and requires collaboration from all stakeholders, including the Tidore government, private sector, community, and families. Furthermore, addressing this issue necessitates extensive longitudinal research to investigate its prevalence and influencing factors. To tackle this, a crucial study is essential to unveil the prevalence trends of stunting from 2022 to 2023, covering the last two years in the Tidore Kepulauan. The primary goal of this research is to provide a comprehensive overview of stunting trends in Tidore through long-term analysis, exploring prevalence fluctuations. Employing a descriptive statistical approach, this study relies on numerical data as its primary foundation, focusing on in-depth descriptive analysis of stunting prevalence trends in the Tidore Kepulauan over the last two years. Data from the Directorate General of Regional Development's website reveals significant variations among villages in 2022. Villages like Gurabati (1.2%), Toloa (2.1%), and Maregam (3.8%) exhibit low rates, whereas Topo (45.5%), Topo Tiga (23.1%), and Maitara Tengah (20.6%) have high rates. Specific efforts are needed in high-prevalence villages to improve child nutrition and overall community well-being. The 2023 prevalence data shows significant variations among villages, with some areas displaying alarmingly high rates. Descriptive statistical analysis links stunting in the Tidore Kepulauan to several key factors. Malnutrition (32.4%), inadequate nutritional intake, and prenatal malnutrition (28.2%) are major contributors. Genetic factors (16.2%), poor hygiene (4.8%), and viral/bacterial infections (4.1%) also play roles. Lower economic levels and other factors contribute in smaller proportions (2.8% and 3.0% respectively). Although 8.5% of respondents are unaware of the causes, this analysis provides a comprehensive overview of factors that need attention to combat stunting in the Tidore Kepulauan.

Keywords: tidore kepulauan; stunting trends; child development; public health interventions.

INTRODUCTION

Stunting, characterized by low height for age, emerges as a critical public health issue jeopardizing child development and undermining future potential (Hasan & Muhammad, 2023; Imani, 2020; Siswati, 2018; Sitti Patimah, 2021, 2023). Particularly in Indonesia, the eastern regions grapple with geographical and socio-economic challenges, leading to an ongoing threat of stunting prevalence. A poignant illustration of this issue unfolds in the Tidore Kepulauan Municipality, a cluster of islands in the Maluku Utara Province. Throughout its history, Tidore Kepulauan has grappled with high stunting rates, reflecting the intertwined impacts of various contributing factors. The challenging geography and socio-economic disparities exacerbate health challenges in this region. Children not only face limited access to adequate nutrition but also contend with adverse environmental effects and a lack of understanding

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regarding the importance of nutrition (Bain et al., 2013; Engle et al., 1996; Fram et al., 2011). Addressing this issue requires proactive measures. A holistic approach involving government bodies, non-governmental organizations, and local communities is imperative to effect substantial change. Education on proper nutrition, supplementary feeding programs, and improved access to healthcare services stand as viable solutions that can be implemented (Arikpo et al., 2018; Organization, 2013; Ruel & Alderman, 2013). Through collective efforts, we can reshape the health narrative in Tidore Kepulauan and similar regions. By providing adequate attention and resources, we can pave the way for healthier child development and a brighter future.

The persistent high burden of stunting in Tidore necessitates a longitudinal examination to investigate its prevalence and influencing factors. To address this requirement, a study is essential to unveil trends in stunting prevalence from 2022 to 2023, spanning the last two years. The primary objective of this research is to present a comprehensive overview of stunting trends in Tidore. Through long-term analysis, the study aims to explore fluctuations in stunting prevalence throughout this period. This step is crucial for identifying patterns and dynamics that may go unnoticed in short-term or cross-sectional studies. The gathered data will serve as a robust foundation for detailing factors with significant potential in causing stunting. Additionally, the research will delve into these factors to provide a deeper understanding, encompassing aspects such as nutrition, maternal and child health, and accessibility to healthcare services. This analysis will establish a solid groundwork to inform interventions that are not only targeted but also effective in addressing the root causes of stunting in Tidore.

This research delves deep into analyzing the prevalence trends of stunting in toddlers in Tidore Kepulauan over the past two years. The primary goal is to make a substantial contribution to the profound understanding of stunting dynamics in this region. Through this research, we are committed to identifying key risk factors contributing to the high prevalence of stunting. Furthermore, an in-depth evaluation of the effectiveness of implemented programs will be the primary focus of the study. Information obtained from this research will provide valuable insights, guiding policy-making, and formulating more precisely targeted intervention strategies. Beyond presenting data and analyses, this study aims to serve as a concrete guide for the development and implementation of practical interventions. Ideally, the findings from this research will strengthen the knowledge base regarding stunting in Tidore Kepulauan and establish a solid foundation for mitigation efforts. Ultimately, the ultimate goal of this research is to actively contribute to reducing the stunting rates in Tidore Kepulauan. Through a deeper understanding of influencing factors, this research is expected to significantly contribute to ensuring that every child in this region can reach their full potential, laying a healthy foundation for a better future.

LITERATURE REVIEW

Prevalence is the proportion of a population who have a specific characteristic in a given time period (NIMH, 2024). In the context of health, prevalence takes on a specific dimension measuring how widespread a disease or health condition is among

the population. Going deeper, this concept not only reveals dry statistics measuring the level of exposure but also opens the door to profound insights into the overall impact on public health. The importance of prevalence in health cannot be overlooked (Chegini et al., 2020; B. S. Sanders, 1964). Through this lens, we can gauge how a disease or health condition influences the daily lives of individuals and the community at large. For example, the prevalence of stunting emerges as a critical marker to assess how children in a population face developmental challenges. Stunting, referring to the condition of impaired growth in children, carries serious consequences for long-term health and well-being.

In defining the prevalence of stunting, we can delve into the complexity behind the term. A percentage figure not only reflects the number of affected children but also paints a vivid picture of their everyday lives filled with health challenges. Highlighting this aspect helps create a more realistic and empathetic understanding of the issue. Moreover, the prevalence of stunting serves not only as an indicator but also as a mirror reflecting the conditions of society at the micro level (Nwosu & Ataguba, 2020; Prendergast & Humphrey, 2014; Raiten & Bremer, 2020). In examining the prevalence of stunting, we are guided not only by numbers but also by life stories. A percentage figure can summarize the magnitude of challenges faced by children in their developmental years. This figure creates a stage where each child plays a unique and crucial role in the overarching narrative. Therefore, prevalence becomes a gateway to deeper empathy and understanding of the realities faced by individuals and society.

However, prevalence is not merely a roadmap for measuring the extent of a disease or health condition. Beyond that, prevalence provides an opportunity to peer into the root causes. For instance, the prevalence of stunting not only reveals how many children are affected but also poses profound questions about the factors supporting or hindering their growth. This is another dimension of prevalence that requires us to explore further and dig deeper to understand the overall health landscape (Brearley et al., 2013; Heesterbeek et al., 2015). More than just statistics, prevalence invites us to engage in a dialogue with the social, economic, and environmental contexts that shape health realities. We are not just talking about numbers but also about individual stories, structural challenges, and opportunities for change. This is what makes prevalence a living concept, capable of intertwining with everyday life and providing a deeper meaning to health issues.

In interpreting the prevalence of stunting, we must not forget the urgency of action. While the figures provide a rich insight into challenges, we should not be fixated on analysis alone. Prevalence should be a call to real action, motivating collective efforts to bring about significant changes in public health. A high prevalence rate should be an impetus to embrace evidence-based solutions, encourage innovation in health approaches, and build policies that support the growth and development of children (Brownson et al., 2018; M. R. Sanders & Kirby, 2015). In the pursuit of a better understanding of prevalence, we are not merely chasing numbers and facts but carving a path towards a profound understanding of human life colored by health challenges. By delving deeper into this reality, we can create more sustainable and

justice-oriented solutions, ensuring that every individual has an equal opportunity to achieve their full potential.

METHOD

The research adopts a descriptive statistical approach, where quantitative methods involve the utilization of numerical data as the primary basis for research (S. Sangadji et al., 2022). The primary focus of this study is to conduct an in-depth descriptive analysis of the prevalence trends of stunting in Tidore Kepulauan over the past two years. The data utilized is sourced from secondary data obtained through the Directorate General of Regional Development website under the Ministry of Home Affairs.

Quantitative methods are chosen for their ability to provide more accurate and systematic measurements of the stunting phenomenon. Descriptive statistical analysis is employed to elaborate on the data, present distributions, and identify patterns in the prevalence trends of stunting. The selection of this method is expected to offer a more comprehensive insight into public health issues in Tidore Kepulauan.

The data source, monitoring the implementation of eight integrated stunting reduction interventions by the Directorate General of Regional Development under the Ministry of Home Affairs, is considered a solid and reliable foundation to support the validity of research findings. By employing this approach, the research aims to make a significant contribution to understanding and addressing the issue of stunting in Tidore Kepulauan.

RESULTS AND DISCUSSION

In terms of geography, the City of Tidore Kepulauan is situated within the astronomical coordinates of 00-200 North Latitude and positioned at 1270-127.450 East Longitude. The territorial expanse of the City of Tidore Kepulauan encompasses a total area of 13,862.86 km2, comprising 9,116.36 km2 of land with clearly defined boundaries as follows: to the North, it shares borders with the City of Ternate and Halmahera Barat Regency; to the East, it borders Halmahera Timur Regency and Halmahera Tengah Regency; to the South, it shares borders with Halmahera Selatan Regency and Moti of Ternate City; and to the West, it is bounded by the Maluku Sea.

Administratively, the City of Tidore Kepulauan is divided into 8 sub-districts and 72 villages/urban villages, detailed as follows: Tidore Sub-district, Comprising 11 villages/urban villages with the capital at Gamtufkange, covering an area of 212.15 km2. Tidore Selatan Sub-district, Encompassing 8 villages/urban villages with the capital at Gurabati, and a territorial expanse of 249.32 km2. Tidore Utara Sub-district, Divided into 12 villages/urban villages with the capital at Rum, covering an area of 221.33 km2. Tidore Timur Sub-district, Including 4 villages/urban villages with the capital at Tosa, and an area of 199.92 km2. Oba Sub-district, Comprising 9 villages/urban villages with the capital at Payahe, and a vast territory of 2,373.63 km2. Oba Selatan Sub-district, Covering 7 villages/urban villages with the capital at Lifofa, and an extensive area of 2,210.92 km2. Oba Utara Sub-district, Divided into 9

villages/urban villages with the capital at Sofifi, and a territorial expanse of 1,155.91 km2. Oba Tengah Sub-district, Including 12 villages/urban villages with the capital at Akelamo, and a vast area of 2,493.17 km2.

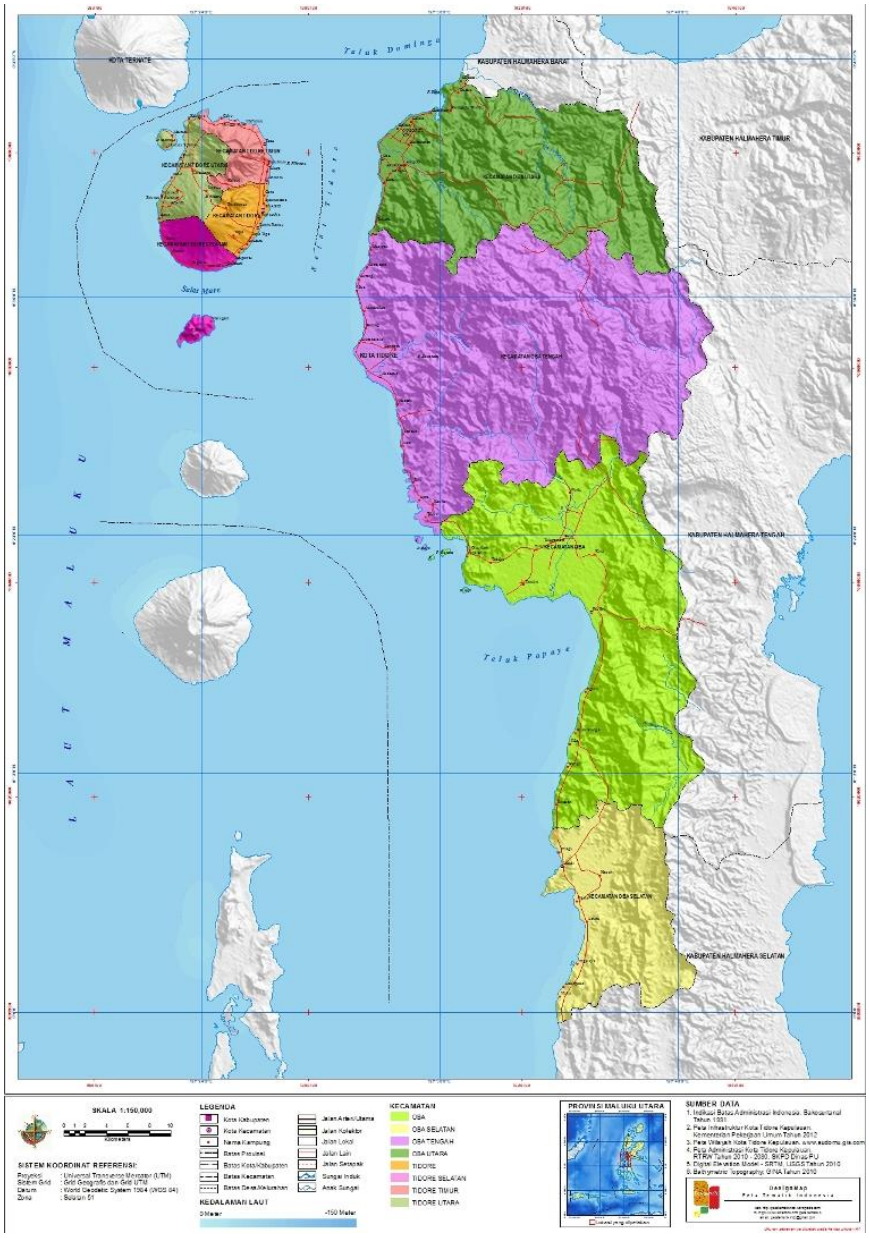

Figure 1. Administrative Map of Tidore Kepulauan

Based on the obtained secondary data, we conducted a descriptive statistical analysis to identify the prevalence trend of stunting in the Tidore Kepulauan, encompassing all administrative regions as depicted in Figure 1. The results of the stunting prevalence trend analysis are as follows:

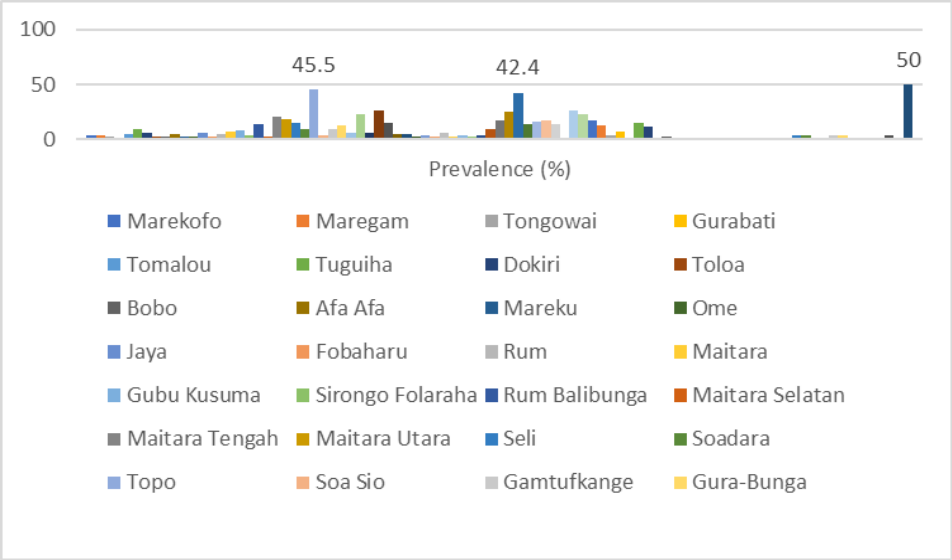

Figure 2. The prevalence of stunting in Tidore Kepulauan (2022)
Source. Processed from secondary data of Directorate General of Regional Development (2023)

The prevalence data of stunting in Tidore Kepulauan in 2022 reveals significant variations among villages or neighborhoods. Some villages exhibit low prevalence rates, such as Gurabati (1.2%), Toloa (2.1%), and Maregam (3.8%). Villages like Tomalou (4.1%) and Afa Afa (4.4%) also record moderate levels. However, there are villages with high prevalence rates, such as Topo (45.5%), Topo Tiga (23.1%), and Maitara Tengah (20.6%). Rum Balibunga Village records a relatively high prevalence rate of 13.7%, while Siokona Village has the highest rate at 50%. It is crucial to note that villages like Woda (42.4%) and Todapa (25.9%) also demonstrate exceedingly high rates. Therefore, there is a need for specific efforts in addressing stunting in villages with high prevalence rates to improve the nutritional status of children and the overall community.

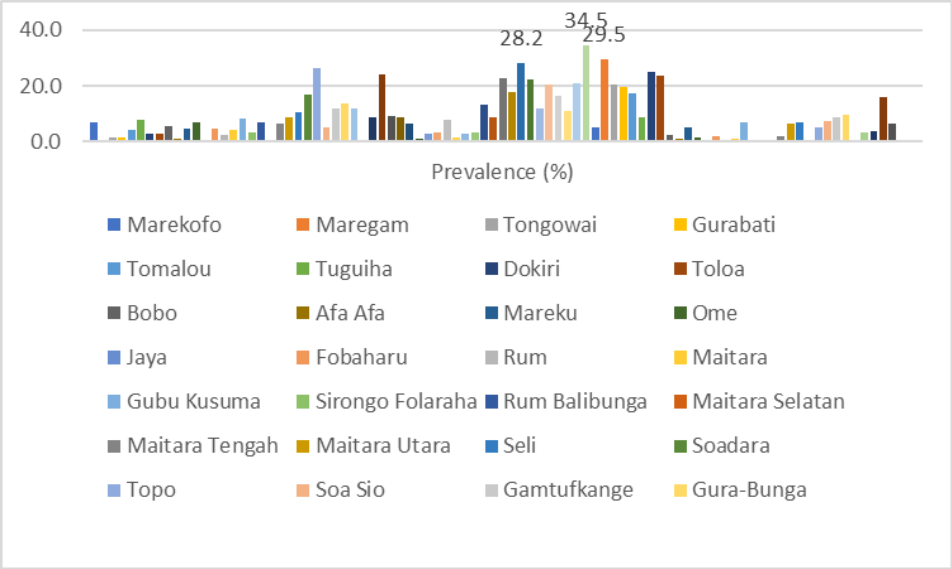

Figure 3. The prevalence of stunting in Tidore Kepulauan (2023)
Source. Processed from secondary data of Directorate General of Regional Development (2023)

Based on the 2023 prevalence data on stunting in Tidore Kepulauan, a significant variation is evident among villages or urban areas in the region. Villages with relatively low levels of stunting prevalence include Maregam (0.0%), Jaya (0.0%), Topo Tiga (0.0%), and several others. On the other hand, some villages such as Talasi (34.5%), Woda (28.2%), Sela Malofo (29.5%), Nuku (25.0%), and Topo (26.5%) exhibit alarmingly high levels of stunting prevalence. Seli Village (10.3%), Gamtufkange (11.9%), and Gura-Bunga (13.8%) also fall into the high category. From this data, it can be concluded that there is significant inequality in the issue of stunting in Tidore Kepulauan, with certain areas experiencing concerning levels of prevalence. Intervention efforts and specific attention may be required in villages with high stunting rates to improve the nutritional status of children and reduce the risk of adverse effects on their growth and development.

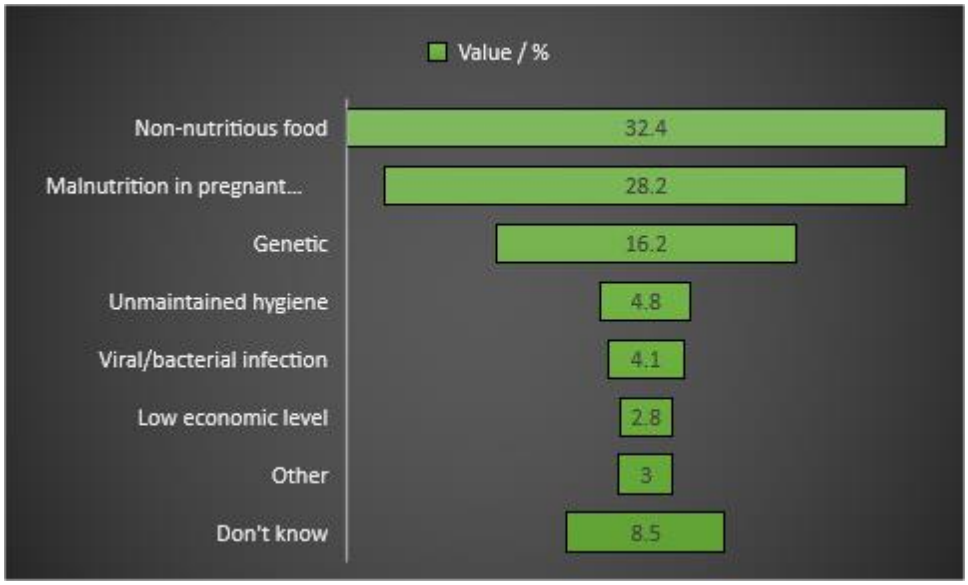

Figure 4. The Main Causes of Stunting in Tidore Kepulauan

Based on the descriptive statistical analysis, stunting in the Tidore Kepulauan is attributed to several key factors. Poor nutrition emerges as the primary cause, accounting for 32.4%, indicating that inadequate nutrient intake significantly contributes to the prevalence of stunting in this region. Additionally, nutritional deficiencies during pregnancy play a substantial role, contributing 28.2%, underscoring the importance of proper nutritional care during pregnancy to prevent adverse effects on child growth. Genetic factors also play a role, accounting for approximately 16.2%, suggesting that genetic predisposition contributes to stunting issues in Tidore. Factors such as poor hygiene (4.8%) and virus/bacterial infections (4.1%) highlight the crucial role of sanitation and health. Low economic levels and other factors contribute in smaller proportions, around 2.8% and 3.0%, respectively. While 8.5% of respondents are unaware of the causes of stunting, the results of this analysis provide a comprehensive overview of the factors that need attention in combating stunting in the Tidore Kepulauan.

CONCLUSION

The findings of this research indicate a significant variation in the prevalence trends of stunting among villages or neighborhoods in the Tidore Kepulauan region. Some villages, such as Maregam, Jaya, and Topo Tiga, exhibit relatively low levels of stunting prevalence, while villages like Talasi, Woda, Sela Malofo, Nuku, and Topo have significantly high rates. Villages like Seli, Gamtufkange, and Gura-Bunga also fall into the high category. From these data, it can be concluded that there is a significant inequality in the issue of stunting in the Tidore Kepulauan, with some areas experiencing alarming levels of prevalence. Factors such as inadequate nutrition, maternal malnutrition, genetic factors, poor hygiene, and viral/bacterial infections are identified as major contributors to stunting in this region. These results underscore the need for intervention efforts and special attention in villages with high stunting rates to improve the nutritional status of children and reduce the risk of adverse effects on their growth and development.

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