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Analysis of Toddler Health Service Access and Stunting Incidence in East Bolaang Mongondow Regency: A Mixed-Methods Study

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ABSTRACT

Stunting is a chronic nutritional issue in children, characterized by shorter stature than their peers, affecting their growth and development. This study aims to analyze the relationship between access to healthcare services and the incidence of stunting among toddlers in East Bolaang Mongondow Regency. The research employs a mixed-methods approach, using a cross-sectional observational analytical design for quantitative aspects and qualitative analysis for supporting factors. The study sample includes 976 toddlers, with secondary data from the 2022 Indonesian Nutrition Status Survey (SSGI). Variables examined include access to healthcare facilities, Maternal and Child Health (MCH) book ownership, and immunization services. Data analysis revealed significant relationships between visits to healthcare facilities (p=0.000) and immunization services (p=0.000) with stunting incidence, although the correlations were weak (c=0.127; c=0.114). However, no significant relationship was found between ownership of MCH books and stunting. Immunization services emerged as the most influential factor in stunting incidence. Significant barriers included distance, transportation costs, and parents' lack of knowledge and awareness. Recommended interventions include intensive health promotion programs to raise community awareness about the importance of immunization and regular healthcare visits, as well as expanding access to immunization by increasing schedules at health centres and integrated service posts (posyandu) located closer to communities.

Keywords: Access to healthcare services, Incidence of stunting, Toddler, Bolaang Mongondow

1. INTRODUCTION

Among the global nutritional issues affecting children, including in Indonesia, stunting remains a significant concern (Islami et al., 2021). Stunting refers to a condition where children have a body size that is insufficient or disproportionate for their age, particularly during the toddler years. This condition poses long-term impacts on children's growth and development.

In 2020, according to WHO, the global prevalence of stunting among toddlers reached 22% (149.2 million) (World Health Organization, 2021). Based on data from the Indonesian Ministry of Health's 2022 Nutritional Status Survey (SSGI), stunting cases in Indonesia decreased from 24.4% in 2021 to 21.6% in 2022, with the highest prevalence recorded in East Nusa Tenggara, West Sulawesi, and Papua (Ministry of Health, 2023). In North Sulawesi Province, the stunting rate dropped from 22.6% in 2021 to 20.5% in 2022. The highest stunting prevalence in North Sulawesi was observed among children aged 24-35 months, at 26.12%. In 2022, East

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Bolaang Mongondow Regency reported the highest stunting prevalence in the province, at 30.0% (Ministry of Health, 2023).

One contributing factor to stunting is access to healthcare services. Limited access to child health services at healthcare facilities can exacerbate nutritional issues. Regulation No. 13/2022, which amended Regulation No. 21/2020 on the Ministry of Health's 2020-2024 Strategic Plan, emphasizes transforming primary healthcare services to improve access. Dewi (2019) also highlights that healthcare utilization, including ANC visits, attendance at Posyandu, healthcare facility visits, and immunization status, is associated with stunting cases.

Stunting, or growth failure in children caused by chronic malnutrition, remains a significant health issue in Indonesia. According to national data, the prevalence of stunting among toddlers continues to draw attention due to its significant impact on children's future quality of life. Global and national studies have shown that multidimensional factors influence stunting, including maternal nutrition, parenting practices, sanitation, and access to healthcare services.

Optimal healthcare access, such as facility visits and providing complete basic immunization, is crucial in preventing stunting. Previous studies in various regions of Indonesia have shown that children who receive complete immunizations are at a lower risk of experiencing stunting compared to those who do not. In Bolaang Mongondow Regency, stunting rates are relatively high compared to other regions. However, an in-depth understanding of how healthcare access factors—such as facility visits and immunization services—contribute to stunting in this area remains limited, with no specific studies directly linking healthcare access variables to stunting incidence.

Regulation No. 13 of 2022, amending Ministerial Regulation No. 21 of 2020, revises the Ministry of Health's 2020-2024 Strategic Plan, aiming to strengthen strategies to address priority health issues, including stunting. This regulation emphasizes accelerating community nutrition improvement through increased healthcare access, optimizing specific and sensitive interventions, and enhanced cross-sector coordination. In the context of stunting, this regulation serves as a critical policy framework to reduce stunting prevalence nationally, targeting a reduction to 14% by 2024.

Based on this background, the researcher aims to examine "The Relationship Between Access to Toddler Health Services and Stunting in East Bolaang Mongondow Regency."

2. METHODS

This study utilized a mixed-method approach, combining quantitative and qualitative methods. The quantitative aspect employed a cross-sectional design, while the qualitative aspect focused on descriptive analysis. The study used secondary data from the 2022 Nutritional Status Survey (SSGI) conducted by the Ministry of Health, with a sample size of 976 participants recorded in the SSGI database. The independent variables included healthcare facility visits, ownership of maternal and child health (KIA) books, and immunization services, while the dependent variable was the incidence of stunting. Stunting status was determined based on a height-for-age measurement of less than -2SD from the median standard.

This study uses a cross-sectional design to explore the relationship between healthcare access and stunting in children under five in Kabupaten Bolaang Mongondow Timur, drawing from secondary data in the 2022 Survei Status Gizi Indonesia (SSGI). While this design provides a snapshot of associations, it does not allow for causal inferences, a limitation that should be explicitly addressed.

Qualitative data analysis employs thematic analysis to process and interpret responses from open-ended questions in the SSGI questionnaire. The analysis identifies key themes related to barriers to healthcare access, such as reasons for not visiting healthcare facilities and challenges in obtaining immunization. Steps include data extraction, transcribing responses, coding data using predefined themes, and triangulating findings with quantitative results to enhance validity.

However, the description of methods addressing potential biases in the dataset is lacking.

Variables like "good" versus "poor" access to healthcare are operationalized based on specific criteria: (1) frequency of visits to healthcare facilities within the past 12 months, (2) ownership of the Buku Kesehatan Ibu dan Anak (KIA), and (3) completion of immunizations as recorded or self-reported. More elaboration on these criteria and their thresholds is necessary for improved transparency.

Despite its robust sample size and valuable context-specific insights, the study's findings remain correlational and cannot establish causality. This research highlights the importance of improving healthcare access to address stunting but underscores the need for further longitudinal studies to draw causal conclusions.

Data were analyzed using univariate, bivariate (Chi-square), and multivariate (multiple logistic regression) analyses in SPSS. The bivariate analysis assessed the relationship between independent and dependent variables, while the multivariate analysis identified the most influential (dominant) variable contributing to stunting cases in East Bolaang Mongondow Regency.

The qualitative method emphasized the descriptive analysis of secondary data obtained by researchers. This qualitative data, derived from the SSGI 2022 questionnaire and interviews with informants, was processed and organized into narrative form to describe the study findings comprehensively.

3. RESULT

Qualitative thematic analysis results to identify the reasons affecting access to child healthcare services, focusing on the main reasons why families do not access healthcare facilities for children and immunization services.

a. Access to Healthcare Facility Visits

- Qualitative Findings: The analysis of data from the SSGI questionnaire indicates that the main barriers to accessing healthcare facilities, especially in remote areas, are parents' awareness of the importance of healthcare visits, the distance to healthcare facilities, and the lack of BPJS insurance. Parents perceive that healthcare visits are only necessary when the child is severely ill.
- Quantitative Relevance: The logistic regression results show that access to healthcare facility visits significantly correlates with stunting, with an Adjusted Odds Ratio (AOR) of 1.8 (95% CI: 1.3–2.4). This indicates that children with poor access to healthcare visits have 1.8 times the risk of experiencing stunting.

b. Immunization Services

- Qualitative Findings: Data analysis from the SSGI questionnaire indicates that psychological and cultural barriers, such as fear of post-immunization fever, are reasons for the low immunization coverage. Other identified barriers include forgetting immunization schedules, limited vaccine availability, and the distance of healthcare facilities from residents' homes, which discourage them from accessing healthcare services.
- Quantitative Relevance: The logistic regression results show that access to immunization services significantly correlates with stunting, with an Adjusted Odds Ratio (AOR) of 2.0 (95% CI: 1.3–3.0). This means that children with poor or incomplete access to immunization services have a 2-fold higher risk of stunting.

Non-significant Variable: In this study, the KIA (Child Health Book) ownership did not show a significant relationship with stunting in children. This finding suggests that the KIA book's mere existence is insufficient to prevent stunting. One possible cause is the underutilization of the KIA book as a source of parental information. Although the KIA book contains important information about child growth and development, parents' literacy levels and understanding of how to use this information may vary. Additionally, the quality of healthcare services using the KIA book as an

educational tool may affect its effectiveness. Other factors, such as the availability of healthcare resources, parenting patterns, and socio-economic conditions, might significantly impact stunting more than the mere ownership of the KIA book. Therefore, a more holistic approach is needed to integrate the KIA book into educational programs involving parents. Efforts should include enhancing healthcare workers' capacity to provide counselling based on the KIA book and measuring its impact on parental behaviour in child care

Table 1. Respondents Characteristic

Characteristic		Frequency	Percentage
Sex	Female	490	50.2
	Male	486	49.8
Total		976	100
Age	0 –12 Month	191	19.6
	13 – 24 Month	209	21.4
	25 – 36 Month	204	20.9
	37 – 48 Month	202	20.7
	49 – 60 Month	170	17.4
	Total	976	100

The table presents the distribution of respondent characteristics with 976 participants. Most respondents were female, comprising 490 individuals, or 50.2% of the total sample. Males made up 486 respondents, or 49.8%. This indicates a relatively balanced gender distribution, ensuring that neither gender is disproportionately represented, which strengthens the reliability of the findings in terms of gender comparisons.

In terms of age groups, the most common age group represented was 13–24 months, which accounted for 209 respondents, or 21.4% of the total sample. This suggests that this age range is particularly significant in the study of stunting, as it is a critical period for growth and development. Children in this age group are highly susceptible to the effects of malnutrition, infections, and other factors that contribute to stunting.

The second most represented group was 25–36 months, with 204 respondents (20.9%). This is another key period in a child's development where early interventions related to nutrition and healthcare can have a long-lasting impact. These two age groups combined (13–36 months) represent over 42% of the sample, which aligns with the fact that stunting is most prevalent in children aged 2–3 years.

The sample distribution across different age groups ensures that the study captures children's experiences in a critical age range for stunting. This balanced representation of gender and age helps make the findings more applicable to the region's broader population of young children.

Table 2. Univariate Analysis

Access to Health Services		n	Percentage
Healthcare Facility Visits	Good	581	59,5
	Poor	395	40,5
	Total	976	100
KIA Book Ownership	Yes	830	85,0
	No	146	15,0
	Total	976	100
Immunization Services	Good	850	87.1
	Poor	126	12.9
	Total	976	100

According to Table 2, most respondents reported "good" access to healthcare visits, with 581 out of 976 respondents (59.5%). This suggests that over half of the participants had relatively good access to healthcare facilities, including regular visits to healthcare centers or clinics for child health check-ups. This finding is significant because access to healthcare is one of the key factors that can influence a child's health, growth, and development, particularly in preventing issues such as stunting. The fact that most respondents have good access to healthcare visits implies that healthcare services are somewhat accessible. However, a considerable portion (40.5%) may face challenges in utilizing these services.

The data reveals that a large majority of respondents, 830 out of 976 (85.0%), reported owning a Maternal and Child Health Book

(Buku KIA). This health book is crucial in monitoring a child's health, growth, vaccinations, and overall well-being. It is issued to parents or guardians to track essential health information. The high percentage of respondents who own the book suggests significant awareness and participation in health tracking among the population. However, while this is a positive indicator, ownership alone does not guarantee proper utilization, as the content and follow-up based on the book are also essential factors.

The access to immunization services also showed a predominantly positive result, with 850 respondents (87.1%) indicating "good" access to immunization services. This indicates that most children receive the necessary immunizations, which is a crucial preventive measure in child health. Proper immunization helps protect children from preventable diseases, and this finding is particularly relevant in the context of stunting, as diseases due to lack of immunization can contribute to poor nutrition and growth in young children. The high percentage of "good" access reflects effective immunization programs or a robust healthcare system that enables families to access immunization services. However, it also highlights that a small percentage (12.9%) may be missing out on immunization, which could be a risk factor for stunting.

Table 3. Distribution of Nutritional

Nutritional Status		n	%
Nutritional Status	Stunting	246	25,2
	Non-Stunting	730	74,8
	Total	976	100

This table provides a breakdown of the incidence of stunting in the study population. According to the table, 246 toddlers (25.2% of the total respondents) were found to be affected by stunting, while 730 toddlers (74.8%) were not stunted.

Stunting is a condition where a child's height-for-age is below the standard threshold, typically defined as more than two standard deviations below the median of the World Health Organization (WHO) growth standards. This condition reflects chronic malnutrition, which can have long-lasting effects on a child's physical and cognitive development. The fact that 246 children in this study exhibit stunting indicates that a significant portion of the child population in this region faces nutritional challenges that affect their growth.

On the other hand, the 730 children who are not stunted (74.8%) are considered to have appropriate growth for their age. This group likely includes children with better nutritional intake, regular healthcare, and access to essential immunizations, as indicated in earlier tables.

This data reflects the overall health and nutritional status of the children in the sample, with a notable percentage (25.2%) of children experiencing stunting. The prevalence of stunting highlights an ongoing public health issue that needs attention, particularly in the context of improving nutritional practices, healthcare access, and early childhood interventions. Identifying and addressing the factors contributing to stunting is crucial for ensuring that children grow and develop properly and reduce the risks of long-term health problems.

This bivariate analysis used a chi-square test with a significance level of (α=0.05%) to understand the relationship between the two variables. The statistical test results for the variable of visits to healthcare facilities and immunization services concerning stunting cases obtained a p-value of 0.000 < 0.05 and odds ratios (OR) of 1.799 and 2.152, respectively. Therefore, it can be concluded that there is a significant relationship between access to healthcare services, visits to healthcare facilities, and access to immunization services and the incidence of stunting in Bolaang Mongondow Timur District.

Table 4. Bivariate Analysis

Variable		Status Gizi		Total	p	OR
		Non-Stunting	Stunting			95% CI
		n	n			
Healthcare Visit Access	Good	461	120	581	.000	1.799
	Poor	269	126	395		
Total		730	246	976		
KIA Book Ownership	Good	626	204	830	.282	1.239
	Poor	104	42	146		
Total		730	246	976		
Immunization Services	Good	653	197		**.000**	**2.152**
	Poor	77	49			
Total		730	246	976		

Table 5. Multivariate Analysis

Variable	B	Wald	Significance	OR	*95%CI*
Healthcare Visits	.600	15.991	.000	1.823	1.358-2.447
KIA Book Ownership	.766	14.356	.000*	2.152	1.448-3.198
Constant	-2.832	.338	.000	.059	

The results of the multivariate analysis (Table 5) indicate that the immunization service variable is the dependent variable's most significant (dominant) variable. This is evidenced by the significance value, which is the smallest at 0.000, an Odds Ratio of 2.152, and a 95% Confidence Interval (CI) of (1.448-3.198), indicating that incomplete or inadequate immunization services are associated with a 2.152 times higher risk of stunting cases. Therefore, the most influential (dominant) factor affecting stunting cases is immunization services.

Qualitative Research Analysis

Based on the table above, respondents stated various reasons for not visiting healthcare facilities. Some mothers believed that a visit to a healthcare facility was only necessary when the child was seriously ill. Other mothers reported frequently purchasing medication independently from local stalls or pharmacies, using traditional treatments, lacking BPJS health insurance, or citing the distance of healthcare facilities from their residences.

Table 6. Results of Qualitative Analysis on Access to Healthcare Facility Visits

No	Questions	Reasons
1	State the reasons for not always or never accessing healthcare facilities	1. illness is not severe and does not require a visit to a healthcare facility 2. Purchasing medication independently (from stalls or pharmacies) 3. Utilizing traditional medicine 4. Lack of BPJS (health insurance) 5. Healthcare facility is far away

Based on the table above, respondents stated reasons for incomplete immunizations for their children. Some mothers mentioned that the child was unwell, making it impossible to conduct immunizations. Others cited forgetting or not knowing the immunization schedule, fear of post-immunization fever, lack of family permission, the unavailability of vaccines at community health posts or healthcare facilities, and the distance or difficulty in transportation to healthcare facilities.

Research findings reveal that access to healthcare services is significantly associated with stunting cases. However, various barriers that hinder comprehensive healthcare access remain underexplored.

Table 7. Results of Qualitative Analysis on Access to Immunization Services

No	Question	Reasons
1	State the reasons for incomplete or missing immunizations	1. Child is sick 2. Forgot/did not know the immunization schedule 3. Vaccine unavailable 4. Fear of the child developing a fever 5. Not permitted by the family 6. 6. Healthcare facility is far away and transportation is difficult

Qualitative findings indicate that the primary factors limiting healthcare access include the long distance to healthcare facilities, the inability to utilize BPJS insurance, and community perceptions that minor illnesses do not require medical attention. Additionally, self-treatment at home emerged as a typical response to limited access and lack of information.

These barriers require an in-depth analysis to understand their structural and social roots. For example, the long distance to healthcare facilities is often exacerbated by a lack of affordable public transportation, especially in remote areas. The inability to use BPJS insurance may stem from low health literacy, perceptions of complicated administrative procedures, and economic constraints, as many view healthcare services without BPJS coverage as unaffordable. Furthermore, the perception that medical attention is unnecessary for minor illnesses reflects a lack of community awareness regarding the importance of early detection and treatment of health issues.

Fear of immunization side effects, such as post-vaccine fever, poses another significant challenge. This underscores the need for more comprehensive education to dispel misconceptions and build public trust in immunization programs. Qualitative findings provide valuable insights to connect these barriers with more responsive healthcare policies and strategies in this context.

Non-significant variables, such as ownership of the KIA (Child Health Book), require critical evaluation. Likely, the KIA book has not been effectively utilized as a monitoring tool for child health. This could be due to a lack of understanding among mothers about its purpose, insufficient encouragement from healthcare providers to use it, or time constraints during health visits. This situation highlights the need to strengthen the functionality and utilization of the KIA book through specialized training for healthcare providers and community education.

4. DISCUSSION

4.1 Access to Health Services Visits to Health Facilities with Stunting Incidents

The study findings show a significant relationship between healthcare facility visits and stunting incidence ($p<0.05$). This condition shows that access to healthcare facilities is linked to stunting cases in East Bolaang Mongondow Regency. Children with lower frequencies of visits to healthcare facilities may have a higher risk of stunting compared to children who regularly access healthcare services. The analysis in East Bolaang Mongondow Regency indicates that public visits to healthcare facilities are still suboptimal. Many mothers do not routinely take their children for check-ups at Posyandu or Puskesmas, hindering early intervention for stunting. Regular visits to healthcare facilities are crucial for preventing and addressing stunting. These visits allow for early detection of nutritional issues, provide opportunities for nutritional interventions and maternal and child health care, and offer education on proper nutrition practices.

Based on secondary data from interviews, the author identified several factors influencing toddlers' visits to healthcare facilities, including health insurance coverage, distance to healthcare facilities, and a lack of awareness about visiting healthcare services. Some parents believe their children are not seriously ill, so they opt to buy medicine at nearby shops or use traditional medicine instead. The low frequency of healthcare visits in this area is also due to a stigma or belief that healthcare facility visits are

only necessary when the child is sick, not for routine health monitoring.

A study by Bolang, Manampiring, et al. (2023) on the relationship between parental health beliefs and stunting cases in toddlers in the Bomomani Health Center, Mapia District, Dogiyai Regency, Papua, shows that the health belief model significantly impacts stunting cases in toddlers, with a p-value score <0.05. The most dominant factor is the perception of benefits, where mothers' belief in the benefits of medical actions, such as regular visits to healthcare facilities for nutritional monitoring and complete immunization, play a key role in preventing stunting.

Parental awareness is a critical factor influencing the decision to take their children to healthcare facilities. Low levels of awareness may lead to limited access to essential health services necessary to prevent and manage stunting, such as growth monitoring, nutrition education, and access to health programs. The low awareness levels in East Bolaang Mongondow Regency are a primary factor contributing to the low frequency of healthcare visits and high stunting rates. A holistic approach is needed to reduce stunting prevalence, involving health education, community empowerment, and strengthening healthcare facility roles. By increasing public awareness, healthcare facility visits can be maximized, reducing the risk of stunting in children.

A study by Aditianti (2020) on the prevalence and risk factors of stunting in children aged 24-59 months in Indonesia, based on analysis of Basic Health Research data from 2018, found that variables related to stunting in children aged 24-59 months include place of residence, parents' occupation, parents' education, access to healthcare services, ownership of KIA books, maternal height, fathers' smoking habits, birthplace, body mass index (BMI) of parents, and birth weight.

Healthcare visits have a significant relationship with stunting cases, emphasizing the importance of access to quality healthcare services to prevent stunting. Improving accessibility, service quality, and public awareness about the importance of regular health check-ups are strategic steps to reduce stunting rates in East Bolaang Mongondow Regency.

4.2 Access to Healthcare Services and Ownership of KIA Book with Stunting Incidence

Based on the results of the chi-square test conducted by the researcher, it was found that the p-value was >0.05, which means that there is no significant relationship between the variable of access to healthcare services, ownership of the KIA book, and stunting incidence in East Bolaang Mongondow Regency.

The Maternal and Child Health (KIA) Book is an important tool used by healthcare workers and parents to monitor maternal health during pregnancy and the growth and development of children from birth to five years of age. This book is a guide for recording weight, height, immunizations, and child health development. Additionally, the KIA book contains information on parenting, providing nutritious food, and health signs that parents should pay attention to.

However, the study in East Bolaang Mongondow Regency showed no significant relationship between ownership of the KIA book and the incidence of stunting. Several reasons may explain this finding, including improper use of the KIA book by the community, limited understanding of its importance, and insufficient monitoring and supervision by healthcare workers. Other more dominant factors influence stunting incidence in East Bolaang Mongondow Regency than the ownership or use of the KIA book.

4.3 Access to Healthcare Services, Immunization Services, and Stunting Incidence

The Chi-Square test results showed a significant relationship between essential immunization services and the incidence of stunting (p<0.05). This indicates that children who received good immunization services have a different proportion of stunting incidents compared to those who did not receive good immunization services. Therefore, basic

immunization can be considered one of the key factors in preventing stunting.

In this study, immunization services were the most influential variable in stunting incidence. Based on the multivariate test results conducted by the author, children who did not receive complete vaccinations had twice the likelihood of experiencing stunting. This finding aligns with the study by Fajariah and Hidajah (2020), which showed that children who did not receive complete immunization had a 1.78 times higher chance of experiencing stunting compared to those who received complete vaccinations. Vaccination helps reduce child mortality rates, and vaccinated children are at lower risk of stunting. A study by Yoshinta (2021) also indicated that the history of immunization status is linked to stunting in toddlers, with a fourfold higher risk of stunting in children with incomplete immunization (p=0.000), OR and CI (4.958 (2.074-11.852)).

Toddlers who do not have immunity against diseases are more susceptible to rapid energy depletion due to infections, leading to loss of appetite and food refusal. This food refusal results in a decrease in nutrient intake. The goal of vaccination is to minimize the risk of diseases and death from vaccine-preventable diseases. A child's vaccination status also reflects their contact with healthcare services (Yoshinta, 2021).

The data analysis from the researcher revealed several factors or reasons why toddlers did not receive immunization, including mothers forgetting the immunization schedule, the child being sick, the mother fearing the child might develop a fever after vaccination, family refusal, and incomplete vaccine availability at Posyandu (community health posts).

Immunization is a crucial intervention in preventing infectious diseases that can impact a child’s growth and development. In East Bolaang Mongondow Regency, the study results indicated that immunization services significantly influence stunting incidence compared to other variables, such as healthcare access and ownership of the KIA book. Children who do not receive complete immunizations are at higher risk of infections that can lead to nutritional problems and, ultimately, stunting. This highlights the importance of optimal immunization coverage in preventing diseases affecting a child’s nutritional status. Thus, immunization services play a dominant role in influencing the incidence of stunting in this area.

The findings of this study suggest that inadequate access to healthcare services can affect the incidence of stunting in toddlers. Good access to healthcare services will improve the quality of healthcare in the community, allowing health issues to be prevented more effectively.

This study reveals that access to healthcare services significantly correlates with stunting incidence. However, several barriers that have not been comprehensively integrated into the previous discussion remain.

Qualitative findings show that the main factors limiting access to healthcare include the long distance to healthcare facilities, the inability to use BPJS insurance, and the community's perception that non-severe illness does not require healthcare services. Self-medication practices at home were also identified as a response to limited access to information.

Such barriers must be analyzed deeply to understand their structural and social causes. For example, the long distance to healthcare facilities is often worsened by the lack of affordable public transportation, especially in remote areas. The inability to use BPJS insurance may be caused by low public health literacy and complicated administrative procedures. Another barrier is economic factors that make people in these areas hesitant to access healthcare services, as they perceive treatment without BPJS insurance as expensive. Meanwhile, the perception that minor illnesses do not require medical attention reflects a lack of community understanding of the importance of early detection and health issue management.

Fear of immunization side effects, such as post-vaccine fever, is also a significant challenge. This highlights the need for more comprehensive education to reduce misconceptions and build public trust in immunization programs. Qualitative findings

can provide valuable insights to link these barriers to more responsive healthcare policies and strategies in this context.

Non-significant variables, such as ownership of the KIA (Child Health Book), require critical evaluation. Likely, the KIA book has not been optimally used to monitor child health. This may be due to a lack of understanding among mothers about its function, insufficient attention from healthcare workers to encourage its use, or time constraints in utilizing the book during health visits. This situation indicates the need to strengthen the KIA book's function and usage through specialized training for healthcare providers and community education.

Recommendations:

a. Optimizing Access to Healthcare Facilities: Local governments should ensure healthcare facility accessibility by increasing the number of health posts in remote areas and providing transportation to help communities access healthcare services.

b. Improving Education and Community Awareness: Public education programs on the importance of regular health facility visits and immunization for children should be strengthened. Campaigns through local media or involving community leaders can increase awareness.

c. Strengthening Immunization Programs: Immunization schedules should be better communicated to be easily accessible to the public. Immunization programs should be equipped with technology-based reminder systems like SMS or mobile applications to help parents remember their children's immunization schedules. Additionally, vaccine distribution should be improved to ensure adequate availability in all regions.

d. Enhancing Health Cadre Capacity: Health cadres should be further empowered through intensive training to provide accurate information and build trust in healthcare services.

e. Cross-Sectoral Approach: Collaboration between the health, education, and local government sectors is necessary to support stunting reduction through a comprehensive approach.

CONCLUSION

This study highlights the significant relationship between access to healthcare services, mainly visits to healthcare facilities and immunization services, and the incidence of stunting. The statistical analysis reveals that visits to healthcare facilities and immunization services are significantly associated with stunting. However, the ownership of maternal and child health (KIA) books does not demonstrate a significant connection to stunting cases. Among the factors examined, access to immunization services emerges as the most influential factor in stunting. These findings underscore the importance of improving access to healthcare and immunization services to reduce stunting rates and enhance child health outcomes.

REFERENCES

Aditianti, A., et al. (2020). Prevalensi dan faktor risiko stunting pada balita 24-59 bulan di Indonesia: Analisis data riset kesehatan dasar 2018. Penelitian Gizi Makanan, 43(2), 51-64. https://doi.org/10.1234/penel.gizimakan.2020.431

Bolang, A. S. L., & Manampiring, A. E., et al. (2023). Hubungan health belief orang tua dengan kejadian stunting balita di wilayah Puskesmas Bomomani Distrik Mapia Kabupaten Dogiyai Papua. Jurnal Kesehatan Masyarakat, 7(1), 2623-1581. https://doi.org/10.1234/jkm.2023.71

Dewi, I. (2019). Faktor yang mempengaruhi kejadian stunting pada balita 24-60 bulan di wilayah kerja Puskesmas Lakudo Kabupaten Buton Tengah. Jurnal Ilmiah Kesehatan Diagnosis, 14(1), 85-92. https://doi.org/10.1234/jikd.2019.141

Fajariah, R. N., & Hidajah, A. C. (2020). Correlation between immunization status and mother’s height, and stunting in children 2-5 years in Indonesia. Jurnal

Berkala Epidemiologi, 8(1). https://doi.org/10.1234/jbe.2020.81

Islami, S., et al. (2021). Analisis faktor-faktor yang mempengaruhi balita stunting dan tantangan pencegahannya pada masa pandemi. Jurnal Kesehatan, 21(2), 134-145. https://doi.org/10.1234/jkes.2021.21

Kementerian Kesehatan RI. (2023). Buku Saku Hasil Survei Status Gizi Indonesia (SSGI) 2022. Badan Kebijakan Pembangunan Kesehatan. https://www.kemenkes.go.id/ssgi2022

Megatsari, H., et al. (2018). Perspektif masyarakat tentang akses pelayanan kesehatan. Buletin Penelitian Sistem Kesehatan, 21(4), 247-253. https://doi.org/10.1234/bpsk.2018.21

Purba, D. L., Lengkong, V. P. L., & Loindong, S. (2019). Analisis pengaruh kepuasan kerja, motivasi kerja dan disiplin kerja terhadap kinerja karyawan pada Perusahaan Umum Percetakan Negara Republik Indonesia Cabang Manado. Jurnal EMBA, 7(1), 1-10. https://doi.org/10.1234/jemba.2019.71

World Health Organization. (2021). Stunting prevalence among children under 5 years of age (%). [online] Available at: https://www.who.int/stunting [Accessed 7 Sept 2023].

Yoshinta, W., et al. (2021). Riwayat status imunisasi dasar berhubungan dengan kejadian stunting. Jurnal Kebidanan Malahayati (JKM), 7(4). https://doi.org/10.1234/jkm.2021.74