



INTEGRATION OF PRIMARY HEALTH SERVICES AND THE ROLE OF VILLAGE MIDWIVES IN EARLY DETECTION OF STUNTING AMONG TODDLERS

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ABSTRACT	KEYWORDS
Background: Stunting represents a chronic nutritional problem that threatens human resource quality. Sidem Village, Tulungagung Regency, with its geographically remote characteristics, requires optimization of village midwives' roles in early stunting detection. Objective: This study aims to examine the integration of Posyandu services and the role of village midwives in early stunting detection among toddlers in Sidem Village. Methods: A descriptive quantitative study with a cross-sectional approach was conducted involving 338 toddlers across three hamlets (Krajan, Pucung, Bago) in January 2026. Data were collected through anthropometric measurements and KPSP assessments by village midwives and cadres, then analyzed descriptively. Results: Stunting prevalence reached 15.7% (53 toddlers), with the highest rate in Krajan Hamlet (19.3%). Developmental screening showed 82.2% of toddlers were age-appropriate, 12.4% were questionable, and 5.4% were inappropriate. SDIDTK implementation faced constraints including limited health workers, low supervision, and inadequate facilities. The "Sekolah Orang Tua Hebat" (SOTH) program successfully improved parental knowledge. Conclusion: Early stunting detection through Posyandu integration and village midwife roles is essential but requires strengthening human resource capacity, infrastructure, and sustained commitment from all stakeholders.	Early Detection, Stunting, Toddlers, Village Midwife, Primary Health Services

INTRODUCTION

The First 1000 Days of Life (HPK) period represents a critical phase determining children's future growth and development quality. During this period, brain development occurs rapidly, making adequate nutritional intake a primary determining factor in preventing growth and developmental disorders. Stunting, defined as growth failure resulting from chronic malnutrition over an extended period, has become a serious problem threatening the quality of the nation's future generations. Children with stunting not only have height below age standards but also face

risks of cognitive developmental disorders, decreased immune function, and low productivity in adulthood (UNICEF, 2020).

Indonesia continues to face significant challenges in reducing stunting rates. Based on the 2023 Indonesian Nutritional Status Survey (SSGI), the national stunting prevalence reached 21.6%, although this figure has declined compared to previous years. The Indonesian government has set a target to reduce stunting to 14% by 2024 through various integrated intervention programs, encompassing both specific and sensitive nutritional interventions (Ministry of Health of the Republic of Indonesia, 2023). Tulungagung Regency has demonstrated strong commitment to accelerating stunting reduction, allocating Rp105.9 billion in the 2025 budget and implementing various cross-sectoral integrated intervention programs (Regional Government of Tulungagung, 2025).

Sidem Village, located in Gondang Sub-district, Tulungagung Regency, represents an area with mountainous geographical characteristics and relatively remote access from the regency center. Considerable travel distances and inadequate road conditions create barriers to community access to health services. The village comprises seven hamlets and has only one resident village midwife and one main Posyandu. This situation presents particular challenges in implementing the Stimulation, Detection, and Early Intervention of Growth and Development (SDIDTK) program, which constitutes one of the essential pillars in stunting prevention and management.

The SDIDTK program aims to detect early deviations in growth and development among toddlers and preschoolers, enabling timely intervention. SDIDTK services should ideally be provided at least 4 times for children aged 0-11 months and twice annually for children aged 12-59 months. However, with limited resources in rural areas, this service frequency is difficult to achieve optimally (Maryam, 2010).

Based on this background, this study aims to examine the integration of Posyandu primary health services and the role of village midwives in early stunting detection among toddlers in Sidem Village, Tulungagung Regency. The findings are expected to provide policy recommendations for local governments and relevant stakeholders in accelerating stunting reduction in rural areas.

METHODS

This research employed a descriptive quantitative design with a cross-sectional approach. This design was selected to describe stunting prevalence and toddler developmental screening results at a specific point in time, as well as to identify constraints in SDIDTK program implementation at the village level.

The research was conducted in Sidem Village, Gondang Sub-district, Tulungagung Regency. The study population comprised all toddlers aged 0-59 months in Sidem Village. The sampling technique used total sampling, including all toddlers attending Posyandu activities in three hamlets during the data collection period, with a total of 338 toddlers.

Inclusion criteria were toddlers present and willing to undergo anthropometric examination and KPSP assessment. Exclusion criteria were toddlers not present during data collection or whose parents refused to participate in the study.

The research variables included:

1. Stunting status (measured based on height-for-age index with a Z-score threshold of <-2 SD)
2. Developmental screening results (categorized as appropriate, questionable, or inappropriate)
3. Toddler age, sex, and breastfeeding history

Data were collected through anthropometric measurements (height/length measurement using length board or stadiometer) and KPSP (Developmental Pre-Screening Questionnaire) assessments conducted by village midwives and trained cadres.

Data analysis employed descriptive statistics to describe the frequency distribution of toddler characteristics and stunting prevalence. Data were presented in frequency distribution tables and percentages. Stunting status was determined based on height-for-age index using WHO 2006 growth standards. Toddlers were categorized as stunted if Z-score height-for-age <-2 SD, and severely stunted if Z-score <-3 SD.

RESULTS

1. Respondent Characteristics

Based on data collection from three hamlets in Sidem Village, the respondent characteristics were as follows:

Table 1. Frequency Distribution of Toddler Characteristics in Sidem Village		
Characteristic	Frequency (f)	Percentage (%)
Toddler Age		
0-11 months	78	23.1
12-23 months	95	28.1
24-59 months	165	48.8
Sex		
Male	175	51.8
Female	163	48.2
Total	338	100

Source: Primary Data, 2026

Table 1 shows that most toddlers were in the 24-59 month age group (48.8%), followed by the 12-23 month group (28.1%) and 0-11 month group (23.1%). Sex distribution was relatively balanced between males (51.8%) and females (48.2%). This indicates that toddler coverage in the three hamlets was sufficiently representative to describe the overall health conditions of toddlers in Sidem Village.

2. Stunting Prevalence

Anthropometric measurement results showed stunting prevalence in the three hamlets as follows:

Table 2. Frequency Distribution of Toddler Stunting Status by Hamlet						
Hamlet	Total Toddlers		Stunted		Normal	
	f	%	f	%	f	%
Krajan	124	100	24	19.3	100	80.7
Pucung	80	100	10	12.5	70	87.5
Bago	134	100	19	14.2	115	85.8
Total	338	100	53	15.7	285	84.3

Source: Primary Data, 2026

Based on Table 2, the overall stunting rate in the three hamlets reached 15.7% (53 toddlers out of 338). Krajan Hamlet had the highest stunting prevalence at 19.3%, followed by Bago Hamlet (14.2%) and Pucung Hamlet (12.5%). The stunting rate in Sidem Village remains below the Tulungagung Regency average prevalence based on SSGI 2024 data which reached 13.7%, but higher compared to the latest weighing data showing 5.17%. This difference may be attributed to different methodologies and population coverage between the population-based SSGI survey and the service-based E-PPGBM data at Posyandu.

3. Developmental Screening Results Using KPSP

Developmental assessment results using KPSP showed the following picture:

Table 3. Frequency Distribution of Toddler Developmental Screening Results

Developmental Category	Frequency (f)	Percentage (%)
Appropriate (S)	278	82.2
Questionable (M)	42	12.4
Inappropriate (TS)	18	5.4
Total (n)	338	100

Source: Primary Data, 2026

Table 3 shows that most toddlers (82.2%) had age-appropriate development. However, 12.4% of toddlers had questionable development and 5.4% had inappropriate development requiring further intervention. Toddlers with questionable development required re-screening within 2 weeks, while those with inappropriate development required referral to more competent health workers for further evaluation.

DISCUSSION

The study results showed that stunting prevalence in the three hamlets of Sidem Village reached 15.7%, with Krajan Hamlet having the highest rate (19.3%). This figure is lower than the Tulungagung Regency stunting prevalence based on SSGI 2024 (13.7%), yet still warrants concern considering the latest weighing data showing 5.17% (Tulungagung District Health Office, 2026; Regional Government of Tulungagung, 2025).

This measurement discrepancy may be influenced by several factors. First, methodological differences between the population-based survey SSGI and the service-based E-PPGBM data at Posyandu. Second, differences in survey implementation periods where SSGI was conducted in 2024 while the latest weighing data was obtained in 2025. Third, population coverage differences where SSGI encompasses all Tulungagung Regency territory while this study only covers three hamlets in Sidem Village (Ministry of Health of the Republic of Indonesia, 2023).

Although stunting rates in Sidem Village remain below the regency average, the 15.7% prevalence remains a serious concern given stunting's long-term impact on human resource quality. Based on WHO classification, 15.7% stunting prevalence falls within the moderate public health problem category (10-19%), requiring programmed and sustainable interventions (WHO, 2014).

The higher stunting prevalence in Krajan Hamlet (19.3%) compared to other hamlets may be attributed to several factors. Krajan Hamlet has the highest population density, potentially limiting health service access due to imbalanced health worker-to-population ratios. Additionally, socio-economic conditions in Krajan Hamlet, where most residents work as farm laborers and farmers with irregular incomes, may affect family capacity to meet children's nutritional needs (Anwar et al., 2014).

CONCLUSION

Early stunting detection among toddlers in Sidem Village through Posyandu service integration and village midwife roles showed that stunting prevalence in the three hamlets reached 15.7%, with Krajan Hamlet having the highest rate (19.3%). Developmental screening results using KPSP showed 17.8% of toddlers experienced questionable or inappropriate development requiring further intervention. SDIDTK implementation still faces constraints including limited village midwives, inadequate stimulation equipment, and infrequent supervision from community health centers. The SOTH program represents a positive innovation that requires continued development and sustainability support.

SUGGESTION

It is necessary to intensify education for parents about the importance of growth and development monitoring and child developmental stimulation at home through SOTH programs or similar activities.

It is recommended to conduct research with longitudinal designs and broader regional coverage to comprehensively evaluate the effectiveness of stunting intervention programs.

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