

Evaluation of Integrated Health Post (Posyandu) Activities in the Era of Primary Health Service Transformation to Improve Toddler Growth in Toddotoa Village, Pallangga District, Gowa Regency

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ABSTRACT

Posyandu (Integrated Health Post) is a community-based health service that plays a crucial role in monitoring child growth and improving maternal and child health outcomes. Despite the implementation of Primary Health Care Transformation in Indonesia, low attendance at Posyandu and persistent child growth issues remain challenges in some areas. This study aims to evaluate the relationship between Posyandu service performance and toddler growth in Toddotoa Village, Pallangga District, Gowa Regency. A quantitative study with a cross-sectional design was conducted among 94 mothers of children under five years old from October to November 2025. Data were collected using a structured questionnaire that assessed four dimensions of Posyandu service performance: effectiveness, efficiency, adequacy, and responsiveness. Data were analyzed using the Chi-square test with a significance level of 0.05. The results showed that 70.2% of toddlers experienced abnormal growth, while 70.2% of respondents assessed Posyandu services as effective. Statistical analysis showed a significant relationship between service effectiveness and toddler growth ($p = 0.016$). However, no significant association was found between service efficiency ($p = 0.917$), adequacy ($p = 0.478$), or responsiveness ($p = 1.000$) and toddler growth. This finding suggests that Posyandu service effectiveness is an important factor associated with toddler growth, while efficiency, adequacy, and responsiveness are not significantly related. Strengthening Posyandu service effectiveness through improved growth monitoring, nutritional counseling, and capacity building of cadres may contribute to better child growth outcomes.

Keywords: Integrated Health Post (Posyandu); service effectiveness; primary health care transformation; toddler growth; child health

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INTRODUCTION

Health is a state of physical, mental, and social well-being that enables every individual to live productively socially and economically (1). Primary health care is one of the basic services available in health services. Transformation of primary health care is carried out to achieve a comprehensive level of health as outlined in the six pillars of health transformation (2). Integrated Health Service Posts (Pos Kesehatan Terpadu) are designated places to monitor the growth and development of toddlers. According to the World Health Organization (WHO), the nutritional status of toddlers in Indonesia is categorized as chronic, one of which is in Southeast Sulawesi Province (3). In Indonesia, in 2023 there were 25,000 Integrated Health Service Posts. This number then increased rapidly in 2024 to 238,699 Integrated Health Service Posts. However, the increase in number was not accompanied by an increase in quality (5).

The reasons for the low number of toddler visits to Posyandu are due to several factors, including the limited number of cadres who receive uniform training, low maternal awareness and lack of family support regarding the importance of the role of Posyandu, as well as minimal innovation in efforts to increase the motivation of mothers of toddlers, which are some of the main obstacles in optimizing Posyandu services (6).

Based on the 2023 Indonesian Health Survey (SKI) by the Ministry of Health, South Sulawesi Province recorded a prevalence of malnutrition in toddlers, based on weight-for-age indicators, of 3.9%, and a prevalence of malnutrition of 16.1%. (7). Data from the 2023 Gowa Regency People's Welfare Indicators showed that 19.31% of stillbirth cases were babies with low birth weight (LBW) (<25 kg) and low attendance at integrated health service posts (Posyandu) (13). Posyandu can be considered active if it routinely carries out main activities every month (pregnant women, postpartum women, babies, toddlers, family planning, immunization, nutrition, diarrhea prevention and treatment) with a coverage of 50% each, and includes additional activities.

The transformation of primary healthcare services in Indonesia has brought about changes in the approach to community-based healthcare services, including Integrated Health Posts (Posyandu). Posyandu are no longer viewed simply as places to weigh toddlers, but rather as part of a strengthened primary healthcare system that

emphasizes service integration, growth and development monitoring, health education, nutrition services, and early detection of health problems. This change requires Posyandu to provide services that are not only available, but also effective, efficient, adequate to meet community needs, and responsive to the needs of mothers and toddlers. Therefore, evaluation of Posyandu in the era of primary healthcare transformation requires a more comprehensive view of service performance, not solely based on the scope or activities of Posyandu. These changes indicate that evaluation of Posyandu in the era of primary healthcare transformation has a different context than evaluation of Posyandu conducted before the strengthening of primary healthcare integration. Previous evaluations primarily described Posyandu utilization through the presence of mothers and toddlers, the scope of visits, activity activities, or the role of cadres. This approach is important for assessing implementation, but it does not fully answer whether the services provided have achieved health goals, utilized resources optimally, met community needs, and responded to the needs of target groups. Therefore, changes in the function of Posyandu in the transformation of primary services require an evaluation approach that is not only oriented towards service activities, but also towards the quality of service performance and its relationship to toddler health outcomes.

Although various studies have addressed Posyandu utilization, cadre activities, visits by mothers of toddlers, and child nutritional status, there is limited research specifically evaluating Posyandu service performance within the context of policy changes in primary health care transformation. Previous evaluations have tended to assess Posyandu based on attendance, visit coverage, or cadre roles, while the changing function of Posyandu within the framework of primary health care transformation requires a more comprehensive assessment of service quality and its relationship to toddler growth outcomes. Furthermore, it is unclear whether the dimensions of Posyandu service performance effectiveness, efficiency, adequacy, and responsiveness have the same relationship with toddler growth at the village level, particularly in Toddotoa Village, Pallangga District, Gowa Regency. This situation presents an important research gap to examine because the presence of an active Posyandu does not

necessarily indicate that all aspects of service are running optimally and providing the same benefits for toddler growth. Specifically, this study differs from previous Posyandu evaluations in Toddotoa Village because it was conducted within the context of the primary health care transformation era and used a multidimensional perspective for evaluating service performance. The focus of this research is not only on whether Posyandu activities are implemented or how often the community utilizes the services, but also on the extent to which these services are effective in achieving the goals of monitoring toddler growth, efficient in service delivery, sufficient in meeting toddler health needs, and responsive to community needs. Thus, this study expands the evaluation of Posyandu from assessing activities and service utilization to assessing the quality of service performance and its relationship to toddler growth outcomes. To date, it is unknown whether these four dimensions have the same relationship with toddler growth at the village level, specifically in Toddotoa Village, Pallangga District, Gowa Regency.

Theoretically, this study uses William N. Dunn's policy evaluation framework as the basis for selecting evaluation dimensions. Dunn proposed six main criteria for evaluating policy outcomes: effectiveness, efficiency, adequacy, equity, responsiveness, and appropriateness. This study did not use all of these criteria, but chose four dimensions : effectiveness, efficiency, adequacy, and responsiveness, because they best align with the research objective of assessing the performance of Posyandu services and their relationship to toddler growth.

Effectiveness is used to assess the extent to which Posyandu services achieve the expected results or objectives, particularly in growth monitoring, providing nutrition education and counseling, and early detection of toddler health problems. Efficiency is used to assess the amount of resources and effort required to produce the expected services. Adequacy is used to assess the extent to which the achieved service results are able to meet health needs and help overcome toddler growth problems. Meanwhile, responsiveness is used to assess the extent to which service results are able to meet the needs, preferences, and conditions of the target group, including the ability of officers and cadres to respond to the needs and complaints of mothers and toddlers. These four

dimensions provide a complementary perspective because they allow for evaluation not only of the achievement of service objectives, but also of resource use, the ability to meet needs, and the suitability of services to community needs.

Thus, the novelty of this study lies in the application of a multidimensional performance evaluation framework to Posyandu services at the village level in the context of the era of primary health care transformation, by linking four evaluation dimensions: effectiveness, efficiency, adequacy, and responsiveness with toddler growth. This approach differs from previous evaluations that emphasized aspects of utilization, activities, visits, or the role of cadres because this study assessed the quality of service performance while examining its relationship with toddler growth outcomes. The results of the study are expected to identify aspects of Posyandu services that are most related to toddler growth and become the basis for strengthening the quality of Posyandu services in Toddotoa Village. Based on this background, the researcher is interested in examining the Evaluation of Posyandu Activities in the Era of Primary Care Transformation in an Effort to Improve Toddler Growth in Balita Village, Gowa Regency.

METHOD

This study used a quantitative design with a cross-sectional approach conducted in Toddotoa Village, Pallangga District, Gowa Regency, in October–November 2025. The study population was 124 mothers with toddlers, with a sample of 94 respondents determined using the Slovin formula and selected through an accidental sampling technique. Toddler growth data was obtained secondary from anthropometric records in the Maternal and Child Health Book (KIA). Toddler growth was operationalized based on the weight-for-length/height index (BB/PB for children <24 months and BB/TB for children aged 24–59 months) referring to WHO growth standards. Toddlers were categorized as having normal growth if the Z-score was in the range of -2 SD to $+2$ SD and abnormal if the Z-score was <-2 SD or $>+2$ SD.

The performance of Posyandu services was measured using a structured questionnaire covering four dimensions: effectiveness, efficiency, service adequacy, and responsiveness. Validity testing on the multi-item dimension was conducted using a corrected item–total correlation with an r table of 0.203 ($n=94$; $\alpha=0.05$); the correlation

value for the efficiency dimension was 0.321, service adequacy 0.240–0.783, and responsiveness 0.712–0.921 after reverse scoring on negative statements. Reliability was assessed using Cronbach's alpha with a value of 0.485 for efficiency, 0.739 for service adequacy, and 0.925 for responsiveness, while the effectiveness dimension was not tested for internal reliability because it only consisted of one item. Data were analyzed using SPSS through univariate analysis and the Chi-square test at a significance level of $\alpha=0.05$.

RESULTS

Univariate analysis results

Table 1
Distribution of Respondents Based on Research Variables
In Toddotoa Village, Pallangga District
Gowa Regency.

Univariate Analysis	Category	n	%
Service Effectiveness	Less effective	28	29.8
	Quite Effective	66	70.2
Service Efficiency	Less efficient	58	61.7
	Quite Efficient	36	38.3
Adequacy of Service	Not enough	23	24.5
	Quite good	71	74.5
Officer Responsiveness	Not enough	23	24.5
	Quite good	71	74.5
Toddler Growth	Abnormal	66	70.2
	Normal	28	29.8
Total		94	100.0

Source: Primary Data, 2025

Based on Table 1, 66 people, or approximately 70.2%, rated Posyandu services as quite effective. Fifty-eight people, or approximately 61.7%, rated Posyandu services as ineffective. Seventy-one people, or approximately 74.5%, rated Posyandu services as quite responsive. Of the 94 toddlers surveyed, 66 were considered to have abnormal growth (70.2%), and only 28 were considered normal (29.8%).

Bivariate Analysis

Table 2
Distribution of Respondents Based on the Effectiveness of Services on Toddler Growth in Toddotoa Village, Pallangga District, Gowa Regency.

Effectiveness	Toddler Growth				Total		p=0.016
	Abnormal		Normal				
	N	%	N	%	N	%	
Not effective enough	23	82.1	5	17.9	28	100	
Quite Effective	43	65.1	23	34.8	66	100	
Total	66	70.2	28	29.8	94	100	

Source: Primary Data, 2025

Based on Table 2, Posyandu with less effective services, 82.1% of toddlers experienced abnormal growth and only 17.9% experienced normal growth. In integrated health posts with fairly effective services, the proportion of abnormal growth was still higher (65.1%) than normal growth (34.8%), but growth conditions were slightly better than the less effective group. The p-value of 0.016 is smaller than the general significance limit of 0.05, so there is a statistically significant relationship between the effectiveness of integrated health post services and toddler growth.

Table 3
Distribution of Respondents Based on Service Efficiency with Toddler Growth in Toddotoa Village, Pallangga District, Gowa Regency.

Service Efficiency	Toddler Growth				Total		p=0.917
	Abnormal		Normal		N	%	
	N	%	N	%			
Less efficient	40	68.9	18	31.1	58	100	
Quite Efficient	26	72.2	10	27.8	36	100	
Total	66	70.2	28	29.8	94	100	

Source: Primary Data, 2025

Table 3 shows that of the 58 respondents in the less efficient service category, 40 toddlers (68.9%) showed abnormal growth. Meanwhile, in the fairly efficient service group, 26 toddlers (72.2%) of the 36 respondents experienced abnormal growth. The Chi-Square statistical test showed that there was no significant relationship between the efficiency of integrated health post services and toddler growth, with a p value of 0.917 ($p > 0.05$).

Table 4
Distribution of Respondents Based on Adequacy of Services for Toddler Growth in Toddotoa Village, Pallangga District, Gowa Regency.

Adequacy of Service	Toddler Growth				Total		p=0.478
	Abnormal		Normal				
	N	%	N	%	N	%	
Not good	18	78.3	5	21.7	23	100	
Quite good	48	67.6	23	32.4	71	100	
Total	66	70.2	28	29.8	94	100	

Source: Primary Data, 2025

Based on Table 4, the proportion of toddlers with normal growth is higher. In the group with Fairly Good services (32.4%) compared to the group with Inadequate services (21.7%). The analysis results showed no significant correlation between the adequacy of integrated health post services and the growth status of toddlers in Toddotoa Village. This relationship was not statistically proven ($p = 0.478$), although there was a tendency for the proportion of toddlers with normal growth to be higher as the integrated health post services improved.

Table 5
Distribution of Respondents Based on the Relationship between Officer Responsiveness and Toddler Growth in Toddotoa Village, Pallangga District Gowa Regency.

Officer Responsiveness	Toddler Growth				Total		p=1,000
	Abnormal		Normal		N	%	
	N	%	N	%			
Not good	16	78.3	7	21.7	23	100	
Quite good	50	70.4	21	29.6	71	100	
Total	66	70.2	28	29.8	94	100	

Source: Primary Data, 2025

Based on Table 5, the relationship between responsiveness and toddler growth is that the majority of respondents said the officer's response was quite good towards abnormal toddler growth as many as 50 people (70.4%), and the least said the officer's response was not good towards normal toddler growth as many as 7 people (21.7%). Based on the results of the chi-square test, the p value was obtained at 1.000, which indicates there is no relationship between officer responsiveness and toddler growth.

DISCUSSION

The results of this study indicate a relationship between the effectiveness of Posyandu services and toddler growth in Toddotoa Village, Pallangga District, Gowa Regency. These findings indicate that Posyandu's ability to achieve service objectives, particularly through growth monitoring, health education, nutrition counseling, and early detection of health problems, may be related to toddler growth conditions. Community-based health services accompanied by routine anthropometric monitoring, feeding counseling, vitamin A supplementation, immunization, and a referral system are important components in supporting children's nutritional status and growth. Strong primary health care also plays a vital role in efforts to reduce stunting and malnutrition in developing countries (26). Effective Posyandu can support more regular anthropometric measurements and early detection of growth problems so that parents receive the necessary information and follow-up. In addition, the quality of Posyandu services can support increased maternal knowledge regarding feeding practices, hygiene, child care when sick, and seeking health services (26).

However, the continued presence of abnormal growth in the group with services deemed quite effective indicates that Posyandu services are not the only factor related to toddler growth. Revitalizing Posyandu through increasing the capacity of cadres, integrating maternal and child nutrition and health services, and digitizing growth recording are strategies to strengthen primary health care (24). However, child growth is also influenced by conditions outside Posyandu services, such as household socioeconomic status, maternal education level, feeding practices, access to clean water and sanitation, and infectious diseases (27). Therefore, increasing the effectiveness of Posyandu services needs to be accompanied by broader interventions, such as family nutrition education, increasing household food security, and improving sanitation and the environment.

The research also showed that the efficiency of Posyandu services did not have a significant relationship with toddler growth. This condition may occur because efficiency indicators more closely reflect aspects of the service process, such as the regularity of activities, smooth service implementation, and resource utilization, while

toddler growth is a biological outcome influenced by various factors over a longer period of time. Maternal education, feeding practices, socioeconomic status, sanitation, and the incidence of infection can have a more direct contribution to nutritional status and child growth than aspects of the service process alone (27). In addition, the success of growth monitoring is also influenced by the technical quality of services, such as the accuracy of anthropometric measurements, the quality of counseling, documentation of measurement results, and follow-up for toddlers at risk. Some Posyandu still face problems such as poor documentation, variations in measurement quality, and limited feedback to parents (28). Thus, good service efficiency is not necessarily directly reflected in growth outcomes if the technical quality of services and factors at the family level are not optimal.

The adequacy of Posyandu services did not show a significant relationship with toddler growth ($p=0.478$). However, descriptively, the proportion of toddlers with normal growth was higher in the group receiving services deemed adequate compared to the group receiving inadequate services. This finding indicates a positive trend, but the difference is not yet statistically strong enough. This can be explained because the adequacy of Posyandu services is only one component that can support child growth, while growth is the result of the interaction of various individual, family, and environmental factors. Adequate services can provide growth monitoring, health information, and counseling, but the success of implementing these recommendations also depends on family conditions. Household food intake and diversity, feeding practices, socioeconomic status, maternal education, sanitation conditions, and the incidence of infection are factors that can influence toddler growth independently of the adequacy of Posyandu services (27). Insufficient energy and nutrient intake can lead to suboptimal growth even though children receive adequate Posyandu services. Similarly, undetected or subclinical infections can reduce appetite and interfere with nutrient absorption and utilization, potentially inhibiting growth. These factors were not all measured and controlled in this study so they have the potential to become confounding factors (residual confounding) that can influence the relationship between the adequacy of Posyandu services and toddler growth.

The responsiveness of Posyandu staff also did not show a significant relationship with toddler growth ($p=1.000$). Responsiveness primarily reflects the ability of staff and cadres to provide services quickly, be available when needed, and respond to the needs, complaints, and suggestions of Posyandu participants. This dimension more reflects interpersonal qualities and the service process, while toddler growth is a biological outcome that develops over a relatively long period of time. Therefore, responsive services do not always directly follow better growth if the child still experiences limited nutritional intake, inappropriate feeding practices, infectious diseases, poor sanitation conditions, or family socioeconomic limitations (27). Furthermore, the benefits of responsive services also depend on the quality of growth monitoring and follow-up provided to families. Suboptimal documentation, variations in measurement quality, and limited feedback to parents can reduce the ability of Posyandu services to detect and address growth problems early (28). Therefore, the lack of a statistical relationship between responsiveness and toddler growth does not mean that responsiveness is unimportant, but rather indicates that child growth is influenced by factors that are more complex than a single service dimension.

This study has several limitations that should be considered when interpreting the results. The cross-sectional design meant that Posyandu service performance and toddler growth variables were observed over the same period, making the temporal sequence between exposure and outcome uncertain. Therefore, this study cannot establish a causal relationship, and the results should be interpreted as a relationship or association. Furthermore, several potential factors that could influence toddler growth, such as the adequacy and diversity of household food intake, feeding practices, socioeconomic status, sanitation, and the incidence of infection, were not fully measured and controlled for in the analysis, so the possibility of confounding factors cannot be ruled out. Longitudinal research measuring nutritional factors, infectious diseases, socioeconomic conditions, and the technical quality of Posyandu services is needed to more comprehensively explain the relationship between Posyandu service performance and toddler growth.

CONCLUSION AND RECOMMENDATIONS

Based on the research results, there is a relationship between the effectiveness of Posyandu services and toddler growth in Toddotoa Village, Pallangga District, Gowa Regency. There is no relationship between the efficiency, adequacy, and responsiveness of Posyandu services and toddler growth in Toddotoa Village, Pallangga District, Gowa Regency.

To improve Posyandu services, a scheduled outreach program is needed to discuss the importance of monitoring toddler growth and development. Cadre roles need to be defined based on their tasks to prevent concentration of services in one location. Toddotoa Village officials are expected to allocate a stable PMT budget. Cadre training is needed, including effective communication, nutrition counseling, and toddler service standards.

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