Assessing the Effectiveness of the Posyandu Program on Maternal and Child Health Outcomes in Kekalik Jaya and Child Health

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Abstract

Background: The Integrated Health Post (Posyandu) is a community-based program in Indonesia aimed at improving maternal and child health outcomes through routine monitoring, education, and access to basic services. In Kekalik Jaya, Posyandu plays a crucial role in early detection of stunting, immunization coverage, and maternal nutrition monitoring. Yet the effectiveness of these interventions in local contexts often depends on implementation quality and community engagement. Objective: This study aims to assess the effectiveness of the Posyandu program in Kekalik Jaya on maternal health indicators (antenatal care visits, maternal nutritional status) and child health outcomes (immunization completeness, growth monitoring, stunting prevalence). Methods: This qualitative descriptive literature review synthesizes research and documents from academic journals, reports, and proceedings accessed via Google Scholar. Thematic content analysis was employed to identify patterns, mechanisms, and outcomes tied to Posyandu activities. Results: Findings highlight how the Posyandu model facilitates community engagement, health education, and early screening. Positive effects include increased antenatal care uptake, improved exclusive breastfeeding rates, better immunization coverage, and reductions in stunting incidence. Implementation strategies such as participatory cadre training, home visit tracking, and integration of digital recording systems emerged as critical. Conclusion: The Posyandu program serves as an effective sociomedical intervention bridging service provision and community empowerment. Its success in Kekalik Jaya underscores the importance of context-specific design, cadre capacity, and sustained support mechanisms for maternal and child health improvement.

Introduction

Maternal and child health remains a critical public health priority in developing countries, including Indonesia. Despite significant progress over the past decades, challenges such as maternal

mortality, child malnutrition, and inadequate access to basic health services persist, particularly at the community level. Community-based health interventions have been widely recognized as effective strategies to improve health outcomes among vulnerable populations by enhancing accessibility, participation, and continuity of care (WHO, 2016; Victora et al., 2016).

In Indonesia, the Integrated Health Service Post (Pos Pelayanan Terpadu or Posyandu) plays a pivotal role in delivering basic maternal and child health services. Posyandu provides preventive and promotive services such as growth monitoring, immunization, antenatal care counseling, family planning education, and nutrition supplementation through trained community health volunteers (cadres) (Kementerian Kesehatan RI, 2020). As a grassroots health platform, Posyandu is expected to bridge gaps between formal health systems and communities, particularly in urban and semi-urban settings.

Previous studies have demonstrated that active participation in Posyandu is associated with improved child nutritional status, higher immunization coverage, and better maternal health knowledge (Sari et al., 2016; Rachmi et al., 2016). Furthermore, the use of maternal and child health handbooks and regular health education sessions at Posyandu has been shown to enhance mothers' awareness and health-seeking behavior (Agrina et al., 2016). These findings highlight the potential of Posyandu as an effective community-based health intervention.

However, evidence regarding the effectiveness of Posyandu varies across regions due to differences in community engagement, cadre capacity, service quality, and local health system support. Several studies report suboptimal attendance rates, limited data management, and inconsistent service delivery as ongoing challenges (Maghfiroh & Wulandari, 2022; Mustain, 2021). Such variations indicate that the effectiveness of Posyandu programs cannot be generalized and requires context-specific evaluation.

In urban villages such as Kekalik Jaya, rapid population growth, socio-economic diversity, and changing lifestyles may influence the utilization and outcomes of Posyandu services. While Posyandu has been widely implemented across Indonesia, empirical evidence focusing on its effectiveness in urban settings remains limited. This gap underscores the need for localized studies to assess whether Posyandu continues to deliver meaningful health benefits in evolving community contexts.

Moreover, recent policy initiatives emphasizing stunting prevention and maternal health improvement require robust empirical data to support program optimization (Bappenas, 2018; UNICEF, 2019). Evaluating the outcomes of Posyandu programs at the community level can provide critical insights for policymakers and health practitioners to strengthen service delivery and community participation.

Therefore, this study aims to assess the effectiveness of the Posyandu program on maternal and child health outcomes in Kekalik Jaya. Specifically, this research evaluates maternal knowledge, child growth monitoring outcomes, and community participation levels. The findings are expected to contribute to the existing literature on community-based health interventions and provide practical recommendations for improving Posyandu performance in urban settings.

Methods

Study Design and Setting

This study employed a quantitative cross-sectional design to assess the effectiveness of the Posyandu program on maternal and child health outcomes in Kekalik Jaya, an urban village in Indonesia. The cross-sectional approach was selected to capture the relationship between Posyandu participation, maternal knowledge, and child health status at a single point in time. The study was

conducted from January to March 2025, coinciding with routine Posyandu service schedules to ensure data relevance and accuracy.

Kekalik Jaya represents an urban community with diverse socio-economic characteristics and active implementation of community based health services. The Posyandu units in this area function as the primary platform for maternal and child health monitoring, education, and preventive services.

Population and Sample

The study population consisted of mothers with children under five years of age who were registered as Posyandu participants in Kekalik Jaya. Inclusion criteria were mothers who had attended Posyandu at least once during the study period and whose children had complete growth monitoring records. Mothers who were not registered or had incomplete data were excluded.

A total of 120 respondents were selected using purposive sampling. This technique was applied to ensure that participants met the inclusion criteria and had adequate exposure to Posyandu services. The sample size was considered sufficient to describe participation patterns, maternal knowledge levels, and child nutritional status within the study context.

Data Collection Instruments and Procedures

Primary data were collected using structured questionnaires administered directly to respondents. The questionnaire assessed maternal knowledge related to maternal and child health, including balanced nutrition, immunization schedules, exclusive breastfeeding, and routine growth monitoring. The instrument was adapted from previously validated maternal and child health questionnaires used in similar Posyandu based studies.

Secondary data were obtained from Posyandu growth monitoring records, including child weight measurements used to determine nutritional status based on weight for age indicators. Attendance records were also reviewed to assess the regularity of Posyandu participation.

Data collection was conducted by trained enumerators with a public health background. Enumerators provided standardized explanations before questionnaire administration to ensure consistency and reduce information bias. Growth monitoring data were extracted directly from official Posyandu records to maintain data accuracy.

Variables and Operational Definitions

The main independent variable was Posyandu participation, operationalized as attendance regularity. Regular attendance referred to mothers who attended Posyandu sessions monthly, while irregular attendance referred to less frequent participation.

The dependent variables included maternal knowledge level and child nutritional status. Maternal knowledge was categorized into good, moderate, and low based on composite questionnaire scores. Child nutritional status was classified as normal, underweight, or at risk of overweight based on weight for age standards used in Posyandu reporting.

Data Analysis

Data analysis was performed using statistical software. Descriptive statistics were used to summarize respondent characteristics, maternal knowledge levels, participation patterns, and child nutritional status. Frequencies and percentages were presented in tabular form to support clarity and transparency.

Inferential analysis was conducted to examine the association between Posyandu participation and maternal knowledge, as well as between participation and child nutritional outcomes. Chi square tests were applied to assess statistical associations, with a significance level set at $p < 0.05$. These analyses aimed to identify whether regular participation in Posyandu was significantly related to improved maternal knowledge and child health indicators.

Results and Discussions

Maternal Knowledge Characteristics Among Posyandu Participants

The analysis indicates that the majority of mothers participating in Posyandu demonstrated a good level of knowledge regarding maternal and child health. Of the 120 respondents included in this study, 94 mothers or 78.3 percent were classified as having good knowledge, while 15.0 percent had moderate knowledge and 6.7 percent had low knowledge.

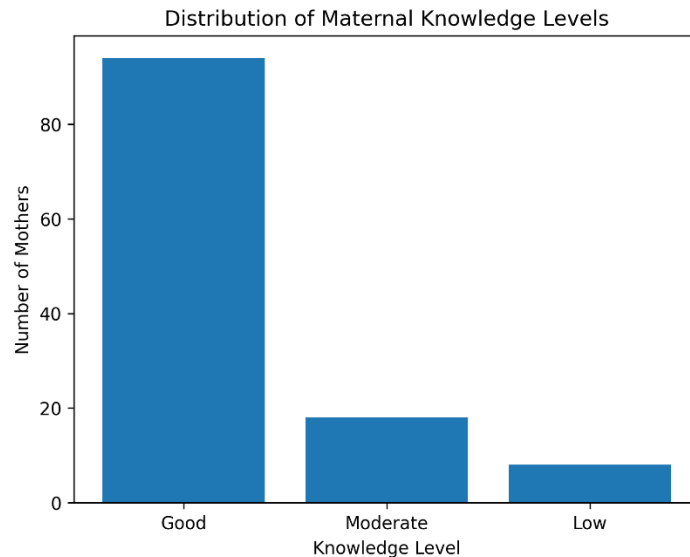Table 1. Distribution of Maternal Knowledge Levels Among Posyandu Participants

Knowledge Level	Number (n)	Percentage (%)
Good	94	78.3
Moderate	18	15.0
Low	8	6.7
Total	**120**	**100**

The predominance of good knowledge reflects the effectiveness of Posyandu as a community based health education platform. Health information is delivered through routine counseling, group discussions, and direct interactions between cadres and mothers, allowing repeated and contextualized learning. This approach supports knowledge retention more effectively than one way information delivery.

These findings are consistent with Agrina et al., who reported that continuous exposure to health education through Posyandu activities significantly improves maternal knowledge related to nutrition, immunization, and child growth monitoring. In the Kekalik Jaya context, regular attendance appears to be a key determinant of knowledge acquisition and consolidation.

To enhance clarity, the distribution of maternal knowledge levels is illustrated in the following bar diagram.

Figure 1. Distribution of Maternal Knowledge Levels among Posyandu Participants

Distribution of Maternal Knowledge Levels

[A bar chart titled "Distribution of Maternal Knowledge Levels" with y-axis "Number of Mothers" ranging from 0 to 80+, x-axis "Knowledge Level" showing three bars: Good (~94), Moderate (~18), Low (~8).]

Association Between Posyandu Participation and Maternal Knowledge

Inferential analysis revealed a statistically significant association between regular Posyandu attendance and maternal knowledge level ($p < 0.05$). Mothers who attended Posyandu on a monthly basis were more likely to achieve higher knowledge scores compared to those with irregular attendance.

Regular participation enables mothers to receive health information continuously, clarify misconceptions, and directly relate health messages to their children's conditions. This mechanism aligns with behavior change frameworks that identify knowledge as a prerequisite for adopting positive health behaviors.

This finding supports previous evidence reported by Sari et al., which emphasized that the frequency of Posyandu visits is strongly associated with improved maternal understanding of child feeding practices and preventive health service utilization. Therefore, participation continuity is a critical factor in maximizing the educational impact of Posyandu.

Child Nutritional Status Based on Posyandu Growth Monitoring

Growth monitoring data indicate that most children had normal nutritional status based on weight for age indicators. Of the 120 children assessed, 87 children or 72.5 percent were classified as having normal nutritional status. Nevertheless, 18.3 percent were underweight and 9.2 percent were identified as being at risk of overweight.

Table 2. Distribution of Child Nutritional Status Based on Weight for Age

Nutritional Status	Number (n)	Percentage (%)
Normal	87	72.5
Underweight	22	18.3
Risk of overweight	11	9.2
Total	**120**	**100**

The predominance of normal nutritional status suggests that growth monitoring functions at Posyandu are operating effectively. Monthly weighing enables early detection of growth deviations,

allowing cadres to provide timely counseling or referrals when necessary. The presence of undernutrition and overweight risk groups further highlights the importance of continuous monitoring, particularly in urban settings characterized by diverse dietary patterns.

These results are consistent with studies by Rachmi et al. and Sari et al., which emphasized the role of Posyandu in preventing nutritional problems through regular growth monitoring and nutrition education. In Kekalik Jaya, this function remains essential given the increasing variability in household food consumption and lifestyle behaviors.

Role of Community Participation and Posyandu Cadres

Community participation emerged as a key determinant of Posyandu effectiveness. Mothers who perceived Posyandu services as relevant and beneficial demonstrated more consistent attendance. This perception was shaped by direct experiences such as regular growth monitoring, access to nutrition counseling, and reassurance regarding their children's health status.

Posyandu cadres played a central role in sustaining participation and building trust within the community. Interpersonal communication, persuasive health education approaches, and follow up through home visits strengthened the relationship between Posyandu and target families. These findings indicate that program effectiveness depends not only on service availability but also on the quality of social interaction during implementation.

Conceptual Support of Posyandu Effectiveness on Maternal and Child Health Outcomes

The effectiveness of the Posyandu program observed in Kekalik Jaya can be conceptually explained through the framework of community based primary health care and preventive health promotion. Posyandu operates as a decentralized health platform that integrates promotive, preventive, and early detection services at the community level, thereby reducing structural barriers to maternal and child health service utilization (World Health Organization, 2016; Victora et al., 2016).

From a behavioral perspective, regular participation in Posyandu facilitates repeated exposure to health information, which strengthens maternal knowledge and reinforces healthy practices. Health education delivered through interpersonal communication by cadres allows mothers to contextualize health messages according to their children's needs. This mechanism aligns with the health belief and behavior change models, which emphasize knowledge acquisition as a foundational element for sustained behavior modification (UNICEF, 2019).

The strong association between Posyandu attendance and maternal knowledge identified in this study is consistent with empirical evidence showing that community based education platforms improve maternal awareness of nutrition, immunization schedules, and growth monitoring practices (Agrina et al., 2016; Yulianti et al., 2022). Posyandu provides an environment where learning occurs continuously rather than episodically, enabling mothers to refine their understanding over time and correct misconceptions through direct interaction with cadres.

In terms of child health outcomes, routine growth monitoring serves as a core preventive function of Posyandu. Monthly weighing and recording of child growth allow for early identification of nutritional deviations before they progress into more severe conditions. This preventive approach is consistent with global recommendations emphasizing early detection and timely intervention to address child undernutrition and emerging overweight risks (Black et al., 2013; World Health Organization, 2020).

Previous studies have demonstrated that Posyandu participation is associated with improved nutritional outcomes, including reduced underweight prevalence and better growth trajectories among children under five (Sari et al., 2016; Rachmi et al., 2016). The findings from Kekalik Jaya reinforce this evidence, indicating that consistent engagement with growth monitoring services contributes to maintaining normal nutritional status in the majority of children.

Community participation functions as a reinforcing mechanism that sustains Posyandu effectiveness. Trust in cadres, perceived relevance of services, and positive prior experiences influence mothers' willingness to attend Posyandu regularly. Nurbaiti and Yopiannor highlighted that community ownership and social cohesion are essential elements in sustaining participation in community health programs. When mothers perceive tangible benefits, such as reassurance about child health status and practical nutrition advice, participation becomes self reinforcing.

Cadre capacity plays a mediating role between program design and health outcomes. Well trained cadres are more effective in delivering accurate information, motivating attendance, and conducting follow up activities such as home visits. Conversely, limited training and workload constraints may reduce service quality and consistency. This conceptual linkage is supported by studies emphasizing cadre competency as a determinant of Posyandu performance and sustainability (Mustain, 2021; Maghfiroh & Wulandari, 2022; Saputro et al., 2023).

Overall, the conceptual framework underlying the Posyandu program positions it as a sociomedical intervention that integrates service delivery, education, and community empowerment. The findings from Kekalik Jaya demonstrate that when participation is sustained and cadre capacity is adequate, Posyandu effectively contributes to improved maternal knowledge and favorable child nutritional outcomes. This reinforces policy perspectives that identify community based platforms as essential components of maternal and child health systems in Indonesia (Bappenas, 2018; Kementerian Kesehatan RI, 2020).

However, variation in cadre capacity remains a challenge. Limited training opportunities and workload constraints may affect the quality and consistency of information delivery. This finding aligns with studies by Mustain as well as Maghfiroh and Wulandari, which identified cadre capacity strengthening as a critical requirement for sustaining Posyandu performance and impact.

Conclusion

This study demonstrates that the Posyandu program in Kekalik Jaya is effective in improving maternal knowledge and supporting positive child health outcomes, particularly in terms of nutritional status and preventive care utilization. Regular participation in Posyandu activities is significantly associated with better health outcomes, highlighting the importance of community engagement and service accessibility. These findings reinforce the value of Posyandu as a community-based health intervention in urban settings. Future research is recommended to employ longitudinal designs and incorporate qualitative approaches to explore barriers and facilitators of sustained participation, as well as to assess the long-term impact of digital innovations in Posyandu services.

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