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Basic competency training for posyandu cadres to enhance their capacity in stunting prevention in Samarinda

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ABSTRACT

Stunting remains a serious public health problem in Indonesia, caused by chronic malnutrition and recurrent infections during the first 1,000 days of life. Posyandu cadres have a strategic role as the front line in promotive and preventive health services. However, many cadres still face limitations in knowledge and standard competencies related to stunting prevention. This community service activity aimed to improve the capacity of Posyandu cadres in Samarinda City through structured Basic Competency Training. The training was conducted over three days using interactive lectures, service simulations, field practices, and pre-test and post-test evaluations. A total of 60 cadres from 26 community health centers participated actively in the program. The results showed a significant improvement in participants' knowledge scores, increasing from an average of 38.33 before the training to 78.50 after the training, as confirmed by the Wilcoxon test. In addition to improving technical knowledge and skills, the training also increased cadres' confidence, motivation, and commitment to providing quality community services. This activity not only enhanced the cadres' competence but also strengthened their role as agents of change in promoting healthy family nutrition behavior. Therefore, continuous mentoring and periodic refresher training are recommended to maintain the sustainability and long-term impact of the program.

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1. INTRODUCTION

Nutritional problems among toddlers remain a major concern in Indonesia, with stunting persisting as a significant public health challenge. Stunting, characterized by height-for-age below the standard due to chronic malnutrition and recurrent infections during the First 1,000 Days of Life, has long-term effects on physical growth, cognitive development, and productivity (Rachmi et al., 2016). Globally, UNICEF has developed a framework emphasizing multisectoral collaboration for tackling child malnutrition (UNICEF, 2023). Although the national stunting prevalence decreased slightly from 21.6 percent in 2022 to 21.5 percent in 2023 (Kementerian Kesehatan Republik Indonesia, 2023a), this figure remains above the national target of 14 percent set by the 2020–2024 National Medium-Term Development Plan (RPJMN). In East Kalimantan, the prevalence reached 22.9 percent, while in Samarinda City it was 24.4 percent, exceeding both the national average and the World Health Organization's (WHO) safe threshold of

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20 percent (World Health Organization, 2023). This aligns with national and UNICEF Indonesia reports showing persistent regional disparities in child nutrition (UNICEF Indonesia, 2023).

Before the intervention, preliminary assessments in Samarinda indicated that many Posyandu cadres had limited participation in structured training and low baseline knowledge regarding child nutrition and early stunting detection, averaging only 38.33 out of 100 on the pre-test evaluation. Several cadres were unfamiliar with anthropometric measurement standards, home-visit procedures, and nutrition counseling methods. These competency gaps reduced the overall effectiveness of community-based stunting prevention efforts.

In response, a structured Basic Competency Training Program was developed to strengthen the knowledge and practical skills of Posyandu cadres through interactive lectures, service simulations, and field mentoring. Enhancing cadres' capacity is essential to improving the quality of promotive and preventive health services at the community level and accelerating local stunting reduction in Samarinda. Similar empowerment-based training initiatives have been proven effective in improving community participation and cadre performance in several regions of Indonesia (Hanifah & Hartriyanti, 2023; Rizal & Tandos, 2021). Previous community-based programs have also demonstrated that structured training for Posyandu cadres can effectively improve their knowledge, motivation, and community participation in stunting prevention (Purnamasari et al., 2020). Likewise, Mediani et al. (2020) emphasized that continuous empowerment and mentoring of health cadres significantly improve their knowledge and roles in stunting prevention programs.

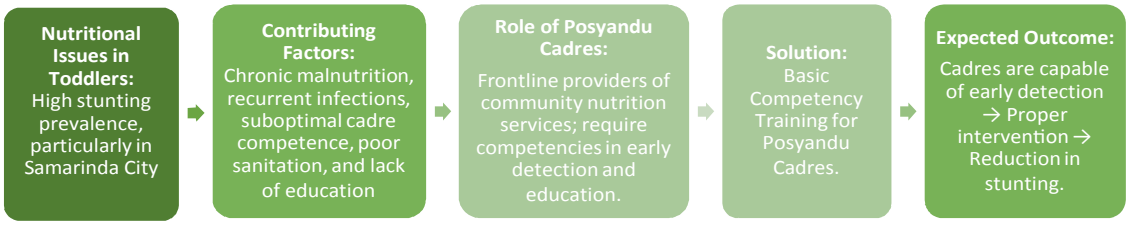

Figure 1. Framework of stunting problem solutions through posyandu cadre training

Figure 1 illustrates the logical flow of addressing stunting issues through community-based interventions. The diagram begins with identifying the nutritional problems in toddlers, particularly the high prevalence of stunting in Samarinda City. It then highlights the contributing factors, including chronic malnutrition, recurrent infections, suboptimal cadre competence, poor sanitation, and low education levels. Poor sanitation and recurrent infections are known to exacerbate stunting among Indonesian children (Torlesse et al., 2016). The role of Posyandu cadres is emphasized as the frontline providers of community nutrition services who require improved competencies in early detection and nutrition education. The solution is presented in the form of a structured Basic Competency Training Program designed to enhance cadres' knowledge and skills. The expected outcome of this intervention is that cadres become more capable of conducting early detection and providing appropriate follow-up interventions, which ultimately contribute to reducing stunting prevalence in the community. This training initiative aligns with Indonesia's National Action Plan for Stunting Reduction (RAN-PASTI), as stipulated in the National Population and Family Planning Agency Regulation No. 12 of 2021 and supported by UNICEF's formative evaluation highlighting the importance of community empowerment and intersectoral collaboration in accelerating stunting reduction (BKKBN, 2021; UNICEF, 2023).

The primary objective of this progam is to strengthen the capacity of Posyandu cadres in early detection and management of nutritional issues, with a focus on stunting prevention. This will be achieved

through a competency-based training program that equips cadres with the necessary knowledge and skills to address the nutritional needs of children especially during critical periods such as pregnancy and early childhood. Ultimately, this program aims to contribute to the reduction of stunting and other forms of malnutrition in East Kalimantan, with the goal of improving overall community health and meeting national health targets.

2. METHODS

Method of Activities

This community service program was implemented in the form of Posyandu cadre training using a participatory and experiential learning approach. The design employed a pre-post test evaluation to measure knowledge improvement before and after the intervention. The stages, targets, and objectives of each activity will be described.

Interactive Lectures and Discussions

The target participants of this stage were all 60 Posyandu cadres representing 26 health centers across Samarinda City. The main objective was to enhance the cadres' theoretical understanding of Posyandu management, effective health communication, and life-cycle-based health services covering infants, toddlers, pregnant women, adolescents, and the elderly. The implementation was carried out through interactive lectures, question-and-answer sessions, and guided discussions addressing real challenges encountered in Posyandu operations. Participants also analyzed case studies and exchanged best practices to foster peer learning and strengthen their problem-solving abilities.

Service Simulation

The same 60 Posyandu cadres participated in this stage, which focused on hands-on simulations aimed at developing their practical competence in delivering integrated health services at the Posyandu. During the implementation, participants practiced anthropometric measurements, nutritional counseling, and health promotion activities for various target groups, including infants, pregnant women, and school-age children. This simulation-based learning approach aligns with evidence from medical and public health education showing that experiential simulation enhances participants' understanding, confidence, and retention (Alharbi, 2024). Throughout the simulations, facilitators provided direct feedback to ensure the accuracy of measurements, the effectiveness of communication, and the smoothness of service flow, thereby strengthening the cadres' readiness to perform real-world community health tasks.

Field Practice and Home Visits

In this stage, selected Posyandu cadres applied their skills in real community settings at designated Posyandu sites. The objective was to enable cadres to implement the competencies they had acquired during training and to strengthen their ability to conduct early detection of nutritional problems. During the implementation, cadres carried out service delivery activities, conducted household visits for children under five and pregnant women, and documented their findings using standardized growth monitoring forms. This stage also emphasized the importance of family counseling and the promotion of local food-based nutrition practices to improve dietary diversity and overall community nutrition awareness.

Pre-Test and Post-Test Evaluation

All participants took part in the evaluation conducted before and after the training to assess knowledge improvement and determine the program's overall effectiveness. The evaluation employed a quasi-experimental one-group pre-test–post-test design, allowing comparison of participants' knowledge levels prior to and following the intervention. The assessment instrument consisted of 25 multiple-choice questions covering four key domains: Posyandu management (5 items), life-cycle health and nutrition (10 items), early detection and home visits (5 items), and communication and community empowerment (5 items). Each correct answer was scored four points, with a maximum total score of 100. The instrument underwent expert validation by two public health specialists and one Posyandu training facilitator, achieving a Content Validity Index (CVI) of 0.87, which indicates good content validity. Reliability testing yielded a Cronbach's alpha of 0.81, reflecting strong internal consistency. Data from the pre-test and post-test were analyzed using the Wilcoxon signed-rank test with a significance level of $\alpha = 0.05$ to determine statistical differences. An observed increase in the mean post-test score was interpreted as evidence of knowledge enhancement and the overall effectiveness of the cadre training program.

Training Schedule and Venue

The training was conducted over three days: two days of theory and simulation and one day of field practice. All sessions took place at the East Kalimantan Provincial Health Training Center (Bapelkes Kaltim), with resource persons from the Samarinda City Health Office and public health academics.

3. RESULTS AND DISCUSSION

Results

The program being conducted is basic competency training for posyandu cadres. The training was conducted over 3 days with 2 days of theoretical material and 1 day of field practice. The training was conducted from May 5 to 7, 2025, at the Provincial Health Training Center of East Kalimantan, organized by the UPTD Bapelkes of East Kalimantan Province in collaboration with the Samarinda City Health Office. The training participants are 60 cadres from 26 community health centers in Samarinda City who are still actively providing services at posyandu and have never attended basic competency training for posyandu cadres. At the end of the training, all participants who pass receive a nationally standardized training certificate as proof of participation and basic competence as trained Posyandu cadres. The characteristics of the basic competency training participants for Posyandu cadres can be seen in Table 1.

Table 1. Description of participants in the basic competency training for posyandu cadres

Description	Value
Total Participants	60
Origin of Community Health Centers	26 Community Health Centers
Average Age	45.6 years
Average Duration as a Cadre	6.2 years

Table 1 shows that this training was attended by 60 Posyandu cadres representing 26 community health centers (Puskesmas) across Samarinda City. The participants came from diverse backgrounds and were selected based on their active involvement in community health activities. The average age of the participants was 45.6 years, indicating that most of them were in the mature adult age group, which

generally reflects a high level of social engagement and commitment to community service. Furthermore, their average length of experience as cadres was 6.2 years, suggesting that the participants already possessed substantial practical knowledge and familiarity with Posyandu activities. This demographic profile highlights that the training was joined by experienced and dedicated individuals who play a crucial role in supporting primary health services at the community level. The implementation of the training activities is divided into several main sessions.

Presentation

At this stage, a presentation is conducted to explain the activities that will be carried out during the training, including the use of materials, Posyandu service techniques, and practice simulations. Examples of good service are also presented so that participants can understand the form of service that will be applied in the field (Suyatno et al., 2024).

Figure 2. Delivery of training material in the classroom

Figure 2 shows the delivery of Posyandu cadre training materials conducted in a classroom setting at the East Kalimantan Provincial Health Training Center (Bapelkes Kaltim). The session featured interactive lectures and discussions facilitated by the instructor, focusing on Posyandu management, effective communication, and life-cycle health services. Cadres were actively involved in the learning process through question-and-answer sessions and guided reflections on practical challenges in Posyandu implementation.

Selection of Materials

Participants were introduced to essential materials in Posyandu services such as KMS recording, PMT, anthropometric measurements, and nutrition counseling. The goal is for the cadres to fully understand the materials and tools used in basic health services (Suyatno et al., 2024).

Figure 3 illustrates the practical simulation session in which Posyandu cadres were trained to provide health services for infants and toddlers. During the session, cadres practiced anthropometric measurements, such as weighing and measuring body length, and learned how to record growth data using standardized forms. The facilitators provided direct guidance on proper handling techniques, communication with mothers, and interpretation of growth monitoring results. This activity aimed to strengthen cadres' practical competence in early detection of growth and nutrition problems among children under five.

Figure 3. Simulation of infant and toddler service practices

Service Design

Participants are asked to develop a work plan for Posyandu cadres based on the life cycle from infants to the elderly. This design includes time, targets, and service aids. The design created aims to facilitate cadres in implementing services at Posyandu (Suyatno et al., 2024). A similar approach emphasizing life-cycle-based service design was applied by Muliawati et al. (2024), resulting in a marked improvement in cadre knowledge, with over 81% achieving a good performance category after training.

Simulation and Field Practice

Simulation is conducted to provide direct experience in performing anthropometric measurements, nutrition counseling, and home visits. Participants practiced in groups under the supervision of a facilitator (Siswati et al., 2022).

Figure 4. Field practice at Posyandu and home visit

Figure 5 depicts the field practice component of the Posyandu cadre training, which was conducted at community Posyandu sites and surrounding neighborhoods. During this stage, cadres applied the knowledge and skills acquired from classroom sessions by directly engaging in community-based health activities. The cadres conducted child growth monitoring, provided counseling to mothers on balanced nutrition, and performed home visits to identify early signs of growth and nutritional problems. The activity also strengthened collaboration between cadres and local families in promoting healthy child-feeding practices and environmental sanitation.

Review and Reflection

The results of the participants' activities are reviewed. Cadres are given the opportunity to explain the results of the simulation and practice, as well as receive feedback from the instructor. This aims for the cadres to understand the areas that need improvement (Siswati et al., 2022).

Show Simulation Results

The best practices are presented in the final reflection session. Each group presented their field findings and community-based service strategies (Suyatno et al., 2024).

Closing

The event concluded with the presentation of certificates and motivational messages to the cadres. The closing was conducted formally by representatives from the Health Department and the coaching team.

Activity Material

The training materials in this community service program are compiled based on the basic training modules for Posyandu cadres from the Ministry of Health, previous research results from the implementing team, and adaptations to local needs. The material covers aspects of life cycle health services, anthropometric measurements, supplementary feeding (PMT), KMS recording, and nutrition counseling. Adjustments were made through discussions between the implementation team and representatives from the Puskesmas in Samarinda to make it more contextual and applicable in the field.

The material is delivered gradually in seven meeting sessions, accompanied by hands-on practice. Each session is designed to build understanding and skills continuously. For example, in the first session, participants are introduced to basic service tools, followed by simulation and service design sessions, and ending with practice reflection and evaluation. This approach aims not only to transfer knowledge but also to shape the mindset of cadres as implementers of primary health services.

Participant Evaluation Results

Training evaluation is conducted through initial and final evaluations (pre-test & post-test). On the first day of the training, a pre-test was conducted, and on the last day of the training, a post-test was conducted for all training participants. The pre-test and post-test consisted of 15 multiple-choice questions. The dependent variable in this study is the change in knowledge of the trained posyandu cadres related to the basic competencies of posyandu cadres. The data obtained from the pre-test and post-test results will be used to analyze the changes in knowledge of the health workers participating in the training. Data were analyzed using the IBM SPSS software package version 26 (IBM, New-York, USA) and the significance level was set at two-tailed $p<0.05$. The normality test of the data was conducted before the bivariate test using the Kolmogorov-Smirnov test. The normality test of the data shows that the p-value < 0.05, which means that the residual data is not normally distributed. Because the normality assumption is not met, a non-parametric test (Wilcoxon) is used to compare the Pre Test and Post Test scores. All participants took the pre-test and post-test to measure the improvement in understanding.

The evaluation results show an overall increase in knowledge and skills scores, with all participants passing with an average final score of 78.50. Table 3 shows an increase in the average score from 38.33 (Pre-test) to 78.50 (Post-test).

Table 2. Schedule of basic competency training for posyandu cadres

Day 1	
Materials	- Training orientation - Pre-test - Posyandu Management Module - Effective Communication Module - Infant and Toddler Services at Posyandu - Simulation of Posyandu management, effective communication, and infant-toddler service practices
Objectives	- Able to explain the Posyandu service package across the life cycle - Able to conduct home visits - Able to communicate effectively - Able to explain the use of the Maternal and Child Health (MCH) Handbook - Able to deliver education on exclusive breastfeeding and complementary feeding (MP-ASI) - Able to perform weighing and measuring of infants and toddlers - Able to explain measurement results and follow-up actions - Able to carry out development stimulation, vitamin A distribution, deworming, and immunization - Able to explain how to monitor danger signs in infants and toddlers
Day 2	
Materials	- Services for Pregnant and Breastfeeding Women at Posyandu - Simulation of measurement practices for pregnant and breastfeeding women at Posyandu - Services for School-Aged Children and Adolescents - Services for Adults and the Elderly - Simulation of measurement practices for adolescents, adults, and the elderly
Objectives	- Able to explain the use of the Maternal and Child Health (MCH) Handbook for pregnant and postpartum women - Able to provide counseling on balanced nutrition (Isi Piringku) and physical activity for pregnant women and adolescents - Able to explain antenatal and postnatal care procedures - Able to explain the recommendation for iron and folic acid tablet supplementation for pregnant women and adolescent girls - Able to explain the monitoring of danger signs in pregnant and postpartum women - Able to provide education on the dangers of smoking, drug abuse (NAPZA), and juvenile delinquency - Able to explain the most common diseases - Able to conduct early detection for individuals of productive age and the elderly - Able to provide family planning education
Day 3	
Materials	- Field practice at Posyandu and its service area - Discussion of field practice results - Post-test
Objectives	- Able to apply the 25 basic competencies of cadres in Posyandu service delivery - Able to conduct home visits according to standards - Final evaluation of participants

Table 3. Description of pre-test and post-test scores of participants in the basic competency training for Posyandu cadres

Component	N (Sample Size)	Minimum	Maximum	Mean	Standard Deviation
Pre-test	60	0	90	38.33	23.662
Post-test	60	70	100	78.50	10.549

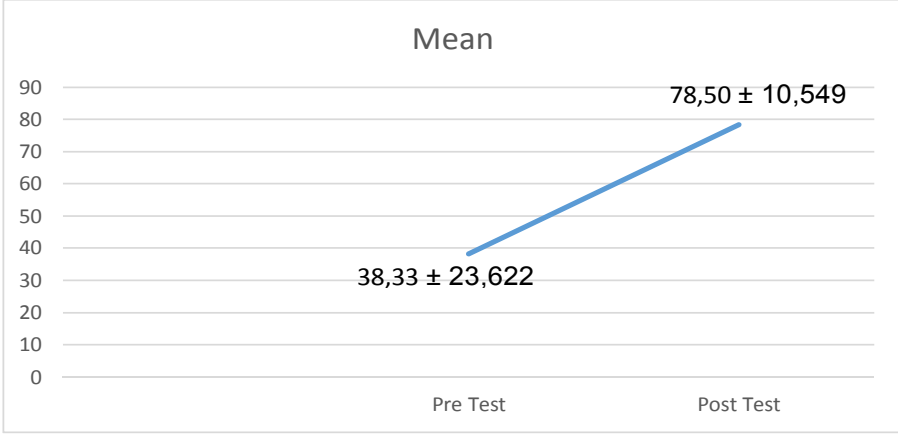

Figure 5. Delivery average pre-test and post-test scores of participants in the basic competency training for posyandu cadres

Figure 5 shows that the basic competency training for Posyandu cadres had an overall positive impact on participants' knowledge improvement. According to the figure, the average Pre-test score was 38.33, while the average Post-test score was 78.50. The standard deviation for the Pre-test was 23.622 and for the Post-test was 10.549. The difference in mean scores between the Pre-test and Post-test was 40.17. Since the p-value was 0.001, which is less than 0.05, the null hypothesis (H0) is rejected and the alternative hypothesis (Ha) is accepted. This indicates a significant difference in the mean scores before and after the training, meaning there was a measurable improvement in knowledge as a result of the training.

Social Impact and Testimony

Beyond quantitative improvements, the training program also generated tangible social impacts among the Posyandu cadres and their communities. Many cadres reported increased confidence and motivation to carry out their roles more effectively. After completing the training, cadres became more proactive in organizing Posyandu sessions, conducting home visits, and providing health education to mothers and families. Several participants expressed that the program fostered stronger teamwork within Posyandu groups and improved communication with local health centers.

One cadre stated, *"After this training, I feel more capable of explaining child nutrition and using the KMS chart accurately. The mothers in my area now ask more questions and participate more actively during Posyandu days."* Another added, *"We now conduct monthly visits to families with stunted children and guide them on local food sources for balanced meals."* These testimonies highlight that the training not only enhanced cadres' competencies but also empowered them as community change agents, strengthening the grassroots movement for stunting prevention in Samarinda City.

Discussion

The community service program in the form of Basic Competency Training for Posyandu Cadres held on May 5–7, 2025, demonstrated significant results in improving the knowledge and skills of cadres. This is reflected in the pre-test and post-test scores, which increased from an average of 38.33 to 78.50. These findings align with previous studies that show competency-based training can substantially enhance the capabilities of Posyandu cadres (Suyatno et al., 2024). The use of active learning methods, such as interactive lectures, case studies, simulations, and field practice, proved effective in facilitating understanding and retention. These findings are consistent with other participatory and community-based cadre training programs emphasizing hands-on learning and peer engagement (Surtimanah et al., 2024; Saparina et al., 2023). Experiential learning theories emphasize that hands-on learning tends to be more meaningful and relevant to real-life contexts (Notoatmodjo, 2014; Siswati et al., 2022).

Statistical analysis further confirmed the program's effectiveness, with the Wilcoxon test showing a significant difference (p = 0.001). A total of 95 percent of participants improved their scores, indicating that the training materials were relevant and aligned with the real needs of field cadres. Similar results were reported in the study by Hidayah et al., (2023), which found that participatory learning and contextualized training materials are key determinants of success in community-based health education.

Mastery of basic competencies such as services for infants, toddlers, and pregnant women, as well as effective communication, is crucial for accelerating early detection of nutritional problems. This aligns with the national strategy to reduce stunting, which emphasizes the role of Posyandu cadres as local change agents (Kementerian Kesehatan Republik Indonesia, 2023b). By strengthening cadres' capacity, the program contributes to the integration of community-based primary health services, particularly in the context of integrated Posyandu.

When compared with similar community service programs in other regions, the results in Samarinda are relatively consistent. A study conducted in Sleman Regency showed that structured training for cadres improved both knowledge and motivation, leading to increased community participation in Posyandu activities (Muliawati et al., 2024; Siswati et al., 2022). Similarly, a program in Banyuwangi District demonstrated that cadre empowerment through continuous mentoring resulted in sustained improvement in service quality and community nutrition outcomes (Hasanah et al., 2025; Safitri et al., 2023). Comparable outcomes were also reported in Gorontalo, where structured training significantly enhanced cadres' motivation and practical skills in toddler nutrition services (Amalia & Makkulawu, 2023). The outcomes of the Samarinda program reinforce these findings, highlighting that training models emphasizing practical experience and local adaptation can effectively enhance community health capacity.

Beyond statistical improvement, the observed changes also extend to social and behavioral dimensions. Cadres reported increased confidence in providing counseling and performing early detection of malnutrition cases. Some cadres began initiating local innovations such as home visits to high-risk families and the development of community food gardens to support family nutrition. These behavioral changes suggest that improvements in knowledge were indeed followed by shifts in attitudes and practices, indicating early signs of empowerment and sustainability at the grassroots level. This aligns with the youth cadre empowerment program in Tasikmalaya, which demonstrated that guided field practice and continuous mentoring fostered stronger self-confidence and leadership among cadres (Susanti et al., 2023).

However, while the short-term outcomes of the program are promising, long-term sustainability remains a key challenge. Without structured follow-up and regular supervision, the competencies gained may gradually decline over time. Hasanah et al. (2025) emphasize that continuous mentoring

and periodic refresher training are essential components in maintaining cadre performance. Therefore, establishing a monitoring and evaluation mechanism is recommended to assess whether improved knowledge leads to consistent behavioral change and better health outcomes at the community level.

The demographic characteristics of participants, with an average age of 45.6 years and an average experience of 6.2 years, also influenced the results. Senior cadres showed higher commitment and contextual understanding but required additional support in adapting to digital reporting systems (Hasanah et al., 2025). This highlights the importance of designing age-sensitive and technology-friendly training approaches for sustainable capacity building.

The overall success of this program can be attributed to three key factors: (1) A participatory and practical learning approach that increased engagement; (2) Training materials adapted to real field conditions; and (3) Institutional support from the Samarinda City Health Office and Bapelkes Kaltim, which ensured smooth coordination and logistical readiness. These findings align with Siswati et al. (2022), who state that experience-based learning significantly enhances material retention and application. Nevertheless, the results of this training still require follow-up in the form of continuous mentoring and monitoring. Without post-training reinforcement, the skills acquired are likely to diminish over time, underscoring the importance of integrating capacity-building programs with long-term supervision mechanisms and community-based performance evaluations.

The community service program conducted still has several limitations. First, the program only involved 60 Posyandu cadres from 26 health centers in Samarinda City, so the results may not be generalizable to other areas. Second, the evaluation design did not include a control group, which limits the ability to compare outcomes with cadres who did not receive training. Third, the evaluation only measured changes in knowledge and did not assess practical skill performance in depth. Finally, the program has not yet evaluated long-term behavioral changes or the sustained application of knowledge by cadres after the training. These limitations should be addressed in future programs by expanding the sample size, incorporating control or comparison groups, and conducting longitudinal monitoring to evaluate the sustainability of the training outcomes.

4. CONCLUSION AND RECOMMENDATIONS

The basic competency training program for Posyandu cadres in Samarinda City has proven effective in enhancing the capacity of cadres, particularly in providing integrated and sustainable primary health services. The program ran smoothly and achieved its objectives, with all participants showing strong enthusiasm and commitment to improving their community health roles. The significant improvement in pre-test and post-test scores indicates that the applied methods (interactive lectures, case studies, simulations, and field practice) effectively strengthened cadres' knowledge and skills in delivering public health services. Beyond improving individual competencies, the training provided real contributions to partner welfare and community empowerment. Cadres reported increased confidence in conducting early detection of nutritional problems, improved communication with families, and stronger collaboration with Puskesmas teams. Several Posyandu groups initiated follow-up activities such as home visits, nutrition education, and local food-based programs to improve child nutrition. These outcomes demonstrate that the program not only empowered cadres but also reinforced the sustainability of community-based health systems, supporting national strategies for accelerating stunting reduction and improving overall community well-being. The implementation of this cadre training also supports the objectives of the National Action Plan for Stunting Reduction (RAN-PASTI), as stipulated in the National Population and Family Planning Agency Regulation No. 12 of 2021 and reinforced by UNICEF's formative evaluation,

which emphasizes community empowerment and intersectoral collaboration to strengthen local health system performance (BKKBN, 2021; UNICEF, 2023).

Given its success, this program is highly recommended for replication in other areas with still high stunting rates. Replication can be carried out by adjusting to local needs and strengthening collaboration across sectors, including educational institutions, community organizations, and local governments. As a follow-up, the Health Office and Community Health Centers need to provide regular support and monitoring to the cadres who have undergone training. This model of sustained mentorship and supervision has also been recommended in other empowerment-based studies, proving effective in maintaining cadre performance and ensuring program sustainability (Saparina et al., 2023; Rizal & Tandos, 2021). This is important to ensure that the competencies acquired can be applied sustainably in services at Posyandu. In addition, the training modules should continue to be developed by adding digital technology-based materials, such as the use of nutrition reporting applications and public health information systems. Strengthening the capacity of cadres in digital literacy will add value to improving service efficiency and data accuracy in the field.

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