

Optimizing Community Health Cadres' Role in Implementing the Integrated Primary Care (ILP) Posyandu at Semoi II Community Health Center, East Kalimantan, Indonesia

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ABSTRACT

The Integrated Primary Care (ILP) Posyandu is a key component of Indonesia's primary health care transformation, emphasizing life-course-based services through the active involvement of community health cadres as partners of community health centers. Strengthening cadres' capacity is essential for ensuring the successful implementation of this integrated service model. This community service program aimed to improve the knowledge and strengthen the role of community health cadres in supporting the implementation of the ILP Posyandu at Semoi II Community Health Center, Penajam Paser Utara Regency, East Kalimantan, Indonesia. The activity involved 21 Posyandu cadres and employed an educational intervention followed by pre- and post-intervention assessments. The results showed that the mean knowledge score increased from 92.00 before the intervention to 98.33 after the intervention. The Normalized Gain (N-Gain) score of 0.79 indicated a high level of effectiveness, while the standard deviation decreased from 4.35 to 3.06, reflecting a more consistent level of understanding among participants. These findings demonstrate that the educational intervention effectively strengthened cadres' knowledge and readiness to support the implementation of the ILP Posyandu. Continuous education, mentoring, monitoring, and evaluation are recommended to sustain cadre competency and improve the quality of community-based primary health care services.

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INTRODUCTION

The transformation of Indonesia's health system places primary health care at the center of efforts to improve population health through strengthened promotive and

preventive services. One of the key strategies supporting this transformation is the Integrated Primary Care (ILP) program, which aims to strengthen health services at community health centers (*Puskesmas*), auxiliary community health centers (*Puskesmas Pembantu*), and *Posyandu* through integrated and continuous service delivery. The ILP approach adopts a life-course perspective by providing comprehensive health services for all population groups, including pregnant women, women during childbirth and the postpartum period, infants, toddlers, preschool children, school-age children, adolescents, adults, and older adults. Consequently, health services are delivered as integrated rather than fragmented interventions, tailored to the specific needs of each target population (Ministry of Health of the Republic of Indonesia, 2024).

As one of Indonesia's Community-Based Health Efforts (*Upaya Kesehatan Bersumberdaya Masyarakat* [UKBM]), *Posyandu* plays a strategic role in supporting the implementation of the ILP program because it represents the primary health service closest to the community (Ministry of Health of the Republic of Indonesia, 2024). In line with the transformation of primary health care, *Posyandu* has evolved from focusing solely on maternal and child health services to becoming the Integrated Primary Care (ILP) *Posyandu*, which provides comprehensive health services based on the principles of the life-course approach and the continuum of care (Susiloningtyas et al., 2025). The implementation of this integrated service model relies heavily on community health cadres, who serve as partners of community health centers by providing health education, conducting initial health screening, assisting with data recording and reporting, and encouraging community participation in utilizing health services. Therefore, cadre competence and capacity are considered key determinants of successful implementation (Hardianti, Budiman, & Nadirawati, 2024; Endrawati et al., 2025; Siswati et al., 2025; Nida et al., 2024; Sultan et al., 2025; Olaniran et al., 2017; World Health Organization, 2021; World Health Organization, 2025).

Despite the continued expansion of the ILP *Posyandu* program, its implementation remains challenged by several constraints. Wahyudi (2024) reported that one of the major challenges in primary health care transformation is the limited capacity and competency of community health cadres. Cadres who have not received adequate training on the ILP *Posyandu* tend to lack confidence and are often unprepared to deliver services in accordance with the ILP framework, which may adversely affect the quality of community health services (Noprida et al., 2022). Similar challenges are evident at the national level. By 2023, approximately 60% of Indonesia's 300,000 *Posyandu* had implemented the ILP model in accordance with the Ministry of Health guidelines, whereas implementation in East Kalimantan Province had reached only around 30% (Ministry of Health of the Republic of Indonesia, 2023). These findings highlight the importance of strengthening community health cadres' capacity to ensure the successful implementation of the ILP *Posyandu* (Putri, 2025).

Similar challenges have also been identified in Penajam Paser Utara Regency. Although the proportion of active *Posyandu* classified as Purnama and Mandiri increased from 85.73% in 2023 to 95.72% in 2024, the implementation of the ILP *Posyandu* has not yet been fully optimized. This situation is primarily attributed to the limited availability of training, orientation, and socialization programs for both health professionals and community health cadres, as well as *Posyandu* management practices that have not been fully aligned with the Ministry of Health guidelines (Penajam Paser Utara District Health Office, 2024). The regency has 11 community health centers, 41 auxiliary community health centers, and 268 *Posyandu* distributed across four sub-districts, providing substantial

potential for expanding the implementation of the ILP program (Penajam Paser Utara District Health Office, 2024).

One of the health facilities implementing the Integrated Primary Care (ILP) Posyandu is Semoi II Community Health Center, Penajam Paser Utara Regency. According to data collected in 2026, its working area includes 13 ILP Posyandu, comprising seven Posyandu in Semoi II Village, four in Wonosari Village, and two in Mentawir Village. Although all Posyandu have adopted the ILP concept, field observations indicated that implementation has not yet been fully optimized. Several challenges remain, including limited cadre understanding of ILP concepts and service procedures, inadequate supporting facilities, suboptimal use of educational media, and unstable internet connectivity affecting digital recording and reporting systems. These findings indicate the need for continued capacity-building initiatives to optimize the implementation of the ILP Posyandu at Semoi II Community Health Center.

Based on these challenges, this community service activity implemented a health education intervention aimed at improving the knowledge and strengthening the role of community health cadres in supporting the implementation of the Integrated Primary Care (ILP) Posyandu. The intervention was expected to enhance cadres' understanding of ILP concepts and service procedures, thereby supporting more effective community health services and contributing to the improvement of primary health care quality at Semoi II Community Health Center, Penajam Paser Utara Regency.

METHODS

This community service employed an educational intervention to improve the knowledge and strengthen the role of community health cadres in implementing the Integrated Primary Care (ILP) Posyandu. The activity was conducted at Semoi II Community Health Center, Penajam Paser Utara Regency, East Kalimantan, Indonesia, and involved 21 Posyandu cadres who were directly engaged in implementing ILP Posyandu services within the health center's working area.

The activity was conducted in three phases: preparation, implementation, and evaluation. During the preparation phase, coordination was carried out with the Head of Semoi II Community Health Center and the ILP Posyandu program coordinator to determine the activity schedule, recruit participants, prepare educational materials, and develop learning media, including PowerPoint presentations, an LCD projector, health screening instruments, printed leaflets, and pre-test and post-test questionnaires based on the Integrated Primary Care (ILP) Posyandu Guidelines issued by the Ministry of Health of the Republic of Indonesia.

The implementation phase consisted of a pre-test, a 90-minute health education session, a 30-minute interactive discussion and question-and-answer session, and a post-test. The educational materials covered the basic concepts of the Integrated Primary Care (ILP) Posyandu, the ILP service flow based on the life-course approach, the roles and responsibilities of community health cadres in supporting integrated health services, early detection (health screening) according to the life-course approach, the use of recording and reporting instruments, and effective communication techniques for community health education. Health education was delivered through interactive lectures, group discussions, question-and-answer sessions, and role-play simulations of the ILP Posyandu service flow and health screening procedures. These methods were selected because they encourage active participation, facilitate knowledge exchange, and enhance participants' understanding through an interactive learning process (Nurbaya et al., 2022; Putri, 2025; Astuti et al., 2022;

Andanawari et al., 2022; Andraini et al., 2022; Sekarningrum et al., 2023; Roza et al., 2022; Alfitna et al., 2023; Kurniasari, 2023; Agustina, 2025).

Throughout the activity, Semoi II Community Health Center actively supported the preparation, implementation, and evaluation phases by coordinating participant recruitment, facilitating the educational venue and learning activities, and assisting in evaluating the intervention outcomes. The success indicators included the completion of all planned educational activities, active participation of all Posyandu cadres, and improved participant knowledge as reflected by higher post-test scores and the Normalized Gain (N-Gain) value.

The effectiveness of the educational intervention was evaluated by comparing participants' pre-test and post-test scores. Data were analyzed descriptively using the mean, standard deviation, percentage increase, and Normalized Gain (N-Gain) score. The findings were subsequently presented in tabular form and interpreted descriptively.

RESULTS

The community service activity was conducted at Semoi II Community Health Center, Penajam Paser Utara Regency, involving 21 Posyandu cadres as participants. The activity began with a pre-test to assess participants' baseline knowledge of the Integrated Primary Care (ILP) Posyandu, followed by a health education session delivered through interactive lectures, group discussions, question-and-answer sessions, and role-play simulations supported by PowerPoint presentations and printed leaflets. After the educational intervention, participants completed a post-test to evaluate changes in their knowledge. Throughout the activity, participants actively engaged in discussions, shared their experiences regarding the implementation of the ILP Posyandu in their respective communities, and received educational leaflets as reference materials for future Posyandu activities.



Figure 1. Coordination meeting with Semoi II Community Health Center.



Figure 2. Health education session for Posyandu cadres.**Figure 3.** Group photo of participants and facilitators**Table 1.** Results of Cadre Knowledge Evaluation Before and After Counseling

Variable	Mean $\pm$ SD	Interpretation
Pre-test	92.00 $\pm$ 4.35	
Post-test	98.33 $\pm$ 3.06	
N-Gain	0.79	High

Source: Primary data on community service activities in 2026.

The evaluation results showed that the mean knowledge score of community health cadres increased from 92.00 before the educational intervention to 98.33 after the educational intervention, representing an overall improvement of 7%. The Normalized Gain (N-Gain) score was 0.79, which was categorized as high. In addition, the standard deviation decreased from 4.35 to 3.06, indicating a more consistent level of knowledge among participants following the educational intervention.

DISCUSSION

Although the increase in the mean knowledge score was relatively modest, this finding can be attributed to the participants' high baseline knowledge, which limited the potential for further improvement. Nevertheless, the educational intervention successfully enhanced the cadres' understanding of the concepts, target populations, service procedures, and responsibilities related to the implementation of the Integrated Primary Care (ILP) Posyandu.

The Normalized Gain (N-Gain) score of 0.79 indicates that the educational intervention achieved a high level of effectiveness in improving participants' knowledge. Although the participants had relatively high pre-test scores, the intervention was still able to strengthen their understanding of the integrated primary care approach and the responsibilities of community health cadres. This finding suggests that well-designed educational interventions can substantially improve learning outcomes, even among participants with good baseline knowledge.

The observed improvement in knowledge demonstrates that health education is an effective strategy for strengthening the capacity of community health cadres, who play a pivotal role in implementing integrated primary health care services. The combination of interactive lectures, group discussions, and question-and-answer sessions enabled

participants not only to acquire new knowledge but also to exchange experiences and discuss challenges encountered during Posyandu implementation in their respective communities. This participatory learning approach facilitated the integration of newly acquired knowledge with real-world practice, thereby enhancing participants' understanding and increasing their confidence in delivering community-based health services.

These findings are consistent with those reported by Hardianti, Budiman, and Nadirawati (2024), who identified cadre competency as one of the primary determinants of successful implementation of the Integrated Primary Care (ILP) Posyandu. Community health cadres with adequate knowledge and practical skills are better prepared to provide health services based on the principles of the life-course approach and the continuum of care. Likewise, Endrawati et al. (2025) reported that education and mentoring programs significantly improved the readiness of community health cadres to implement the integrated service model in accordance with the guidelines issued by the Ministry of Health of the Republic of Indonesia. Similarly, Putri (2025) demonstrated that structured training significantly improved cadres' knowledge, whereas Kusriani et al. (2025) emphasized that strengthening cadre capacity is one of the key factors supporting the successful transformation of primary health care.

In addition to the increase in the mean knowledge score, the evaluation revealed a reduction in the standard deviation from 4.35 to 3.06. This decrease indicates that the variation in participants' knowledge became smaller following the educational intervention, resulting in a more consistent level of understanding among the cadres. Such consistency is essential because community health cadres are expected to possess a shared understanding of service procedures, health screening, and their respective roles in delivering integrated primary health care services.

The success of this intervention was further supported by the use of educational media, including PowerPoint presentations and printed leaflets. The visual presentation of educational materials facilitated participants' understanding, while the printed leaflets served as practical reference materials that could be reviewed after the activity. According to adult learning theory, adults learn more effectively when they actively participate in the learning process, relate new information to their previous experiences, and immediately apply the acquired knowledge in real-life situations. Therefore, the combination of interactive lectures, group discussions, role-play simulations, and visual learning media promoted active learning, improved knowledge retention, and strengthened participants' readiness to apply the concepts of integrated primary health care in their daily practice.

These findings have practical implications for Semoi II Community Health Center and other primary health care facilities implementing the Integrated Primary Care (ILP) Posyandu. Regular educational programs accompanied by continuous mentoring and supportive supervision may help maintain cadre competency, improve service quality, and ensure the consistent implementation of integrated primary health care services at the community level.

The present findings provide practical evidence that educational interventions supported by interactive learning methods and appropriate educational media are effective in strengthening the knowledge and readiness of community health cadres. Strengthening cadre capacity is expected to contribute to more systematic, standardized, and guideline-based community health services while supporting the ongoing transformation of primary health care in Indonesia.

CONCLUSION

This community service program, conducted through health education on the Integrated Primary Care (ILP) Posyandu, was effective in improving the knowledge and optimizing the role of community health cadres in the working area of Semoi II Community Health Center, Penajam Paser Utara Regency. The effectiveness of the program was demonstrated by an increase in the mean knowledge score from 92.00 in the pre-test to 98.33 in the post-test, with an N-Gain score of 0.79, indicating a high level of improvement. In addition, the decrease in the standard deviation from 4.35 to 3.06 suggests that the educational intervention not only enhanced the cadres' knowledge but also promoted a more uniform understanding of the concepts, service procedures, and responsibilities associated with the implementation of the Integrated Primary Care (ILP) Posyandu. The educational approach, which integrated interactive lectures, group discussions, PowerPoint presentations, and leaflets, proved to be an effective strategy for strengthening the capacity of community health cadres in supporting the implementation of the ILP program. Therefore, regular educational sessions, mentoring, and continuous capacity-building activities are recommended to ensure the sustainability of the Integrated Primary Care (ILP) Posyandu program and to further improve the quality of community health services.

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