Barriers and Strategies For Improving Childhood Immunization Through the Role of Posyandu Cadres In Lhok Timon, Aceh Jaya

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Abstract

The coverage of Complete Basic Immunization (CBI) in Indonesia remains a challenge, particularly in rural areas. Lhok Timon Village, Setia Bakti Subdistrict, Aceh Jaya District, is among the villages with low CBI coverage. Limited knowledge of health volunteers (posyandu cadres), low community participation, and insufficient structural support were identified as influencing factors. This study aims to explore the barriers and strategies to improve CBI coverage through the role of posyandu cadres and village midwives. A qualitative approach with a case study design was applied. Fifteen informants were involved, including posyandu cadres, mothers of children under five, village midwives, immunization supervisors, and the head of the community health center. Data were collected using in-depth interviews and Focus Group Discussions (FGDs), then analyzed thematically. The findings revealed three major barriers to CBI coverage; (1) limited cadres' skills in education and communication, (2) low community participation due to negative perceptions, cultural beliefs, and time constraints, and (3) inadequate cadre training and cross-sectoral support. Suggested strategies include regular cadre training, involvement of community and religious leaders, flexible posyandu schedules, utilization of simple communication technology (WhatsApp/SMS), and providing small incentives for parents. Improving CBI coverage requires a multilevel approach integrating cadre capacity building, health worker support, community empowerment, and local leader engagement. Community-based interventions with structured training, continuous supervision, and multi-sectoral collaboration are recommended to strengthen immunization coverage in rural settings.

Keywords: Basic immunization, Barriers, community health, posyandu cadres, Strategies.

Introduction

Complete Basic Immunization (CBI) is one of the most effective public health interventions to prevent infectious diseases in children, such as measles, polio, diphtheria, pertussis, tetanus, and hepatitis B. According to the World Health Organization (2023), global coverage of basic immunization remains uneven, with approximately 20.5 million children world wide not receiving complete basic immunization in 2022, particularly in low and middle income countries. This condition has contributed to an increased risk of outbreaks of vaccine-preventable diseases.

Although CBI has been implemented for decades through the Expanded Program on Immunization (EPI), its coverage still faces major challenges. Data from the 2018 Indonesian Basic Health Research (BHR) reported that national coverage of complete basic immunization was only 57.9%, still far below the Ministry of Health's target of 80%. Several barriers have been identified, including limited access to health services, sociocultural factors, parents' lack of knowledge, and the spread of misinformation or hoaxes about vaccination.

The role of *posyandu* (integrated health post) cadres is crucial in improving CBI coverage at the community level. They serve as a vital link between health workers and the community. However, the barriers they encounter such as issues of access, knowledge, and sociocultural resistance greatly affect immunization outcomes at the village level (Pratamawati, 2020). If these barriers are not identified and addressed, the risk of increased morbidity and mortality from vaccine-preventable diseases will remain high. According to Hidayat & Lestari (2021), the main barriers to CBI include low maternal knowledge, myths and hoaxes, geographical access limitations, and the suboptimal role of cadres. Effective strategies include enhancing cadre capacity through regular training, providing simple educational modules, and strengthening supervision from village midwives and community health centers. UNICEF (2022) also emphasized that community-based approaches integrating *posyandu* cadres have proven effective in improving trust and participation in immunization, particularly in areas with strong sociocultural resistance.

Empirical evidence further highlights these challenges. Rahayu & Mulyani (2019) found that cadres who did not regularly receive training faced difficulties in educating parents about the benefits of immunization, resulting in low parental motivation to bring children to *posyandu*. Similarly, Ningsih et al. (2020) showed that cadres play a key role as intermediaries between health workers and the community. However, their limited competence—due to inadequate supervision and training—hindered their ability to address community concerns, particularly regarding vaccine hoaxes. Putri, Handayani & Sari (2021) stressed that public trust in immunization is strongly influenced by cadre quality: well-trained cadres with strong knowledge and communication skills significantly improved community awareness, whereas poorly trained cadres worsened participation levels.

In Aceh Province, CBI coverage is among the lowest in Indonesia. The Aceh Health Profile (2022) reported that complete basic immunization coverage was only 56.7%, still below the national target. This low coverage is closely linked to sociocultural factors, community beliefs, and limited human resources at the village level. More specifically, in Aceh Jaya District, data from the Aceh Jaya Health Office (2022) showed CBI coverage of 58.4%, with some subdistricts falling below the district average. One such area is Setia Bakti Subdistrict, particularly Lhok Timon Village.

A preliminary survey conducted by the researcher through interviews with a *posyandu* cadre in Lhok Timon Village revealed that cadres still struggle to encourage community participation in CBI implementation. The cadre admitted that their skills in providing education, delivering accurate information, and motivating mothers to attend *posyandu* sessions were limited. These limitations are suspected to be linked to insufficient training and regular mentoring from health workers, leaving cadres without adequate knowledge or communication skills. As a result, parents are less motivated to bring their children for immunization, leading to lower CBI coverage in Lhok Timon compared to the national target (≥90%). This issue is particularly concerning, as low CBI coverage increases the risk of vaccine-preventable diseases (VPDs) such as measles, polio, and diphtheria, and may trigger outbreaks in the community. Therefore, further research is needed to explore the barriers faced by village cadres and to formulate strategies for improving CBI coverage in Lhok Timon Village, Setia Bakti Subdistrict, Aceh Jaya District.

Methods

This study is a descriptive qualitative research employing a phenomenological (exploratory–descriptive) approach. The phenomenological approach was chosen to explore the experiences, perceptions, and meanings held by *posyandu* cadres regarding the barriers and strategies for improving Complete Basic Immunization (CBI). The research design used a qualitative field study with four main techniques: in-depth interviews, focus group discussions (FGDs),

participatory observation at *posyandu*, and document review (immunization coverage records, *posyandu* reports, and immunization schedules). The study was conducted in Lhok Timon Village from June to August 2025.

Informants were selected using purposive sampling to ensure relevance and richness of data. A total of 15 informants participated, consisting of eight *posyandu* cadres, five mothers of children under two years old (as key service recipients), and two key informants (the head of the community health center or immunization supervisor). Inclusion criteria were: (1) active *posyandu* cadres involved in immunization activities for at least the past six months; (2) mothers or caregivers of children aged 0–24 months who had resided in Lhok Timon Village for a minimum of six months; and (3) willingness to participate and provide informed consent. Exclusion criteria included informants unwilling to be recorded or participate in interviews/FGDs, as well as those experiencing severe illness that prevented participation.

Data collection techniques included in-depth interviews lasting 45–90 minutes, audio-recorded with participants' permission and supplemented by field notes. FGDs were conducted with *posyandu* cadres and mothers of young children, facilitating discussions on shared experiences, community-based solutions, and best practices. Document reviews were carried out on village immunization coverage records, *posyandu* reports, immunization schedules, and other relevant documents.

The research instruments consisted of a semi-structured interview guide (open-ended questions on barriers, experiences, existing strategies, training needs, and logistical support), an FGD guide, a *posyandu* observation checklist (attendance, vaccine logistics, recording tools, privacy, service flow), and an informed consent form. Data analysis followed Braun and Clarke's thematic analysis framework, which involved transcription, reading and familiarization, initial coding, theme generation, theme review, defining and naming themes, triangulation and validation, member checking, and report writing.

Results

within table 1. Informant Characteristics

Table 1. This is the title Informant Characteristics

Informant	Age	Role	Education	length of service	Information
IU	34	integrated health post cadres	Senior High School	2 year	active integrated health post
IU	23	integrated health post cadres	Junior high school	1 year	newly inaugurated
IK	25	mother of toddler	elementary school	-	1 year old child 8 month
IK	27	mother of toddler	Junior high school	-	2 year old child
IP	30	Supervisor	College	5 year	person responsible
IP	36	health center leader	College	10 year	person responsible

Primary Data Sources 2025

Cadre Knowledge about Complete Basic Immunization

Based on in-depth interviews with two Integrated Health Post cadres, it emerged that their understanding of

complete basic immunization was still varied and tended to be limited. In general, informants understood that immunizations were necessary at posyandu to protect children from infectious diseases, but most were unable to explain in detail the benefits of immunization or the types of vaccines included in the complete basic immunization (IDL) program.

Interview questions: “What do you know about complete basic immunization?

The following is an excerpt from the interview.

"I know immunizations are for preventing disease, but when asked for details about the name of the vaccine, I don't really understand." (IU 34, IU 23 years old, Posyandu cadre)”

Interview questions: “Are there any doubts or fears in the community about immunization?

The following is an excerpt from the interview:

"*Some mothers here are afraid that their children will have a fever after immunization, so they often don't come." (IK2, 25, 27 years old, Mother of a Toddler)*

This indicates that cadres have general knowledge, but limited understanding of immunization schedules and technical aspects. This lack of knowledge can impact their ability to provide accurate information to the community.

Barriers Immunization

In-depth interviews revealed that integrated health post cadres face several obstacles in implementing complete basic immunization (IDL) in villages. These obstacles include limited knowledge due to lack of training, parents' busy schedules preventing attendance at social influences, particularly hoaxes and pressure from neighbors.

Interview questions: “What difficulties are experienced in encouraging the community to get immunized?

The following is an excerpt from the interview:

“I often invite mothers, but many say they are busy working in the garden, so they don't have time to come." (IU1, IU2 posyandu cadre)”

Interview questions: “What factors cause people not to attend integrated health posts?

The following is an excerpt from the interview:

"*We cadres rarely participate in training, so when someone asks about the effects of immunization, I'm sometimes confused about how to answer." (IU1 and IU2, posyandu cadre)*

Interview questions :”What are the obstacles from the side of health workers/cadres themselves?

The following is an excerpt from the interview:

"Indeed, there are still people who believe more in what their neighbors say than in what midwives say, so they don't get immunized." (IP1, IP2 , 30, Supervisor and health center leader)

The main obstacles are the limited knowledge of cadres due to lack of training, busy parents, and the influence of the social environment (neighbors/hoax issues).

Strategy for Increasing Complete Basic Immunization

In-depth interviews with six informants revealed that the integrated health post (Posyandu) cadres' strategies for increasing complete basic immunization coverage in Lhok Timon Village remain limited. This limitation is primarily due to minimal training, the cadres' inability to engage the community, and the low immunization coverage in the village.

Most cadres admitted they had never received specific training on communication strategies, advocacy, or community outreach techniques. As a result, they struggled to explain the benefits of immunization in simple and convincing language.

Interview questions :"What can cadres/midwives do to increase community participation?

The following is an excerpt from the interview:

"If there is regular training, we cadres can be more confident in explaining things to the mothers." (IU, IU2 Posyandu cadres)"

Interview questions :"What strategy do you think is the most effective?

The following is an excerpt from the interview:

"We've tried outreach, but it also needs to be supported by technology, such as SMS or WhatsApp reminders for parents." (IP1, IP2, 36 Head of the Community Health Center)

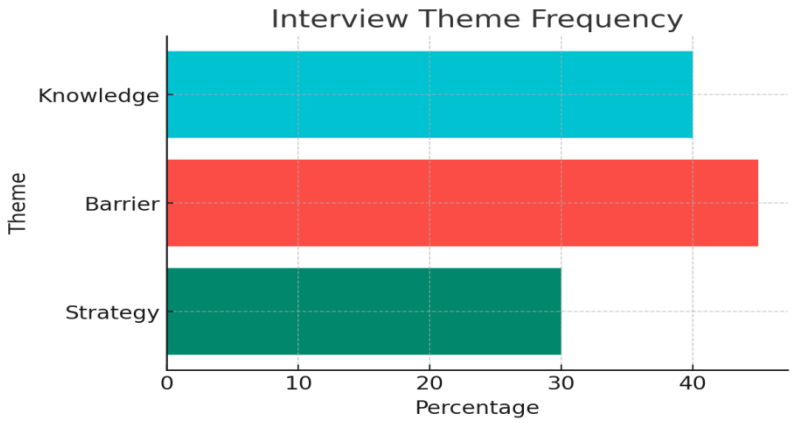

Figure 2. Graph of FGD Results of Cadres regarding Knowledge, Obstacles and Strategies for Increasing Complete Basic Immunization

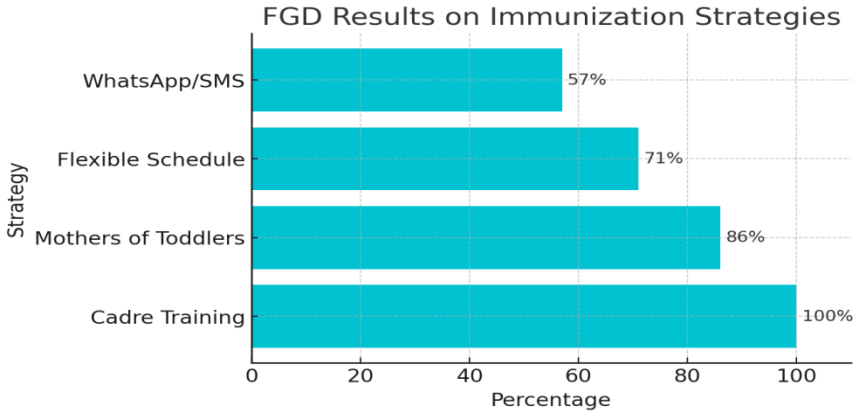

Figure 3: FGD results related to strategies for increasing complete basic immunization

The research results show that IDL coverage in Lhok Timon Village remains low due to the primary obstacle being the limited skills of cadres in engaging the community. This obstacle stems from a lack of training and supervision, as well as a lack of support from community leaders in campaigning for immunization. The FGDs demonstrated that all participants agreed that increasing cadre capacity through training was the most urgent step. Support from religious leaders and village officials was also considered crucial to boosting community trust. Another innovative strategy that emerged was the use of simple communication technology (WhatsApp/SMS) to remind people about immunization schedules.

Discussion

This study found three main themes related to efforts to increase the coverage of Complete Basic Immunization (IDL) in Lhok Timon Village: (1) limited knowledge and skills of Posyandu cadres related to minimal training and coaching; (2) barriers to community participation influenced by work factors, local myths/beliefs, and limited communication; and (3) strategies proposed by informants, including regular training for cadres, involvement of community/religious leaders, more flexible Posyandu scheduling, and the use of technology-based reminders (WhatsApp/SMS). These findings are consistent with the results of document observations and statements from supervisors/heads of health centers which indicate that cadre coaching is still administrative in nature and has not been directed at strengthening field communication capacity.

Limited Knowledge of Cadres as the Main Obstacle

The finding that cadres lack community engagement skills aligns with several previous studies. Rahayu & Mulyani (2019) and Ningsih et al. (2020) reported that the lack of regular training for cadres limits their educational and communication skills, thus reducing their effectiveness as agents of change. Putri et al. (2021) also demonstrated a correlation between the quality of cadre training and maternal participation rates in immunization programs. Theoretical interpretation: From a Health Belief Model (HBM) perspective, cadres who are less able to provide convincing information have implications for low perceived benefits and high perceived barriers to immunization. Without clear information and effective communication strategies (cues to action), parents are more easily influenced by negative issues/myths, leading to delays or refusals of immunization.

Socio-Cultural Factors and Access as Barriers to Participation

The findings regarding the influence of myths, neighbors, and mothers' workload, such as being busy in the garden, align with studies by Hidayat & Lestari (2021) and UNICEF (2022), which emphasize that barriers to immunization are often multicausal, involving social determinants (education, employment), culture/beliefs, and logistical barriers. The Social Ecological Model theory helps explain these findings: immunization decisions are influenced by factors at the individual level (knowledge, perception), interpersonal (family/neighbor influence, cadre communication), organizational (posyandu/community health center performance), community (religious/community leaders), and policy (government support/program budgeting). Therefore, a single intervention will be less effective without a multi-layered approach.

Improvement Strategies: Training, Leader Engagement, and Communication Technology

The need for communication and education training among cadres aligns with evidence that increasing cadre capacity improves immunization coverage (Rahayu & Mulyani, 2019). Furthermore, informants believe that support from religious/community leaders is effective as a communication strategy, supported by literature showing that the legitimacy of local leaders can increase acceptance (Putri et al., 2021; UNICEF, 2022). The use of WhatsApp/SMS reminders suggested by informants is also relevant to contemporary findings that electronic reminders increase attendance at immunization services in contexts with adequate mobile phone penetration. Flexible scheduling strategies have also been shown to be effective in communities with high workloads (Hidayat & Lestari, 2021).

Conclusion

This qualitative study examines the obstacles and strategies for increasing the coverage of Complete Basic Immunization (IDL) through the role of Posyandu cadres in Lhok Timon Village, Setia Bakti District, Aceh Jaya Regency. The findings indicate that low IDL coverage is influenced by three main factors, namely: Internal obstacles of Posyandu cadres, in the form of limited knowledge, communication skills, and minimal technical training and routine guidance. This condition has an impact on the low ability of cadres to provide effective education to the community. External obstacles of the community, including mothers' lack of understanding of the benefits of immunization, concerns about side effects, cultural influences/myths, and time constraints due to daily work. Limited structural support, such as infrequent guidance, less flexible Posyandu schedules, and suboptimal involvement of community leaders.

Suggestion

Conduct a quasi-experimental study on the effectiveness of cadre training in increasing IDL coverage. Develop a community-based intervention involving local leaders and simple communication technology. Expand the study to several villages in Aceh Jaya or other provinces to obtain a comparative overview.

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