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Perceived Barriers and Strategies for Enhancing Village Midwives' Antenatal Care Delivery: A Qualitative Study from Banda Aceh, Indonesia

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Abstract

Antenatal care (ANC), a vital part of maternal health services, directly affects the health of both the mother and the newborn. Village midwives are at the forefront of providing ANC to communities in Indonesia. Understanding the strategy to improve village midwives' performance is essential for developing targeted interventions to improve ANC quality and maternal health outcomes. This study aimed to explore midwives' perceptions of the factors influencing village midwives' ANC service delivery and to identify strategies perceived to improve antenatal care quality in Banda Aceh, Indonesia. The study used a qualitative approach with a maximum variation sampling strategy. Data were collected from October to November 2018 through in-depth interviews with seven informants, including village midwives, midwife coordinators, heads of health centers (*Pusat Kesehatan Masyarakat = Puskesmas*), and a representative from the Municipality Health Office. The results identified five main themes: some midwives were not domiciled in their assigned villages; midwife coordinators conducted routine evaluations, but feedback was inconsistent; midwives valued continuous learning; maternal and child health records were sometimes incomplete due to limited facilities and irregular visits; and health centers conducted non-random periodic facilitative assessments. Participants proposed several strategies to address these challenges, including internal reviews of the maternal and child health book records, educating pregnant women on the use and importance of the book, standardization of maternal cohort registers, patient satisfaction assessment, and realignment of village midwives' placement with their official job descriptions, which represent recommendations generated from participants' perceptions rather than interventions tested within this study. These findings offer contextual insight into perceived barriers and improvement strategies for village midwives in delivering ANC, providing a foundation for designing targeted interventions.



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1. Introduction

The Maternal Mortality Rate (MMR) serves not only as an indicator of maternal health program effectiveness but also as a broader reflection of public health status

because it is sensitive to improvements in healthcare services, including both accessibility and quality [1]. MMR refers to the number of maternal deaths caused by pregnancy-related complications (excluding accidents or incidental cases) during pregnancy, childbirth, and the

postpartum period (up to 42 days after delivery), per 100,000 live births, regardless of the duration of pregnancy [2].

Many countries, including Indonesia, have failed to meet the Millennium Development Goals (MDGs), particularly Goal 5, which aimed to reduce MMR to 110 per 100,000 live births [3]. Indonesia's MMR remains the highest in Southeast Asia, reaching 305 per 100,000 live births, compared to 160 in Malaysia, 112 in the Philippines, 33 in Brunei Darussalam, and 50 in Thailand. The average MMR in developing countries stands at 240 per 100,000 live births [1]. The MDGs have since been succeeded by the Sustainable Development Goals (SDGs), which set a new target to reduce MMR to 70 per 100,000 live births by 2030 [4].

According to the Indonesian Demographic and Health Survey (IDHS) from 1990 to 2015, MMR in Indonesia declined from 390 per 100,000 live births (1991) to 305 in 2015. However, recent data suggest that this progress has stagnated. In contrast, Malaysia reduced its MMR by 45% over the past two decades, in line with the global trend [5]. In 2015, MMR distribution across Indonesian islands ranked Sumatra third (344 deaths per 100,000 live births), after Nusa Tenggara/Maluku/Papua and Kalimantan (489 per 100,000) [6]. In Aceh Province, the MMR declined from 193 to 134 per 100,000 live births between 2010 and 2015, below the national average [7]. However, Banda Aceh City's MMR increased from 104 to 114 per 100,000 during the same period [8].

Generally, the persistently high MMR at both national and regional levels is likely due to inadequate antenatal care (ANC), poor maternal health conditions, and other determinant factors [9]. ANC refers to health services provided by professional health workers such as obstetricians, general practitioners, midwives, and nurses, during pregnancy [10]. ANC quality is measured based on compliance with service standards. When we collected the data in October–November 2018, the applicable standard was Ministry of Health Regulation No. 97/2014. This regulation required at least four ANC visits, one in the first trimester, one in the second, and two in the third, and included the standardized 10T service components. Ministry of Health Regulation No. 21/2021 later replaced it, increasing the minimum number of visits to six while retaining the core 10T components. As the 2021 regulation was issued after data collection, it is used only to place the findings within the current policy context.

Accessibility is assessed based on the frequency of ANC visits: once in the first trimester (0–12 weeks), twice in the second (12–24 weeks), and three times in the third

trimester (24 weeks to delivery) [11]. In Indonesia, ANC coverage is routinely measured using K1 (the first ANC visit) and K4 (completion of the recommended minimum visits). In Banda Aceh, K1 and K4 coverage remained relatively high between 2010 and 2015, while maternal mortality increased from 104 to 114 per 100,000 live births [8]. This suggests that high coverage may reflect the number of visits without fully showing the quality or completeness of care. Understanding this gap from the perspectives of those providing and supervising ANC is therefore important for identifying ways to improve services.

The 2010 Basic Health Research survey in Indonesia found that midwives provided most maternal healthcare services (71.45%), highlighting their pivotal role in maternal and child health programs [5]. Therefore, policy focus should shift from program design to the human resources the midwives implementing services in the field. The success of maternal and child health (MCH) programs depends heavily on village midwives. Village midwives are assigned to reside in and serve one to two villages, under the supervision of local health center heads and in collaboration with village officials [12]. Their presence is expected to extend maternal and child health services to remote areas, although many factors affect their performance [13]. Previous studies have identified several factors that may affect midwives' service delivery, including workload and geographic location, supportive supervision and feedback from coordinators, access to continuing education and training, the quality and completeness of maternal and child health records, and the regularity of supervision from health centers [14–17]. Supportive supervision and structured feedback can improve health workers' motivation and adherence to service standards. In contrast, limited feedback and irregular monitoring may contribute to inconsistent ANC service quality [15, 16]. Incomplete or poorly standardized maternal health records may also disrupt continuity of care and make it more difficult to identify pregnancy risks early, particularly in low- and middle-income countries [17, 18].

Despite this evidence, most previous studies have focused on quantitative performance measures or facility-based audits. Less is known about how midwives, supervisors, and other stakeholders perceive the barriers to ANC service delivery and the strategies needed to overcome them. This is particularly important in Aceh Province, where healthcare is delivered through a decentralized system that has undergone major reconstruction following the conflict and tsunami [13, 18]. Their performance, which reflects the success of health programs including midwifery care, is vital to achieving

national health development goals. Thus, midwifery services must be grounded in comprehensive knowledge and practice, encompassing bio-psycho-social and spiritual care [19]. As frontliners in community health services, village midwives can either support or hinder ANC program success [20].

Therefore, understanding the challenges village midwives face is critical to improving their performance. This is especially relevant in Banda Aceh, where maternal mortality increased between 2010 and 2015, despite the city's relatively strong health infrastructure and the overall decline across Aceh Province [7, 8]. This unexpected trend supported selecting Banda Aceh as the study site. This standalone qualitative study aimed to explore village midwives' and stakeholders' perceptions of factors influencing ANC service delivery and to identify strategies perceived to improve the quality of ANC provided by village midwives in Banda Aceh, Indonesia. These perceived factors were examined across individual (e.g., competence and continuous learning), organizational (e.g., infrastructure and supervisory practices), and social/institutional (e.g., community trust and cross-sector collaboration) domains, following Franco's conceptual framework [21]. The findings are expected to inform Aceh government policy to strengthen maternal healthcare systems and support ANC quality.

2. Materials and Methods

To develop an effective strategy to improve the performance of village midwives in antenatal care services, this study adopted a standalone qualitative approach. The methodology was selected to explore the underlying factors contributing to performance variations and capture the complex realities midwives experience in their working environment. This study did not include a quantitative phase, dataset, or analysis. The coverage statistics were taken from previously published official reports and used only as background information. This section outlines the research design, study location, informants, sampling procedure, data collection instruments, data collection protocol, and analytical procedure. Figure 1 shows the research flowchart.

This study employs a qualitative approach because the research objective involves exploring complex social and organizational phenomena, particularly the perceived variations among village midwives in delivering antenatal care. Quantitative data alone cannot capture the depth of interpersonal, systemic, and contextual factors that influence midwife behavior, motivation, and service delivery quality.

By using qualitative methods, such as in-depth interviews, the study enables a richer understanding of the underlying causes behind the statistical patterns observed in antenatal care coverage, such as why high K1 and K4 coverage may not necessarily reduce maternal mortality. The qualitative design allows researchers to interpret nuanced perspectives and operational challenges experienced by health workers on the ground, which are often difficult to quantify using surveys or numerical indicators.

2.1. Research design

This study employed a qualitative research design to explain phenomena identified through the analysis of quantitative data. The qualitative approach aims to provide an in-depth explanation of variations in village midwives' performance. This method helps identify strategies and efforts to improve midwife performance in the future. This qualitative study explored participants' views on why high antenatal care (K1/K4) coverage in Banda Aceh did not appear to reduce maternal mortality. This pattern came from published routine data and provided context for the research question but was not analyzed in this study.

2.2. Research Location and Time

This research was conducted in Banda Aceh, the capital city of Aceh Province, which consists of 9 districts and 90 villages (called *gampong*), served by 11 Public Health Centers (called *Pusat Kesehatan Masyarakat* = Puskesmas). Two of these districts, Syiah Kuala and Kuta Alam, each have two Puskesmas. Banda Aceh has a population of 259,913 people with a population density of 42 people per hectare. Data collection took place between October and November 2018.

2.3. Informants and Sampling Procedure

Informants were selected using a maximum variation purposive sampling approach, aiming to capture a wide range of perspectives and experiences across different roles and work settings. Informants included village midwives, midwife coordinators, heads of Puskesmas, and a Municipality Health Office representative. The study then selected informants based on differences in years of service, geographic location, and reported performance across Puskesmas. This approach allowed the study to explore both experiences specific to individual settings and common patterns across settings. Informants were eligible if they were actively working during the study as a village midwife, midwife coordinator, head of Puskesmas, or Municipality Health Office representative who oversaw maternal and child health; were available for an in-depth interview; and

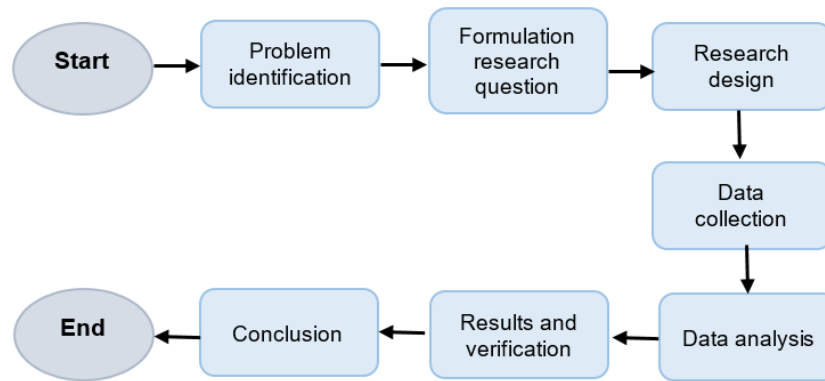


Figure 1. Flowchart of research process.

provided informed consent. We excluded those on extended leave or unavailable during data collection. The study followed the Declaration of Helsinki and was approved by the Ethics Committee of the Medical School Universitas Syiah Kuala, Banda Aceh, on 18 September 2018 (approval number: 13/EA/FK/2018). All potential informants were informed about the study and the voluntary nature of participation, and we obtained written consent before recruitment. Recruitment continued until data saturation was reached. Seven informants participated, including village midwives ($n = 2$), midwife coordinators ($n = 2$), heads of Puskesmas ($n = 2$), and a Municipality Health Office representative ($n = 1$). Village midwives provided insights into performance variations between Puskesmas, as well as the obstacles and supports they encounter. Interviews with midwife coordinators and Puskesmas heads explored leadership, evaluation, and coordination. The Municipality Health Office provided information on operational guidelines, performance standards, reporting, and antenatal care surveillance.

2.4. Instrument Development

The research team developed a semi-structured in-depth interview guide based on relevant literature and routine ANC program data from Banda Aceh, such as K1 and K4 visit data figures reported in the Banda Aceh Municipality Health Office's routine health profile reports, as well as questions about ANC standards, which were developed based on Ministry of Health Regulation No. 97/2014 [22], which was in effect during data collection in October–November 2018. These data were used only to provide context and guide the development of the interview questions and were not analyzed in this study. The questions covered individual and professional factors affecting ANC delivery, organizational and supervisory factors, system- and resource-related barriers, and strategies informants suggested to improve ANC services. Two public health experts on the research team reviewed the draft guide to assess its relevance and

clarity. Interviews were conducted in Bahasa Indonesia, the language informants were most comfortable with.

2.5. Data Collection Procedure

Selected informants were contacted by phone and given information about the study's purpose and procedures. The interviews were then arranged at a convenient time and location. The researchers obtained written informed consent before each interview. The researcher conducted the interviews face-to-face at the informant's workplace, either the Puskesmas or the Municipality Health Office, to ensure privacy and minimize interruptions. The researcher conducted each interview using the semi-structured interview guide. The researcher used follow-up questions as needed to better understand the informants' experiences and perspectives. The interviews lasted approximately 45–60 minutes and were audio-recorded with the informants' permission. The researcher also took field notes to document non-verbal responses and relevant contextual observations. The recordings were transcribed verbatim for each interview, and the transcripts were compiled for coding and analysis.

All interviews were conducted in Bahasa Indonesia, and the researcher transcribed the recordings verbatim in the original language. The researcher also conducted coding and thematic analysis in the original language to reduce loss of meaning. The researcher translated quotations included in the Results into English. To ensure accuracy, another bilingual researcher translated the quotations, and the researcher resolved any differences through discussion. The researcher retained local terms without a direct English equivalent and briefly explained them.

2.6. Data Analysis

The analysis was conducted in three stages: data reduction, data display, and conclusion drawing and verification. The data were analyzed using thematic content analysis to extract main themes and elements

Table 1. Socio-demographic summary of participants (n=7).

Characteristic	Frequency	Percentage (%)
Age (years)		
≤ 38	2	28.6
39 – 44	3	42.8
≥ 45	2	28.6
Profession		
Doctor	3	42.8
Midwife	4	57.2

conveyed by the informants. Themes were developed inductively from the interview transcripts. The earlier quantitative data on ANC coverage were used only to guide the topics included in the interview guide and did not shape the codes, categories, or themes. Data reduction is the process of selecting, focusing, simplifying, abstracting, and transforming raw interview data. This includes summarizing the data, coding, identifying themes, and clustering them. This process sharpens the analysis by classifying, directing, and eliminating irrelevant information, allowing conclusions to be drawn. Data display involves organizing information in a structured format that facilitates interpretation and decision-making. This includes narrative text from field notes and matrices that present cohesive and understandable information. The researcher drew and verified conclusions continuously during fieldwork. From the start of data collection, the researcher sought patterns, explanations, causal relationships, and configurations within the issues studied based on informants' responses. To strengthen the trustworthiness of the findings, two of the research team members independently reviewed and compared the coding. The team also compared perspectives across the four informant groups through source triangulation. The research team discussed any differences in coding or interpretation until they reached consensus. The team also triangulated sources by comparing the perspectives of village midwives, midwife coordinators, Puskesmas heads, and the Municipality Health Office representative. This process helped identify similarities and differences across informant groups and supported theme development and interpretation.

3. Results and Discussion

Participants included two village midwives, two coordinator midwives, two Puskesmas heads, and one Municipality Health Office representative; all were female (Table 1). The head of Puskesmas and the Municipality Health Office representative were general practitioners, while the rest were midwives. Respondents had 15 to 29 years of work experience, with an average of 20.85 years.

3.1. Midwife Residency and Access to ANC Services

This study explored village midwives and key stakeholders' perceptions of the factors affecting ANC service delivery in Banda Aceh and the strategies needed to improve it. The results identified several emerging themes showing that ANC delivery is influenced by connected factors, including midwives' competence and motivation to learn, supervision and feedback, resource availability, the completeness and consistency of health records, role distribution, and decentralization. Within the organizational theme, one key indicator was resource availability, operationalized by assessing whether village midwives lived in their assigned villages and their satisfaction with available facilities that support their duties. Participants perceived that midwives not living in their assigned villages affected access to ANC, particularly for working women who needed care outside regular hours. The head of Puskesmas specifically perceived that it may have contributed to some women not completing their fourth ANC visit. However, as the study did not review service records or compare coverage by midwives' residence, this reflects participants' perceptions rather than a confirmed relationship. When asked the reasons why midwives do not live in the placement village, they gave various reasons, such as the following statements:

"Some of my friends don't live in the village because they don't know where to live, because there isn't even a village maternity post in the village." (Village midwife 1)

"I don't live in the village because I already have my own house and it's not too far from the village where I work." (Village midwife 2)

The absence of midwives in their assigned villages affected antenatal care delivery, particularly for pregnant women who worked and needed services outside regular hours. This limitation contributed to incomplete fourth-visit ANC coverage for some patients, as mentioned by the head of Puskesmas.

"For pregnant women who are working, midwives are expected to visit outside of their working hours, if the midwife lives in the village, but yes... we all know, not all midwives live there, so it is natural that there are some antenatal care visit losses..." (Head of Puskesmas 1)

3.2. Supervisory Feedback from Midwife Coordinators

Another organizational aspect raised was leadership, particularly how midwife coordinators exercised supervisory roles in overseeing midwife performance. Feedback tended to occur only when specific issues arose

or during consultations initiated by the midwives themselves, as shown in their answer:

"...if it is to evaluate the village midwife, it is indeed every month, usually after the reporting period. Every month, we go to the field (village) after everything (report) has been summarized. We have summarized the report to be sent to the municipality's health office, and then we will hold a meeting with the village midwife..." (Midwife coordinator 2)

"...but if we find a (specific) case, we ask (the midwife), maybe when they need a case discussion (consultation), while we interview, we can find out their knowledge about the case (which represent their abilities), then we also have a regular local government meeting, so from there, we also have discussion which can be used to provide feedback, so for example, there is a pregnant woman with [chronic energy deficiency], what should we do? etc...." (Municipality Health Office representative)

3.3. Continuous Learning and Skill Development

From a psychological perspective, the learning indicator reflected village midwives' willingness to improve their knowledge and skills in delivering antenatal care. Several key informants acknowledged disparities in competencies among midwives, especially in urban settings, where midwives were less likely to assist in childbirth. This gap underlined the importance of providing refresher training focused on antenatal care.

"...not all village midwives have the same skills...especially regarding antenatal care because nowadays midwives generally do not assist with childbirth, especially in cities like ours, so antenatal care training would be good for midwives..." (Village midwife 1)

"I see that [village] midwives need training to refresh their skills in conducting antenatal care because each midwife's skills are different..." (Head of Puskesmas 1)

The findings indicate that one key proposed strategy was to conduct training sessions based on the KIA book held by pregnant women. Although midwives frequently use the KIA book during ANC visits, participants felt they needed a refresher on antenatal care standards to ensure services are delivered comprehensively. As Hennessy et al. highlighted, over 90% of midwives and nurses had not participated in continuing professional development in the previous three years [23]. Strengthening midwives' competencies through the KIA book training would improve their ability to both document and deliver ANC services to standard.

3.4. Completeness of Maternal and Child Health Records

Corroborating the initial phase of the study, observations of the maternal and child health (called *buku Kesehatan Ibu dan Anak* = KIA book) books indicated that many midwives failed to record data completely. This was attributed to several factors, including pregnant women seeking care from specialists (obstetricians) rather than village midwives, forgetfulness in bringing the KIA book, and inadequate laboratory facilities for basic tests such as hemoglobin, blood sugar, and protein levels. Consequently, documentation in the KIA books was often incomplete.

"...how can we fill it in, if the patient is having antenatal care with an obstetrician, [and] the specialist doesn't fill in the book, even though we have told the mother and explained wherever they do antenatal care, she needs to bring [the pink book] ..." (Village midwife 1)

"...I don't have the equipment to check blood, so if the patient needs to have that examination, I have to tell them to go to the Puskesmas..." (Village midwife 2)

"...sometimes when the pregnant mother has antenatal care, they forget to bring the book, so it is only recorded in the midwife's book, not in the mother's book..." (Midwife coordinator 1)

"...maybe because the village midwife didn't fill it in completely, only the important [information]..., maybe they didn't think it was something that needed attention, such as husband's age, occupation, etc..." (Head of Puskesmas 2)

Based on participants' accounts and the study's documentation review, informants perceived that although K1 and K4 coverage appeared high, these figures did not accurately reflect the quality of antenatal services delivered, particularly compliance with the antenatal care standard. Several informants described a practice in which village midwives often documented coverage based on reported visits without verifying service completeness. Some data entries were influenced by informal communications with community health workers or based solely on numerical achievements rather than substantive clinical assessments. These findings were not confirmed through an independent audit of K1/K4 records or clinical documentation. Instead, they were based on informants' perceptions and reported practices, together with the research team's review of the KIA book documentation described above.

"... In our place, many pregnant women go to an obstetrician, which makes it difficult to report as the

mothers do not go to us for the ANC; therefore, [to make the report], we go to the pregnant women and ask how many times they have had antenatal care visits and record it in our report....” (Village midwife 1)

“...indicators that we have been doing for K1 and K4 are usually in the form of numbers...Many of our activities, for example, include installing stickers for the Childbirth Planning and Complication Prevention Program. That is part of the achievement of activities to boost K1 coverage.” (Head of Puskesmas 1)

“In my opinion, [the quality] is not [there] yet; we see in the city that many go to obstetricians, so we get the number [of K1 and K4 coverage], but we know that our quality is lacking” (Head of Puskesmas 2)

“...then no examinations are carried out; for example, the most frequent one that is not done is measuring the height of the fundus, which should not be included as a K1 or K4 report. So, for K1 and K4, it should have described the quality. Still, it goes back to the awareness of the officer who reported it, whether they reported it according to the standard, or just having a visit in the first trimester is considered K1...” (Municipality Health Office representative)

“[Evaluation] is not only the fulfillment of facilities, but also compliance with the standard of procedure, availability of drugs, and service delivery. The values obtained after verification [in the last evaluation of the health center] were sufficient and lacking, meaning that, in terms of quality, it is still in the sufficient and lacking category.” (Municipality Health Office representative)

3.5. Facilitative Assessments and Their Non-Random, Scheduled Nature

While routine evaluations and supervisory activities known as “facilitative supervision” were conducted semi-annually or at least once a year, their effectiveness was questionable. These evaluations assessed infrastructure availability and midwife competencies through direct observation. However, because the evaluations were scheduled in advance, midwives could often prepare, a practice informants perceived as potentially masking real service quality issues. However, the study did not compare the results of scheduled and unannounced evaluations.

“...one of the things we can do is to carry out facilitative supervision. Together with the coordinating midwife, I will conduct supervision at the satellite health centers (pustu) and village maternity posts (polindes)...so we will check, including the facilities

there, such as the rooms, the availability of sinks, medicines, and so on...their ability will be observed while she works, starting from what is listed in the form, for example, the way she takes the medical history of pregnant women, and so on...” (Head of Puskesmas 1)

“For that, we have this activity, which is called facilitative supervision. We visit the village midwife’s facility... so there we can ask them directly about issues related to ANC in their workplace.” (Head of Puskesmas 2)

“Yes, they know that we are observing, because here’s the thing, ma’am, we have the Rencana Perencanaan Kegiatan (RPK), the activity planning document. So, what it means is that in the future we will directly inform them that the facilitative supervision activity will be carried out in a certain month. This way, the village midwives can prepare themselves.” (Midwife coordinator 2)

3.6. Strategies Proposed by Informants

Based on the issues identified, informants proposed alternative strategies for evaluating antenatal care quality that they perceived as cost-effective and feasible to conduct regularly without formal scheduling or budget allocations. These proposed strategies, generated from participants’ accounts and perceived as potentially useful and feasible by informants, include: conducting internal reviews of the KIA book among midwives, educating pregnant women on the contents and importance of the KIA book, developing checklists to evaluate its completeness, standardizing maternal cohort registers, assessing patient satisfaction, and realigning village midwives with their official job descriptions. This study did not implement or evaluate these strategies. They reflect informants’ views about their potential usefulness and feasibility, rather than evidence of their effects on ANC quality or midwives’ performance. The informants’ statements are as follows.

“There is no [special guidance for filling out the pink book]. This is just what I thought about now. I used to think it should only be for pregnant women to review the pink book, [but] I think village midwives also need to refresh [their knowledge on] this pink book...” (Head of Puskesmas 2)

“I think it is okay to use a special form to see whether village midwives have completed their contents or not in their pink book, as long as it is not complicated because we already have many forms that have to be filled out...” (Midwife coordinator 1)

"For satisfaction, every day, we provide a piece of paper that will later be put into the suggestion box, where it is stated: satisfied, dissatisfied, very satisfied. So later it will be filled in, specifically for checking KIA by pregnant women and anyone who visits us. If they are satisfied with our service, they will put it in the green box. Yes, that's it. If they are not satisfied, they put it in the red box, but there is no [satisfaction assessment] specifically for antenatal care..." (Midwife coordinator 2)

"...it's possible, satisfaction can be measured, as long as the pregnant mother is told what is in the KIA book" (Village Midwife 1)

"...For the contents of the cohort, for all health centers it is the same, but for us in health centers, the cohort recorded by the health office is different. The office cohort book is incomplete for us. For example, for antenatal care examinations for pregnant women, it is 4 times, ma'am, some even 10 times. If we write it in the cohort book, it feels inadequate. So yes, we print it ourselves, ma'am; we record daily visits, and this data is the same as the data in the cohort. It's just that the cohort book is bigger..." (Midwife Coordinator 2)

"The cohort of mothers distributed as a guideline to be reproduced by the health center is already standard, according to the Minister of Health. Why should we make another one? Now it depends on the health center" (Municipality Health Office representative)

"In my opinion, it's time to return; the term is the right man in the right place. Return the village midwife to her original function. So, what is her function? Providing midwifery services, returning to midwifery services. So, don't be busy with other accreditation matters... Because they are not returned to their proper function, ultimately the quality of service is reduced." (Municipality Health Office representative)

Another strategy informants recommended is to standardize the maternal cohort register across all Puskesmas. This book tracks and categorizes pregnant women by risk level for easier follow-up. Although a standard format exists, some Puskesmas have modified their registers for convenience, creating data inconsistencies and complicating district-level reporting. Informants said standardization would simplify documentation, facilitate monitoring, and strengthen maternal health surveillance at all administrative levels. However, this study did not evaluate the actual effect of register standardization on documentation accuracy or surveillance outcomes. Informants' final proposed strategy is to restore village midwives' official duties in accordance with Ministry of Health Regulation No.

363/Menkes/Per/DC/1990. Many midwives are currently burdened with tasks outside their scope, reducing their capacity to deliver core maternal services. Informants believed realigning their roles would let them focus on primary responsibilities without being diverted by non-clinical administrative duties. This potential benefit reflects informants' expectations rather than an outcome observed or measured within this study. Leadership at the Puskesmas level plays a crucial role in ensuring this role clarity and performance alignment.

Informants believed these strategies to be feasible at the Puskesmas level with support from Puskesmas Heads and Coordinators. Feasibility here reflects informants' own assessment rather than a tested implementation. Because Puskesmas now operate as Technical Implementation Units (Unit Pelaksana Teknis Daerah = UPTDs) directly accountable to regional governments, the Municipality Health Office's influence has diminished in enforcing performance standards. Consequently, the responsibility for deploying midwives according to their roles now lies primarily with Puskesmas leadership.

"Yes, when the head of Puskesmas does not place midwives in their duties, we can only suggest, but we cannot take action. However, in the old system, the village midwife was under the nutrition and health section at the health department, and the cohort was filled because we had the authority to evaluate and improve their performance. However, for the current system, the health center becomes a regional technical implementation unit, and the responsibility of the head of Puskesmas has more autonomy, ... Not all heads of Puskesmas consider service, consider caring about K1 & K4 earlier." (Municipality Health Office representative)

3.7. Differences in Perspective by Professional Role

Across themes, village midwives as frontline staff and head of Puskesmas, coordinator midwives, and the Municipality Health Office representative as managerial informants often viewed similar issues differently. Village midwives mainly described practical, day-to-day challenges, such as reporting issues and documentation challenges. In contrast, coordinators, the head of Puskesmas, and the Municipality Health Office representative focused more on accountability, reporting accuracy, and supervision. This suggests that strategies such as internal KIA book reviews and improved supervision will require support from both groups, as they may understand the causes of the same problem differently. To further examine whether perspectives on ANC service delivery differed by professional role, [Table 2](#) summarizes the extent of convergence and divergence

Table 2. Summary of convergence and divergence in perspectives by participant role.

Theme	Village Midwives (Frontline)	Coordinators, Puskesmas Heads, and Municipality Health Office (Managerial)	Pattern
Residence in the assigned village	Attributed the issue to limited housing and facilities	Focused on its possible effect on the completion of ANC visits	Different emphasis
Supervisory feedback	Not directly discussed	Described feedback as reactive and usually triggered by specific cases	Managerial consensus
Need for refresher training	Agreed that skills vary and supported further training	Agreed that skills vary and supported further training	Similar perspectives
Gaps in KIA book documentation	Attributed gaps mainly to patient-related and external factors	Attributed gaps mainly to midwives' documentation practices	Different explanations
K1/K4 coverage and service quality	Focused on reporting workarounds	Focused on concerns about the integrity of the reporting system	Similar concern but different framing
Limitations of facilitative supervision	Not raised	Raised by the midwife coordinator	Managerial-only perspective

between frontline providers (village midwives) and managerial informants (midwife coordinators, head of Puskesmas, and the Municipality Health Office representative) across the themes identified in this study.

3.8. Discussion

This qualitative study found that a complex interplay of individual, organizational, and social factors shapes village midwives' performance in delivering antenatal care. The findings suggest that improving service quality requires more than technical adjustments; it demands a holistic strategy that addresses structural, managerial, and contextual dimensions of care delivery. One of the most salient factors identified is midwives' competence. Their ability to provide antenatal services aligned with national standards hinges on their clinical knowledge and practical skills. Informants' accounts revealed perceived disparities in skill levels, particularly in performing the antenatal care components and in accurately documenting antenatal care in the KIA book. Despite frequent engagement with the KIA book, many midwives still struggle to complete its entries consistently, often due to a lack of training or refresher courses. Therefore, strengthening professional competence through ongoing education and practical reinforcement emerges as a fundamental need.

Infrastructure also plays a critical role in shaping midwives' capacity to perform their duties. The availability of medical equipment and essential supplies determines the extent to which midwives can offer complete and timely antenatal services [24]. Consistent with informants' reports in this study, and with prior evidence from other resource-limited settings, basic diagnostic tools are often lacking, limiting midwives' ability to conduct standard examinations such as blood pressure monitoring, hemoglobin testing, or fundal height measurements [25]. Our findings on structural and organizational barriers are also consistent with

earlier qualitative research from six Indonesian provinces. Sarbini and colleagues identified workload, limited facilities and infrastructure, geographic placement, and weaknesses in monitoring and performance management as common barriers to village midwives' practice [26]. Similarly, a study in Klaten, Central Java, found that inconsistent supervision and poor communication between village midwives and Puskesmas staff disrupted the continuity of maternal and child health services [27]. This reflects our findings regarding irregular feedback and incomplete documentation.

However, one unexpected finding was that facilitative supervision, although intended to assess and improve performance, could itself introduce bias. Because visits were announced in advance, midwives had time to prepare, potentially hiding gaps in their usual practice. Beyond the technical and logistical aspects, managerial and motivational factors also influence performance. Supportive supervision, timely feedback, and recognition contribute to higher motivation among midwives [28]. However, the study found that supervisory visits are often scheduled in advance, giving midwives time to prepare and possibly mask day-to-day challenges. As a result, the supervision system, while present, lacks the spontaneity and responsiveness needed to fully capture and support real-time performance. A previous study showed that supportive supervision can improve service quality [28]. Still, our findings suggest that how supervision is planned and conducted may matter as much as how often it occurs. Another notable finding was that although midwives frequently used the KIA book, the information recorded was often incomplete. This shows that using or possessing the KIA book does not necessarily ensure good-quality documentation. This important distinction has received limited attention in studies focusing only on whether the book is available or used.

Beyond the factors we identified in our interviews, the broader literature on antenatal care suggests that the social dimension is equally significant. A prior study indicates that midwives' success in delivering services is often mediated by the community's trust and involvement [29]. Cultural norms, communication styles, and awareness levels among pregnant women all influence the uptake and continuity of antenatal visits [30]. Although informants did not directly identify community trust, cultural norms, or communication styles as themes, previous studies suggest that these factors may strengthen community-based strategies, such as patient education about the KIA book. Future research involving patients and communities should explore these broader social influences. Community empowerment, therefore, must be integrated into health strategies to ensure that women and families understand the value of antenatal care and actively participate in it. Institutional collaboration also emerged as a central theme. As decentralization shifts responsibility to local governments and Puskesmas, coordination among municipal health offices, midwives, and supporting institutions becomes even more critical. Addressing systemic challenges such as inconsistent cohort books, reporting gaps, and misaligned task allocations will require synchronized policies and joint commitment across administrative levels.

In addition to service provider interventions, it is equally important to educate pregnant women on how to use the KIA book. Informed mothers are better equipped to identify pregnancy risks and advocate for appropriate antenatal services. Limited awareness of risk factors among pregnant women can adversely affect pregnancy outcomes [31, 32]. Patient satisfaction is another critical indicator of service quality. Higher patient satisfaction is generally linked to better healthcare quality [33, 34]. Providers can enhance satisfaction through personalized communication and by involving patients in decision-making processes [35]. A study shows that low-risk pregnant women receiving care from midwives report higher satisfaction and improved outcomes than those attended by physicians [36].

The findings support previous evidence that ANC coverage and quality are related but distinct measures. Using a content-qualified coverage indicator across 63 low- and middle-income countries, Arroyave and colleagues found considerable inequalities in ANC quality both within and between countries, even when contact-based coverage was similar [37]. This supports our informants' view that high first- and fourth-visit (K1 and K4) coverage may hide important gaps in the actual content of care. Similarly, an analysis across 13 low- and

middle-income countries found substantial variation in ANC clinical quality that common indicators such as infrastructure and staffing could not adequately explain [26].

Overall, these findings show that improving ANC quality in Indonesia's decentralized health system requires more than increasing service coverage or assessing infrastructure. They highlight several practical areas for improvement, including documentation, supervision, patient engagement, and clearer professional roles. Importantly, local health authorities and Puskesmas leaders could introduce many of these changes without substantial additional funding. This is particularly relevant because the Municipality Health Office has less direct authority over Puskesmas following their transition into Technical Implementation Units (UPTDs).

This study adds to the existing evidence by exploring ANC service delivery by village midwives within Indonesia's decentralized Puskesmas governance system. While previous Indonesian studies have examined general barriers to village midwifery practice [38], postnatal care [27], and disruptions during the COVID-19 pandemic [39], this study highlights stakeholders' perceptions of the gap between reported ANC coverage and actual service quality. It also presents practical strategies suggested by informants, including internal reviews of KIA books, standardized cohort registers, and clearer professional roles.

However, this study has several limitations. First, the findings are based on informants' perceptions and self-reported experiences rather than direct clinical observations or record audits. They may therefore be affected by recall and social desirability bias, particularly when midwives discussed their own practices. Second, the study involved only seven informants from one city. Although this allowed for in-depth qualitative exploration, the findings may not transfer to districts or provinces with different governance systems, staffing levels, resources, or sociocultural settings. Third, the study's conclusions about the gap between reported ANC coverage and service quality are based on participants' accounts and the research team's review of KIA book documentation, rather than a formal audit of K1/K4 records or clinical files. Therefore, the findings provide useful contextual insights into perceived reporting practices but do not measure or confirm the extent of over-reporting in Banda Aceh. Finally, the study did not include pregnant women, even though their experiences are important for understanding ANC use and evaluating the proposed patient-education and satisfaction-assessment strategies.

Future studies should combine providers' perspectives with objective assessments, such as direct observation of ANC consultations and clinical record audits such as the pink book audit. This would help determine whether the strategies suggested by informants lead to measurable improvements in ANC quality. Further research should also include pregnant women and their families and explore whether the findings from Banda Aceh apply to other Indonesian districts with different levels of Puskesmas autonomy and resources.

4. Conclusions

This study explored the factors perceived to influence village midwives' ANC service delivery in Banda Aceh and the strategies stakeholders proposed to improve it. The findings indicate that various factors related to human resources, facilities and infrastructure, and managerial system support strongly influence village midwives' performance in providing antenatal services. An unexpected finding was that facilitative supervision was often announced in advance. Although intended to improve performance, this approach may hide gaps in routine services rather than accurately identify them, an issue not widely discussed in previous research. Overall, this study found that improving village midwives' performance in antenatal services requires a comprehensive approach that includes midwives' competence and skills, the availability of facilities and infrastructure, motivation and managerial support, community empowerment, and collaboration between the government and related stakeholders. Specifically, informants proposed conducting internal reviews of the KIA book among midwives, educating pregnant women on its contents and use, standardizing the maternal cohort register across Puskesmas, assessing patient satisfaction with ANC services, and realigning village midwives with their official job descriptions. The interview data mainly support targeted skills training, better documentation, improved supervision, and clearer roles for village midwives. Community empowerment and broader government collaboration were discussed less often and should therefore be explored further rather than treated as equally well-supported findings. These findings can inform local policy on supervision design and documentation practices, while future studies incorporating objective performance assessment are needed to confirm their impact on ANC quality.

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