



Health Workers' Experiences and Challenges in Providing Comprehensive Antenatal Care in Rural Primary Health Centers in West Nias District

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<p>Track Record Article</p> <p>Revised: 15 November 2025 Accepted: 19 June 2026 Published: 26 June 2026</p> <p>How to cite : Ariescha, P. A. Y., Ariani, P., Sari, N. M., & Sitorus, F. E. (2026). Health Workers' Experiences and Challenges in Providing Comprehensive Antenatal Care in Rural Primary Health Centers in West Nias District. <i>Contagion : Scientific Periodical of Public Health and Coastal Health</i>, 8(2), 303–304.</p>	<p style="text-align: center;">Abstract</p> <p><i>Antenatal care (ANC) plays a critical role in reducing maternal and neonatal risks, yet its delivery in rural and remote areas remains constrained by geographic isolation, limited health resources, workforce shortages, and sociocultural barriers. This study explored the experiences and challenges of health workers in providing comprehensive ANC services in rural primary health centers in West Nias District, North Sumatra, Indonesia. A qualitative study with a grounded theory approach was conducted among 16 health workers, consisting of 11 midwives and five physicians, who were selected through purposive sampling. Data were collected through in-depth semi-structured interviews, supported by field notes, limited participant observation, and review of relevant service documents. Data were analyzed using open, axial, and selective coding. The findings identified professional resilience as the core category explaining how health workers sustain ANC services in resource-limited and culturally complex settings. This resilience was shaped by four interrelated themes: limited resources and infrastructure, human resource constraints, sociocultural influences, and adaptation strategies. Health workers maintained service continuity through manual examination methods, mobile services, home visits, informal counseling, community-based education, and collaboration with village leaders, religious leaders, and traditional birth attendants. These strategies helped strengthen community trust and improve access to ANC services. The study highlights the need to strengthen rural maternal health systems through improved infrastructure, adequate staffing, supportive supervision, and culturally responsive service planning</i></p> <p>Keywords: <i>Antenatal Care, Health Workers, Maternal Health, Professional Resilience, Rural Health Services, Community Collaboration.</i></p>
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INTRODUCTION

Antenatal care (ANC) is very important for ensuring the health of the mother and her developing baby. ANC is not only about a series of routine clinical checks but also about providing women with health education, detecting possible complications promptly, providing psychosocial support, and promoting healthy behavioral changes (Ningsih et al., 2023). Maternal age is one individual factor associated with ANC compliance (Suryanegara & Sirait, 2023). The World Health Organization recommends at least eight antenatal care (ANC) contacts during pregnancy to improve maternal and newborn outcomes through early detection, preventive care, and timely management of pregnancy-related risks (Putri et al., 2024). Therefore, comprehensive ANC encompasses much more than routine examinations and constitutes a package of education, emotional support, and continuous guidance to ensure a safe and healthy pregnancy journey (Adedini et al., 2022; Dusingizimana et al., 2023). Despite

global initiatives to expand access to these services, many low- and middle-income countries, including Indonesia, continue to face persistent challenges in improving maternal health (Arroyave et al., 2021). ANC utilization in Indonesia is influenced by individual, social, and regional factors, including sociodemographic conditions and maternal awareness of the importance of early ANC visits (Awi et al., 2021; Gayatri et al., 2024). In North Sumatra, provincial health profile data also provide relevant context for examining maternal health service challenges in rural districts (Dinas Kesehatan Provinsi Sumatera Utara, 2020).

ANC utilization in rural settings is influenced by household conditions, socioeconomic factors, and access barriers (Seidu, 2021). There is an increasing amount of research that highlights the importance of midwives in the delivery of Antenatal Care (ANC), especially in rural or less-privileged areas (Adnani et al., 2025). For instance, Ariescha et al. (2024) point out that midwives have dual roles: conducting clinical examinations and providing emotional support and health education, both of which are vital to increasing ANC uptake in communities where formal healthcare services are limited. In line with these findings, the present study reveals that health workers in West Nias, including midwives and doctors, take a wide range of responsibilities (Ariescha et al., 2024).

Guidance embedded in lifelong traditional beliefs encourages women to seek help from traditional birth attendants rather than health facilities, thus significantly reducing ANC uptake. This barrier is more prominent in remote areas, where modern health care providers may be scorned or perceived as less flexible and more offensive to communal norms and values. The findings of the current study are supported by those who argue that healthcare systems need to seriously integrate local cultural health practices in engaging formal service delivery. Incorporating such cultural aspects will help in building trust and integrity, improve communal acceptability of the interventions, and thus increase the access and quality of ANC services (Ariescha et al., 2025).

Thus, this study aims to investigate the experiences and difficulties that physicians and midwives encounter while delivering comprehensive prenatal care in rural primary health centres throughout the West Nias District. To enable the development of a theory that directly arises from the voices and lived realities of the participants, a grounded theory approach was chosen. This method provides a better understanding of how health professionals deal with different limitations and come up with workable solutions to provide maternal care in settings with limited resources. It is anticipated that the theoretical insights produced by this study will aid in the development of interventions that are appropriate for the context and direct policymakers in bolstering maternal health systems in Indonesia's rural areas.

METHODS

This study used a qualitative design with a grounded theory approach to explore health professionals' experiences and challenges in delivering comprehensive antenatal care (ANC). The approach was chosen to develop a theory grounded in participants' lived experiences and contextual realities. The study was conducted in West Nias District, North Sumatra, Indonesia, a rural and geographically isolated area with limited access to maternal health services. Participants were midwives and physicians involved in ANC services, selected through purposive sampling until data saturation was reached. Data were collected through in-depth, semi-structured interviews, audio-recorded with consent and transcribed verbatim. Analysis followed grounded theory procedures of open, axial, and selective coding to develop a coherent theoretical framework from emerging themes. This study received ethical approval from the Research Ethics Committee of Institut Kesehatan Deli Husada Deli Tua, North Sumatra (Ethics No. 045/KEPK/INKES-DH/III/2025). Written informed consent was obtained from all participants prior to data collection. Anonymity and confidentiality were maintained, and participants had the right to withdraw at any time without consequences.

The study population consisted of health professionals who provide antenatal care, specifically midwives and general practitioners working in rural primary health centers. Participants were recruited through purposive sampling, guided by inclusion criteria such as having at least one year of experience in providing ANC services and being actively engaged in maternal health programs. The final sample included 16 participants, 11 midwives, and 5 doctors from various rural health centers in West Nias, North Sumatra. In this study, the researcher was the main instrument used to collect data. Preliminary observations and literature were the basis for the development of semi-structured interview guides. Open-ended questions were used in the guide to investigate participants' experiences, difficulties, perspectives, and coping mechanisms when providing ANC services.

To ensure participant comfort and confidentiality, in-depth, in-person interviews were conducted in private rooms within the health centers to gather data. With the participants' consent, each interview was audio recorded and lasted between 45 and 60 minutes. In addition to the recordings, field notes were made to record nonverbal cues and subtle contextual details that enhanced the data interpretation. In order to enhance the validity of the results, triangulation was conducted through limited participant observation during ANC sessions and the examination of pertinent documents, such as ANC service records and local health reports.

Data were analyzed using grounded theory procedures based on grounded theory including open, axial, and selective coding (Corbin, 2021). The interview transcripts were read repeatedly

to obtain a comprehensive understanding of participants' experiences and to identify significant statements related to antenatal care service delivery. During open coding, meaningful units of data were labeled and grouped into initial codes. Axial coding was then used to examine relationships among codes and to develop broader categories. In the selective coding stage, the core category was identified and linked to supporting categories to construct a conceptual model of ANC service delivery in rural primary health centers.

To enhance the credibility of the analysis, coding was conducted independently by two experienced researchers. Differences in coding were discussed until consensus was reached. Analytic memos were maintained throughout the analysis to document emerging interpretations, category development, and theoretical reflections. An audit trail was also established to ensure transparency and traceability of analytical decisions. The constant comparative method was applied throughout the process to refine categories, compare emerging findings across participants, and clarify relationships among themes. NVivo 14 software was used to support systematic data organization, coding, and retrieval.

RESULTS

The study involved 16 participants from rural health centers in West Nias District, North Sumatra, Indonesia, selected based on their involvement in antenatal care (ANC) delivery. Participants included midwives and doctors who are key providers of ANC services in the area. They varied in age, gender, years of experience, and educational background.

Table 1. Demographic Characteristics of the Respondents

No	Respondent Code	Profession	Gender	Age (years)	Years of Experience	Latest Education
1	R1	Midwife	Female	35	10	D3 Midwifery
2	R2	Midwife	Female	29	5	D3 Midwifery
3	R3	Doctor	Male	40	12	Medical Doctor
4	R4	Midwife	Female	32	7	D3 Midwifery
5	R5	Doctor	Female	37	8	Medical Doctor
6	R6	Midwife	Female	30	6	D3 Midwifery
7	R7	Midwife	Female	28	4	D3 Midwifery
8	R8	Doctor	Male	42	15	Medical Doctor
9	R9	Midwife	Female	31	6	D3 Midwifery
10	R10	Midwife	Female	34	9	D3 Midwifery
11	R11	Midwife	Female	27	3	D3 Midwifery
12	R12	Doctor	Male	39	11	Medical Doctor
13	R13	Midwife	Female	33	8	D3 Midwifery
14	R14	Midwife	Female	36	10	D3 Midwifery
15	R15	Doctor	Female	41	13	Medical Doctor
16	R16	Midwife	Female	32	7	D3 Midwifery

The participants varied in age, education, and work experience, providing a comprehensive view of ANC delivery in West Nias Regency. Midwives, as the main maternal

care providers, described daily field challenges in detail, while general practitioners contributed broader insights on policy implementation and health system constraints. Together, these perspectives offered a holistic understanding of the barriers and supporting factors influencing the quality of antenatal care in rural settings.

Table 2: Demographic Statistics: Mean and SD for Age and Years of Experience

Metric	Age	Years of Experience
Mean	34.13	8.38
SD	4.55	3.22
Range	15	12

The participants had an average age of 34.13 years, with a standard deviation of 4.55 years. On average, they had 8.38 years of professional experience, with a standard deviation of 3.22 years. The age range spanned 15 years, while the range of professional experience covered 12 years.

Identification of Initial Concepts

More than fifty initial codes were found from verbatim transcripts during the open coding phase. These were grouped conceptually to describe the realities of ANC service delivery in rural Nias Barat. The following is a summary of key emerging concepts:

Table 3. Open Coding Identification of Initial Concepts

Conceptual Group	Illustrative Quotes
Limited health infrastructure	<i>"Our Puskesmas doesn't have any ultrasound; we only use manual examination for fetal growth."</i> (R2) <i>"We make do with basic equipment, but it's frustrating because we know that proper diagnostic tools could save lives. It's all about working with what we have"</i> (R5)
Geographical isolation and transportation barriers	<i>"To reach some villages, we must cross rivers or climb steep hills; sometimes patients give birth before we arrive."</i> (R10) <i>"The roads here are terrible, especially during the rainy season. Sometimes we need to walk for hours to reach women in remote areas."</i> (R6) <i>"We often lose precious time just getting to the villages. The weather makes it even worse, and the women give birth at home without any assistance"</i> (R12)
Human resource shortages	<i>"There are only two midwives for the whole area; when one attends a training, the other covers everything."</i> (R8) <i>"It's difficult. When one midwife is unavailable, it falls on the other to manage an entire community. It's exhausting."</i> (R1) <i>"Sometimes we have to handle multiple villages, which means we're spread thin. There's just not enough of us to provide proper care."</i> (R7)
Low community awareness	<i>"Some mothers don't see ANC as important; they only come if they feel sick."</i> (R2) <i>"I try to explain that ANC isn't just about waiting for problems to appear, but many women believe pregnancy is natural and doesn't need monitoring."</i> (R15)
Cultural and religious beliefs	<i>"Many women rely on traditional birth attendants because it's part of local belief."</i> (R3) <i>"There is a strong belief in home births. Women only come to the health center if something goes wrong, and by then, it's usually too late."</i> (R6)
Gender and decision-making issues	<i>"Husbands often decide whether their wives can go to the clinic; if he says no, we can't force them."</i> (R3)

Conceptual Group	Illustrative Quotes
	<i>"In some cases, the mother-in-law also plays a key role in decision-making. If she doesn't agree with going to the clinic, the woman won't go."</i> (R14)
Institutional and logistic barriers	<i>"We often run out of supplements or reagents, and it takes months to get supplies."</i> (R2) <i>"Sometimes we simply don't have the basic medicines. It can be weeks before the next delivery, and in the meantime, we just have to make do."</i> (R15)
Adaptation and improvisation	<i>"Sometimes we conduct ANC sessions after church, because that's when women gather."</i> (R13) <i>"We have to be creative with our time and spaces. If women don't come to the health center, we bring the services to them during gatherings or events."</i> (R11)
Emotional resilience and empathy	<i>"Even though it's tiring, we feel responsible for the mothers' safety."</i> (R12) <i>"Despite all the challenges, we keep going because we genuinely care about the health and well-being of these women."</i> (R7)
Community collaboration	<i>"The village head and pastor help us to convince families to attend check-ups."</i> (R2) <i>"Community leaders, like the village head, are crucial in encouraging people to trust the health services. They have influence that we don't."</i> (R8)

These codes show a complex interplay between systemic limitations, cultural patterns, and professional adaptation, shaping the way ANC is delivered in the district.

Development of Major Categories

By analyzing relationships among emerging themes, axial coding refined categories from open coding. Professional Resilience emerged as the core category explaining how healthcare workers sustain ANC services in remote areas such as West Nias. It reflects their ability to maintain care quality despite limited resources, cultural barriers, and restricted access to health facilities, and was identified as central due to its role in continuous service delivery amid systemic challenges. In this context, resilience includes adaptation to constraints as well as emotional strength, professional commitment, and dedication to maternal well-being despite fatigue and stress.

Limited Resources and Infrastructure

Inadequate facilities and medical resources in health centers and clinics make it extremely difficult to provide comprehensive ANC. Healthcare workers, however, consistently show resilience in the face of these constraints by adapting to the circumstances and devising innovative methods of providing care. This includes performing ANC sessions in non-clinical settings when needed and utilizing manual examination techniques. These flexible methods demonstrate how professional resilience appears in real-world work environments. *Causal conditions*: limited facilities, long travel distances, and poor road networks. *Consequences*: incomplete examinations, delayed referrals, and reduced frequency of ANC visits.

“If it rains, the road becomes slippery, and mothers prefer to stay home. Sometimes they miss ANC for two months.” (R2)

“We use what we have, but sometimes it’s frustrating. If we had better equipment, we could detect problems earlier and prevent complications.”(R14)

Human Resource Constraints

An additional obstacle to providing adequate ANC services is the shortage of medical professionals, including doctors and midwives. In many remote areas, health workers face heavy workloads combining clinical and administrative duties. To address these demands, they develop adaptive strategies such as mobile clinics and informal services outside regular working hours. These approaches demonstrate their ability to creatively manage resource limitations while maintaining essential services. However, they often experience emotional exhaustion, high workloads, and moral distress. Despite these challenges, midwives and physicians continue to implement flexible strategies, including community outreach, mobile services, and informal counseling, to ensure continuity of ANC provision. *Causal conditions:* resource scarcity, overlapping duties. *Coping actions:* innovation, teamwork, and emotional resilience.

“We visit mothers’ homes during weekends. It’s an extra effort, but we do it because we care.”(R6)

“Working long hours and balancing administrative work with patient care is draining. I often don’t have enough time for both.”(R11)

Sociocultural and Community Influences

Cultural and traditional beliefs heavily influence ANC utilization. Many pregnant women prefer to seek care from traditional birth attendants or local midwives instead of using formal health facilities. Despite this trend, healthcare workers remain resilient. They work together with community leaders and traditional birth attendants to connect customary practices with biomedical care. These partnerships help build trust in the community and encourage more participation in ANC services. These efforts show how health workers address cultural barriers and improve maternal care delivery. *Causal conditions:* strong traditional norms, male-dominated decision-making. *Consequences:* delayed ANC initiation, incomplete visits, and low trust in medical services.

“They believe pregnancy is natural and does not need checking. Only when complications appear do they seek help.”(R10)

“Community leaders play a key role in helping to bridge the gap between traditional practices and healthcare. When they support ANC, the acceptance is much higher.”(R5)

Adaptation Strategies

Health care personnel have developed adaptive strategies that are essential for sustaining ANC services in remote areas. These include mobile clinics, community-based education, and informal counseling outside regular working hours. These approaches enable continued support for women and families who face cultural and logistical barriers to accessing ANC services. In addition, emotional resilience plays a key role, as health care providers demonstrate compassion and commitment despite heavy workloads, high patient volumes, and limited resources. Their dedication highlights the importance of resilience in maintaining accessible and relevant ANC services within the community. *“We conduct ANC sessions after church services because that’s when women gather. We use that opportunity to provide education and screenings.” (R4)*

“We often do home visits, especially to rural areas. It’s tiring, but it’s the only way to make sure women are getting the care they need.” (R12)

Professional Resilience is identified as the central category linking all major themes in ANC service delivery in West Nias through axial coding. It is supported by limited resources, human resource constraints, sociocultural influences, and adaptive strategies, which together show how health workers maintain ANC services despite various challenges. Although facilities and staffing are limited, health workers continue to innovate in service delivery. Cultural barriers, including reliance on traditional practices, are addressed through collaboration with community leaders and traditional birth attendants. Overall, continued ANC provision reflects the professional resilience of health workers in adapting and delivering care in resource-limited settings.

Integration and Theory Building

Grounded Theory is a methodology for developing theories based on systematic data collection and analysis of a specific research topic. The final stage, selective coding, identifies the core category and links it to supporting categories to form a theoretical model. In this study, Professional Resilience was identified as the core category, as it best explains how healthcare providers deliver antenatal care in resource-poor and culturally complex settings in West Nias, Indonesia. Selective coding helps clarify the relationships between categories, forming a conceptual framework of how quality care is maintained despite multiple challenges. Overall, this stage highlights how health workers remain adaptable and effective under difficult working conditions.

Core Category Identification

Selective coding revealed that Professional Resilience represents the ability of health care workers to continue to provide ANC services in rural West Nias. Professional Resilience is represented by the ability of midwives and physicians to provide continued, high-quality antenatal care despite the systemic limitations, cultural barriers, and workforce shortages that they face, as well as the geographic challenges of the district. All of the major categories identified in the study converge on supporting and strengthening the concept of Professional Resilience as the basis from which health care workers navigate and transcend their environment's limitations. Four major themes support and shape Professional Resilience: 1. Limited Resources and Infrastructure. 2. Human Resource Constraints. 3. Sociocultural Influences and 4. Adaptation Strategies

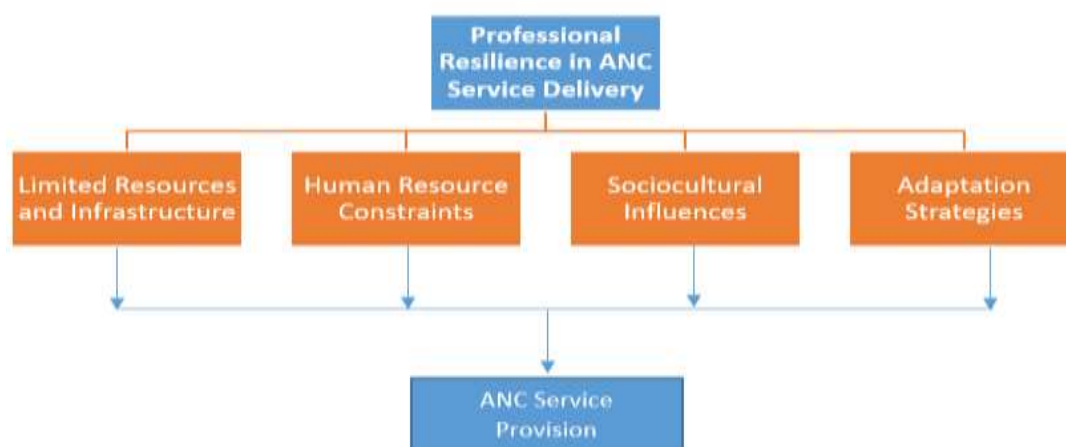


Figure 1: Conceptual Model of Professional Resilience in ANC Service Delivery

Figure 1 positions Professional Resilience as the core concept of ANC service delivery, supported by four interrelated themes: limited resources and infrastructure, human resource constraints, sociocultural differences, and adaptive strategies. Together, these themes illustrate how ANC services are sustained in rural, resource-limited settings through a dynamic and adaptive process that enables health workers to continue providing care despite various challenges. Cultural adaptation is included as a supporting element that strengthens professional resilience, but it is not the central theme of the model.

Table 4: Conceptual Model Summary:

Core Category	Supporting Themes	Description
Professional Resilience in ANC Service Delivery	Limited Resources and Infrastructure	Health care professionals continue to provide services despite limited facility support and often address these challenges through creativity and resourcefulness. When modern equipment is unavailable, they rely on manual examination methods, and when clinic space is insufficient, they find alternative locations to conduct antenatal care (ANC) visits. These adaptations

Core Category	Supporting Themes	Description
		demonstrate their commitment to ensuring continuous patient access to services despite existing barriers.
	Human Resource Constraints	The shortage of health personnel in rural settings requires healthcare providers to demonstrate ingenuity and resilience to sustain service delivery. To address this, many providers balance clinical and administrative duties while also developing mobile clinics and delivering services directly to hard-to-reach communities. These adaptive strategies help maintain access to healthcare despite the challenges of remote and isolated settings.
	Sociocultural Influences	Many women prefer traditional birth attendants over formal health services for antenatal care, which affects ANC utilization. In response, both providers have developed relationships with community leaders and traditional practitioners. These collaborations help bridge modern medicine and local cultural practices, strengthen community trust, and improve antenatal care participation.
	Adaptation Strategies	To overcome challenges, health workers implement strategies such as mobile clinics, informal counseling, and community-based education. These adaptive approaches help maintain continuity of care despite logistical and cultural barriers. For example, some providers offer antenatal care (ANC) services after community events such as church services to reach women gathered in one place for education and screening. In addition, emotional resilience enables health workers to continue providing compassionate care despite high workloads and limited resources.

DISCUSSION

Health professionals operating in West Nias, Indonesia, and the surrounding area face many structural, logistical, and sociocultural difficulties while providing antenatal care (ANC). In order to deliver ANC services despite the many impediments caused by these factors, health professionals in rural West Nias have developed an ability to adapt through the process of Professional Resilience. The research study also indicates that Professional Resilience is not an attribute; it is a process that occurs through the ability of health professionals to navigate restricted resources, cope with high workloads, address the social and cultural context of the communities where they work, and create new ways to address the problems created by these barriers.

Professional Resilience in the Face of Limited Resources

The limited availability of resources and infrastructure in rural healthcare centers is a major barrier to ANC services. Health workers in West Nias often lack essential equipment such as ultrasound machines and adequate examination tools, making it difficult to provide comprehensive maternal care. Despite these constraints, participants demonstrated strong professional resilience by adopting innovative practices. Most used manual examination

methods and adapted available spaces when clinics were overcrowded or unavailable. This finding is supported by recent studies highlighting similar challenges in resource-limited rural healthcare settings (Hanafie Das et al., 2022). Rural healthcare providers frequently experience shortages of supplies, limited staffing, and operational constraints, requiring them to adopt adaptive strategies to sustain service delivery. Their ability to continue providing care under such pressures reflects an important aspect of professional resilience (Atuhaire & Mugisha, 2020; Priyanti et al., 2020)

Human Resource Constraints and Workload Challenges

Human resource limitations emerged as a major barrier to effective ANC delivery. (Priyanti et al., 2020). Participants reported heavy workloads due to the limited number of healthcare workers in rural areas, which affected the consistency and quality of care. Health workers also had to manage both clinical and administrative tasks, leading to increased stress and emotional strain. Recent evidence also shows that healthcare professionals providing maternal health services in rural facilities often experience staff shortages, excessive workloads, and limited health-system support, which can affect service quality and require adaptive coping strategies (Milku et al., 2024). Similar findings have been reported in rural Indonesia, where workforce shortages coincide with high service demands (Laia et al., 2021) However, this study shows that health workers demonstrate strong adaptability and resilience by using strategies such as mobile clinics, community outreach, and flexible scheduling to maintain essential services despite limited resources.

Sociocultural Influences and Community Engagement

Sociocultural influences played a critical role in shaping the utilization of ANC services (Kazi et al., 2021; Omer et al., 2021). In West Nias, women tended to prefer traditional birth attendants (TBAs) over formal healthcare due to strong cultural norms, which significantly affected ANC uptake. Family involvement, including husbands and other key relatives, can influence pregnancy-related care and ANC decision-making (Onyeze-Joe & Godin, 2020). However, health workers demonstrated professional resilience by building collaboration with community leaders and TBAs to bridge traditional practices and modern healthcare, thereby increasing trust and ANC utilization. This aligns with previous research emphasizing the importance of cultural sensitivity and community collaboration in improving health outcomes. Recent evidence also suggests that integrating traditional birth attendants into maternal healthcare can strengthen culturally relevant support, improve coordination between community-based and facility-based care, and reduce medical mistrust among women in low-resource settings (Rutledge et al., 2024). These findings highlight the need for a flexible and

culturally responsive health system that integrates local customs into service delivery to better support maternal health in rural areas.

Adaptation Strategies and Resilience

Within the context of the study, health workers' adaptive strategies provided important insight. Facing barriers such as time, distance, and difficult terrain, health workers in West Nias developed creative ways to remain connected with patients, including providing antenatal care (ANC) during community events like church services and conducting home visits in remote villages. These efforts reflect their emotional resilience in continuing service despite fatigue and burnout risk (Tolera et al., 2020). Recent evidence also shows that midwife-led mobile antenatal clinics can improve access to ANC services in rural and hard-to-reach communities by bringing essential maternal care closer to pregnant women who face distance, transportation, and infrastructure barriers (Mwilike et al., 2024). Overall, strong professional resilience enabled sustained service delivery despite fatigue and burnout risk.

Policy Implications and Recommendations

Both policy and practice will benefit from this study's findings. The identification of limited resources, insufficient numbers of health professionals, and socio-cultural barriers indicates the need for policies that support rural health workers through targeted financial strengthening. The main recommendations include: (1) increasing investment in health infrastructure; (2) increasing the number of health professionals assigned to rural areas; and (3) providing education and training in cultural competency to equip health workers with the skills needed to engage diverse community cultures. In addition, interprofessional collaboration is identified as a key strategy to strengthen relationships between healthcare workers and traditional birth attendants, thereby improving access to antenatal care (ANC) and maternal health outcomes. Furthermore, policies that support training programs integrating local knowledge and practices are essential to prepare health workers for the complexities of rural healthcare delivery.

This research has shown that professional resilience is what keeps antenatal care (ANC) services functioning within rural West Nias. Health workers utilize professional resilience to provide continuity and quality of care while adapting to limited resources, addressing workforce shortages, responding to sociocultural factors, and developing innovative methods to reach those in need of care. Cultural adaptation is an important part of the process; however, it should be recognized as a supporting structure that enhances the overall function of professional resilience. As mentioned previously and illustrated in this research, building and

sustaining the professional resilience of healthcare workers should be among the highest priorities to effectively provide maternal health services in low-resource areas.

IMPLICATIONS

Strengthening ANC coverage in rural and remote areas requires policies that actively reinforce the professional resilience of health workers through several key strategies, including improving health infrastructure and diagnostic resources to reduce workload pressures, expanding the rural health workforce to prevent overload and burnout, establishing supportive supervision and peer-learning systems to sustain emotional resilience, and integrating cultural competence training as a means of enhancing effective community engagement.

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