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REFERRAL OF EMERGENCY OBSTETRIC-NEONATAL CASES BY VILLAGE MIDWIVES TO PONED HEALTH CENTERS

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ABSTRACT
Basic Emergency Obstetric and Neonatal Services (PONED) provide emergency care for obstetric and neonatal conditions, including hypertensive disorders during pregnancy, shoulder dystocia, vacuum-assisted delivery, postpartum hemorrhage, puerperal infection, and respiratory disorders and seizures in newborns. Based on data from the Rokan Hulu District Health Office in 2024, there were 273 cases (50.83%) of high-risk maternal referrals and 48 cases (47.52%) of high-risk neonatal referrals originating from PONED health centers. This study aimed to identify the factors influencing the referral behavior of village midwives in obstetric and neonatal emergency cases and the appropriateness of referral indications to PONED Health Centers. This study employed a qualitative approach with a case study design. Informants were selected using purposive and snowball sampling techniques until data saturation was achieved. Data were collected through in-depth interviews, observations, and document review, and analyzed using thematic analysis. A total of eight informants participated in the study, consisting of one key informant (a PONED team member), five primary informants (village midwives), and two additional informants (the Head of the PONED Health Center and the Head of the Public Health Division at the District Health Office). The findings showed that the referral behavior of village midwives in obstetric and neonatal emergency cases was influenced by educational level, age, and geographical conditions. In addition, mentoring and supervision of village midwives, as well as quality assurance and supervision of PONED team services, contributed to improving the appropriateness of referrals for obstetric and neonatal emergency cases.

Keywords: obstetric neonatal emergency; PONED Health Center; referral; village midwife

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INTRODUCTION

Basic Emergency Obstetric Neonatal Services (PONED) provides care for obstetric emergencies. These include conditions such as hypertension during pregnancy, complicated labor due to shoulder dystocia, labor requiring vacuum extraction, postpartum hemorrhage, puerperal infections, and respiratory distress or seizures in newborns (Priyono & Cahyaningrum, 2022). The availability of Human Resources (HR) is a crucial component in carrying out the function and providing essential emergency obstetric and neonatal services(Wandi, 2020). Village midwives are the main supporting element for the success of basic emergency obstetric and neonatal services(Novianti, Safitri, & Munjidah, 2022). Village midwives are assigned medical personnel, required to reside in, and dedicated to serving the community in their assigned area, which includes one or two hamlets. In carrying out medical service duties, both during and after working hours, village midwives are directly responsible to the Head of the Community Health Center and collaborate with village government officials. Village midwives are expected to have the competence to manage the referral

process to the Community Health Center for PONED to minimize maternal mortality rates that occur in the home environment (Nurhayati, 2023).

The indicator of success of PONED Community Health Center services is the coverage of neonatal and maternal complications that are successfully handled. Data from the Riau Provincial Health Office in 2022 obtained the percentage of obstetric complications handled by Regency/City from the highest to the lowest percentage, namely Indragiri Hulu (100%), Pelalawan (91.1%), Bengkalis (86.8%), Dumai (79.3%), Kuantan Singingi (70.4%), Meranti (66.5%), Siak (61.2%), Riau (51.1%), Rokan Hilir (42.1%), Kampar (26.4%), Pekanbaru (21.4%), Indragiri Hilir (16.2%) and Rokan Hulu (12.3%) (Dinas Kesehatan Provinsi Riau, 2023).

The data above shows that Rokan Hulu Regency is the regency with the lowest complication handling with a percentage (12.3%). Based on data from the Rokan Hulu Regency Health Office in 2024, it was known that 537 cases of high-risk maternal referrals and 101 high-risk neonatal referrals were from community health centers (including independent practicing midwives in the community health center's work area). From this data, 273 cases (50.83%) of high-risk maternal referrals and 48 cases (47.52%) of high-risk neonatal referrals came from PONED community health centers. From several respondents, information was obtained about indications of inappropriate referrals, such as cases of premature rupture of membranes and hypertension in pregnancy that should still be stabilized at the PONED community health center but were referred to the hospital (Dinas Kesehatan Kabupaten Rokan Hulu, 2024). This study was designed to identify factors that influence the behavior of village midwives in referring cases of obstetric neonatal emergencies to the PONED Community Health Center. With this research, researchers hope to be able to assist the government in making policies related to the determination of the PONED Decree which will be updated based on geographical location

METHOD

This study employed a qualitative case study approach to examine in depth the limited referral of obstetric and neonatal emergency cases by village midwives to Basic Emergency Obstetric and Neonatal Services (PONED) Community Health Centers. Informants were selected using purposive and snowball sampling techniques until data saturation was achieved. A total of eight informants participated in the study, consisting of one key informant (a PONED team member), five primary informants (village midwives), and two additional informants (the Head of the PONED Community Health Center and the Head of the Public Health Division at the District Health Office). Data were collected through in-depth interviews, observations, and document review, and were analyzed using thematic analysis to identify, categorize, and interpret themes related to the referral behavior of village midwives in managing obstetric and neonatal emergency cases.

RESULT

This study discusses the factors that influence the behavior of village midwives in referring cases of obstetric neonatal emergencies to the PONED community health center with components of education, age and geography.

Table 1.
Characteristics of research informants

Informant Code	Gender	Age	Domicile	Position
N1	Woman	52 years old	Downstream	Head of Public Health
N2	Woman	32 years old	Rambah Samo	PONED Team
N3	Woman	47 years old	Tambusai	Head of the Community Health Center
N4	Woman	42 years old	Rambah Samo	Village Midwife
N5	Woman	41 years old	Tambusai	Village Midwife
N6	Woman	42 years old	Kunto Darussalam	Village Midwife
N7	Woman	42 years old	North Tambusai	Village Midwife
N8	Woman	43 years old	Stone Edge	Village Midwife

Based on the interview results, the theme of education has 3 codes, namely (1) Knowledge, (2) Development and (3) Competence.

Knowledge

The knowledge of village midwives and the PONED team regarding the referral procedure for emergency cases to the PONED community health center significantly impacts the smoothness of the referral process. Some village midwives still refer obstetric neonatal emergency cases to the PONED community health center on the grounds that the patient has BPJS (Social Security) insurance, and due to a lack of adequate understanding of referral indications that can be handled at the PONED. Some village midwives also refer obstetric cases with high (TBBJ) to the hospital without first confirming with the PONED team.

"That's what I usually refer her to, like if she has a history of bleeding from a previous child. That's why I'll definitely refer her. Uh, then uh, it could also be that she's pregnant with two, then uh, what if her babies are too close together and she's already old. That's why I always refer her to the hospital." N8

Village Midwife Development

Effective guidance and counseling delivered by the Head of the Community Health Center to village midwives during the monthly Mini Workshop on Community Health Center PONED services has the potential to improve the accuracy of obstetric neonatal referrals carried out by village midwives.

Village midwives and nurses at the sub-health centers regularly participate in the Basic Essential Obstetric Neonatal Services (PONED) program at the health centers, which also serves as a means of developing their knowledge and skills.

"If you're a colleague who works at the PONED Treatment Community Health Center, I don't think any of you have participated in PONED training, ma'am. Yes. Well, because PONED training is usually held by the department, it's rare for it to be held every year. Maybe it's been a long time, maybe 10 years ago, there was PONED training, ma'am. Even then, the coordinating midwife was sent, ma'am." N5

PONED Team Development

Guidance for the PONED team is one of the elements that influences the village midwife's decision to refer patients to the PONED community health center. The need for guidance, assistance, and technical medical training from the PONEK Hospital is necessary to improve the quality of service. The PONED team stated that they face obstacles in handling obstetric neonatal emergencies due to limited knowledge and skills. Furthermore, although there are several tools for handling emergency cases, the PONED team often refers patients to the hospital due to their inability to operate these tools. This limitation was also confirmed by the Health Office, the Head of the Community Health Center, and several Village Midwives.

"There's no specific training for PONED yet, there isn't one yet. Well, that's it, uh, our suggestion is that this Community Health Center (Puskesmas) can provide training like that or invite us to train for the PONED program itself. So that the PONED program runs smoothly." N2

"God willing, it's still complete. It just needs to be more competent for the medical staff themselves. Heeh, it needs to be improved even more." N2

"The ones we received were probably low birth weight babies, right? We've had low birth weight babies before. That's all. So, we have an incubator here. We have an incubator. We also have Xpep, right, ma'am? We have Xpep, but that's all." N2

Competence of Village Midwives

The ability of village midwives to play a role in handling obstetric neonatal emergencies and referral decisions.

"Sis, because you're in the village, access to get out isn't as easy as it is in the city. So, we really have to establish a diagnosis. If we feel like we can't handle it, then just go straight to the community health center or hospital. Especially if the baby is diagnosed with an abnormality or something, it's better to refer them straight to the hospital. Because if we're from this village, we know the access is far, right? It's only a few minutes to get there, almost half an hour to Pasir. Ah, imagine if we refer a baby, it takes half an hour from here to there, right? Ah, so that's how it is. It's rare." N7

PONED Team Competencies

The readiness of services at PONED health centers influences the accuracy and referral patterns of village midwives. The experience of continued referrals to hospitals leads to fewer referrals to PONED health centers.

"Is it a case of bleeding, ma'am? Bleeding or what's it called, ma'am? Mmm, that's when the placenta sticks, ma'am. Oh, what? Placental retention, ma'am. Usually, if there's no doctor available, there's one at the community health center I asked, ma'am, who can perform a manual placenta delivery. So, if you're not on duty, it's recommended to go straight to the hospital." N5

Based on the interview results regarding the theme of age, there are 2 codes, namely (1) the age of the village midwife and (2) the age of the PONED team.

Age of village midwife

Age and work experience also influence referral patterns for obstetric and neonatal emergencies. Several village midwives reported that differences in age and experience with the PONED team influenced perceptions of their role in case management, leading to more referrals to hospitals.

"I was born in 1983, so how old am I now? I think I'm 42 now, and I've been practicing since 2008." N5

PONED Team Age

Age and work experience factors play a role in shaping perceptions of service readiness at the PONED Community Health Center, thus influencing referral patterns.

"Now, if I'm not mistaken, I'm 32 years old, ma'am, and I've been a PONED officer for 3 years." ***N2***

Based on the research results, it shows that the distance from the PONED Health Center to the referral hospital varies between 1.4 - 87 km.

Table 2.
Distance from PONED Health Center to Referral Hospital

Name of Health Center	Distance	Category	Traveling time
North Tambusai 1	68 km	Far	1 hour 55 minutes
Tambusai	32 km	Far	49 minutes
Fullness	45 km	Far	1 hour 11 minutes
Bonai Darussalam	87 km	Far	2 hours 21 minutes
Rambah	4 km	Near	9 minutes
Rambah samo 2	21 km	Far	37 minutes
Stone tip	250m	Near	1 minute
Kunto Darussalam 1	22 km	Far	37 minutes

Distance from PMB to PONED

Based on research analysis on the referral pattern of obstetric neonatal emergency cases from village midwives to PONED health centers in Rokan Hulu Regency, the distance and direction of the PONED health center are among the factors that influence the referral pattern. Some village midwives stated that referring patients to PONED can lengthen the referral path before reaching the hospital, so referrals are often made directly to the hospital.

"It's definitely referring to the Tambusai Community Health Center because the main health center is in Tambusai Community Health Center. But for the village, sometimes they have to go back to the beginning, I mean, they don't, they want to go, for example, to the Regional General Hospital in Pasir Pengerayan. So, we won't make them go back to the base, right? They have to go back to the base again if they're going to the hospital, right?" N6

Distance from PMB to RS

The distance between the Independent Midwifery Practice (PMB) and the hospital is one factor influencing referral patterns for obstetric and neonatal emergencies. Several village midwives reported that proximity to the hospital encourages direct referrals, including at the discretion of the patient's family.

"It's closer to the Community Health Center than there. But sometimes, this person will sometimes complain like this, the Community Health Center, what, the patient's side, if I refer them to the Community Health Center, we automatically have to go back and forth. If something happens, we'll be referred again. Yes, there are a lot of complaints. Because I have to go there first. The hospital is there. Yes, automatically the person has to go back and forth. Ah, that. The patient said that. The patient answered like that. That's why I always take the initiative. How can this bleeding be handled quickly and how can the retained placenta be removed quickly, that's why I immediately rush them to a general hospital. Or the nearest hospital. That's usually Surya Insani Hospital." N8

DISCUSSION

Education

The main part of education is the process of teaching and learning. The result of this process is a series of behavioral changes. Therefore, education has a significant influence on a person's behavior. Someone with a higher education will behave differently from someone with a lower education (Notoatmojo, 2018).

Based on research (Ersianti, Fernandez, Aulia, Ladjar, & Adnani, 2025), Identify three key areas for improving and evaluating the performance of PONED teams. These areas include optimizing team effectiveness through factors such as healthcare workforce, infrastructure, collaboration, and targeted training. Furthermore, effective PONED management is crucial, encompassing policy development, communication strategies, operational improvements, and strong leadership. Finally, evaluating PONED implementation requires consideration of factors such as self-efficacy, healthcare worker capacity, and community trust, confidence, and recognition. Key factors contributing to PONED success include efficient collaboration, efficient administration, and focused evaluation.

Competence combines knowledge, technical skills, non-technical skills such as communication and rapid decision-making, and clinical experience. All of these factors determine whether a healthcare provider stabilizes a patient's condition or refers them directly. A validated study of a competency or confidence assessment tool for midwives showed that competency levels correlated with how well they followed referral protocols and handled emergency cases. Therefore, any program to improve competency should include both technical training and non-technical skills development (Sharma et al., 2024). According to the village midwives, support is needed in the form of training and information regarding procedures for handling obstetric and neonatal emergencies in Independent Midwife Practices, to make it easier to identify cases that can be referred to PONE health centers. According to the PONED team, there are several tools that they do not yet understand how to use in handling emergency cases.

The village midwives and PONED staff hope to improve their knowledge and skills in managing obstetric and neonatal emergencies, enabling them to refer more cases to PONED health centers.

This will help ensure that PONED facilities operate effectively. Several village midwives shared their experiences referring cases of hypertension during pregnancy to PONED health centers, but in practice, these cases are usually referred directly to the hospital. Therefore, referrals to PONED health centers are becoming increasingly rare. According to researchers, village midwives' understanding of the types of referrals to PONED health centers and hospitals varies, which affects the number of referrals to PONED health centers.

Age

According to research (Khadijah, 2023), a midwife's ability to recognize obstetric and neonatal complications is influenced by a combination of age, work experience, and exposure to specific cases. A study examining qualitative and quantitative data on village midwives' performance found that work experience, which is often closely related to age, improves clinical skills, the accuracy of early diagnosis, and confidence in referring cases beyond village-level capacity. However, several studies have also shown that experience alone is not enough. Midwives of all ages need ongoing training to stay up-to-date on BEONC protocols and referral management. Based on the interview results, several village midwives stated that in certain situations, referrals were more often directed directly to the hospital, taking into account the experience of the available staff in handling the case.

Geographical

The PONED Community Health Center is strategically located and easily accessible from nearby non-PONED health facilities. The maximum travel time from the target community, primary health services, and non-PONED Community Health Centers to the PONED Community Health Center is up to 1 hour using public transportation. This is important because the maximum time required to treat bleeding is 2 hours. Furthermore, the travel time from the PONED Community Health Center to the hospital is at least 2 hours (KEPMENKES, 2013). Research shows (Brahmana, 2024),that the longer the distance (or the longer the travel time), the lower the chances of timely referral; midwives tend to delay or choose to handle cases longer at the village level. Long distances and long travel times (including more than 30–60 minutes or more than 2 hours to reach a higher-level facility) consistently reduce the chances of timely referral. Midwives often delay referrals or try to handle cases locally if the journey is deemed too far or too risky.

According to researchers, in interviews with village midwives, referrals were more frequently made to hospitals not only because of distance, but also because of perceptions about the readiness of services at the PONED Community Health Center. Researchers encountered several limitations during the study, particularly during in-depth interviews. Sometimes, informants repeatedly provided the same answers, requiring researchers to change topics or initiate more informal conversations to make the interviews more open and less focused. Further research is needed to examine the training and evaluation provided to midwives and PONED teams, and to assess whether the locations of PONED health centers comply with official regulations regarding PONED establishment

CONCLUSION

Based on the results of a study analyzing cases of obstetric neonatal emergency referrals from village midwives to PONED health centers in Rokan Hulu Regency, using a qualitative case study method with semi-structured interviews and thematic analysis, the conclusions are as follows. From the analysis, the factors that influence the behavior of village midwives in referring obstetric neonatal emergency cases to PONED health centers are education, age and geographic location. In this case, there are still some village midwives who do not fully understand the types of referrals that can be made to PONED health centers. In addition, referrals to PONED health centers are not carried out optimally due to limited capabilities and lack of continuous supervision, as well as distance considerations, where village midwives often prefer to refer to the nearest hospital.

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