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Abstract

Background: Indonesia's healthcare system is designed with tiered referrals, involving primary, secondary, and tertiary services that work synergistically to provide optimal care. The pre-referral stage is an important element in this system, where patients receive initial treatment at primary health facilities before being referred to higher levels. This stage aims to ensure proper initial care as well as quick and effective referrals according to the patient's condition. However, the implementation of pre-referral programs often faces obstacles such as limited primary health facilities, lack of coordination between facilities, and difficulty accessing supporting information technology. Objective: to analyze the development of a pre-referral program to improve the effectiveness of patient referrals. Research method: Participatory Action Research (PAR) approach, involving Community Health Center and hospitals under the coordination of the Subang Health Office for six months (November 2023-April 2024). The sample consisted of three Community Health Center and five hospitals selected based on their capacity to handle obstetric cases. Data were collected through a Likert scale questionnaire to measure the feasibility of pre-referral media. Results: The results showed that the pre-referral back sheet had high validity (99.6%) and could be used. Interviews revealed problems such as delays in the referral process due to incomplete medical information and inconsistent documentation standards. Conclusion: The importance of periodic evaluation of this program to ensure its sustainability and effectiveness is emphasized. Health worker feedback as well as evaluation of patient care outcomes should be used for continuous improvement in the obstetric referral system.

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1. Introduction

Indonesia's healthcare system is designed in the form of tiered referrals, where primary, secondary, and tertiary health services work synergistically to provide appropriate services to the community.¹ One important element of this system is the pre-referral stage, which is the process of treating patients in primary health facilities before being referred to higher facilities.² This stage plays an important role in ensuring that patients get appropriate initial care and further treatment that is fast and effective in facilities that are suitable for the patient's condition.³

However, in practice, pre-referral programs in various regions often experience various obstacles, such as limited primary health facilities, lack of coordination between health facilities, and difficulties in accessing information technology that supports the referral process. This can lead to delays in treatment, errors in the referral process, and even an increased risk of complications in patients. Therefore, the development and optimization of pre-referral programs is very important to improve the effectiveness of the referral system as a whole.⁴

One of the weaknesses of health services is the implementation of referrals that are less precise and fast.⁵ Maternal and infant mortality is caused because services at health facilities are not maximized or there is a delay in referral services for mothers and babies which results in very late patients arriving at referral service facilities.⁶ With the referral system, it is hoped that it can improve health services of higher quality.

Smooth referral can be a decisive factor in reducing maternal and perinatal mortality rates, especially in overcoming delays that cause an increase in maternal and infant mortality rates. In Indonesia, it is well known that the term "3 delays" is the cause of maternal and infant mortality, namely late decision making at the family level, late reaching health care facilities and late receiving help at the health facility level. Late decision-making usually occurs because mothers prefer to give birth at home due to cost or transportation constraints, and problems with access to health facilities that are not affordable (geographical).

The second delay, reaching the health facility late, usually occurs due to transportation problems, the absence of a formal referral network between the village midwife and the hospital, and the absence of referral protocols.⁷ Delay in getting adequate help at health facilities occurs due to the low quality of obstetric and neonatal care in various facilities, the perception of poor services for social insurance patients such as BPJS, and the provision of uncommon back referrals. If we examine these three issues further, we will find problems in the referral system. Therefore, improvements are needed in the existing referral system to achieve an effective and efficient referral system.⁶

In 2014, the Decree of the Indonesian Minister of Health Number HK.02.02/MENKES/390/2014 on the Guidelines for Determining National Referral Hospitals was issued. This Regulation of the Minister of Health discusses the existence of national referral hospitals, provincial referral hospitals, and regional referral hospitals. The strategy for implementing referral hospitals in 2017 was to map national, provincial and regional referral hospitals by strengthening the telematics system. In 2019, it was seen that the development of the referral system still needed strengthening. Various obstacles occurred including unclear relations with the Health Social Security Organizing Agency in terms of regulating the referral system, differences in opinion on tiered referral or competency-based referral, as well as less attention to the development of referral systems in the regions.

Regarding the current Referral System, in 2020 the Indonesian Ministry of Health issued Regulation of the Minister of Health Number /2020 which regulates Hospital Classification and Licensing. The existence of Regulation of the Minister of Health 3/2020 certainly affects the referral system. Conceptually, Regulation of the Minister of Health Number. 3/2020 strengthens the mapping of referral tiers based on treatment competencies. The competency-based tiered referral system is determined based on the medical needs of a disease and the competence of health service facilities (Hospitals), not hospital class levels. This system requires the ability of the Provincial

Health Office to develop competency maps and referral systems to be built. Each province will have a different map.⁸

The referral system is organized with the aim of providing quality health services, so that service objectives are achieved without having to use expensive costs. Referral is a system where coordination is the main element that is multi-sectoral and there must be support from various professions that are multi-disciplinary and multi-professional to implement and organize an integrated form of service for emergency patients both in everyday circumstances and in disasters and extraordinary events. Effective referral requires communication between facilities, the aim is that the referred facility knows the patient's condition and can prepare early the services needed by the patient as soon as the patient arrives at the hospital.⁹

The purpose of referral is to produce equitable distribution of health efforts in order to solve health problems in an efficient and effective manner. The purpose of the referral system is to improve the quality, scope and efficiency of integrated health services. Strengthening the referral system is one way to accelerate the reduction in maternal mortality rates (MMR) and the problems and challenges of Community Health Center in supporting the maternal referral system to the Regional General Hospital can be overcome. Referrals must obtain the consent of the patient and / or his family, and authorized health personnel must provide an explanation to the patient regarding the diagnosis and therapy or medical action required by the patient, the reasons and objectives of the referral, the risks that can arise if the referral is not made, referral transportation, and risks or complications that can arise during the trip Article 12 Ministry of Health of the Republic of Indonesia 2012.¹⁰

The pre-referral flip sheet has previously been implemented by researchers at Community Health Center in the Subang Health Office area, so this pre-referral flip sheet is expected to be used as a pre-referral program because this tool is able to provide consistent guidance and documentation standards for the obstetric referral process. With the flip sheet, important medical information such as the mother's condition, actions taken, and reason for referral can be conveyed more fully and clearly. This helps to ensure that health workers at the receiving facility can take appropriate action immediately, reduce the risk of delays, and improve the effectiveness and efficiency of the referral process.¹¹

The implementation of the obstetric pre-referral back sheet as part of the pre-referral program is expected to improve the smoothness of the referral process by providing clear guidelines for health workers, facilitating the delivery of complete and structured medical information from Community Health Center to hospitals, as well as reducing delays and improving the quality of obstetric care. The Health Office has a crucial role in developing and overseeing the implementation of this program, which has the potential to reduce the burden on secondary and tertiary health facilities and improve the quality of health services in primary facilities. The development of a pre-referral program in the Subang Health Office Working Area, which faces challenges such as lack of communication between facilities, limited access to technology, and low human resource capacity in primary care, is a strategic step to improve the efficiency and effectiveness of the referral system, especially in reducing morbidity and mortality due to delays in referral.

2. Methods

2.1 Research design

The type of research used in the development of the midwifery pre-referral program is participatory action research (PAR). This research method is collaborative and participatory, involving direct actors in the research process, including health workers (midwives), heads of Community Health Center, heads of hospital rooms, local government, and program assistants.

2.2 Setting and samples/participants

The population in this study were all primary health facilities (Community Health Center) and advanced health facilities (hospitals) involved in the obstetric referral system in the

Subang Health Office area. The sample in this study was 3 health centers: Selected by purposive sampling based on capacity and frequency of obstetric cases (UPTD Community Health Center Subang, UPTD Community Health Center DTP Pamanukan, Poned Community Health Center Sukanagara). 5 hospitals: Selected based on ability and specialization in handling referral obstetric cases (Regional General Hospital of Subang City, RS PTPN VIII Subang, RS Hosana Indosehat, RS Hamori, RSU Haji Syiful Anwar) and midwifery personnel: Midwives, obstetricians or specialists involved in the obstetric referral process.

2.3 Measurement and data collection

This study used a Participatory Action Research (PAR) approach with several interrelated stages. Starting with problem identification through interviews and FGDs with midwives at Community Health Center and hospitals, followed by thematic analysis to find the main problems and needs in the obstetric referral process. The results of this analysis were then used to design the program, namely the development of pre-referral feedback sheets and operational guidelines conducted with health workers through workshops and brainstorming. The next stage was program implementation, where the feedback sheet was implemented in Community Health Center and hospitals, along with training for health workers. The effectiveness of the program was evaluated by collecting feedback from health workers and patients, as well as assessing referral processing time, documentation quality, and satisfaction. Finally, a joint reflection was conducted to discuss the evaluation results and improve the program. Data collection techniques included semi-structured interviews, FGDs, direct observation, a survey using a Likert-scale questionnaire to measure media feasibility, and an observation sheet on the emotional health level of laboring mothers. The media feasibility questionnaire uses validity criteria, namely 81%-100% very valid, 61%-80% valid, 41%-60% moderately valid, 21%-40% less valid, and 0%-20% invalid.

2.4 Data analysis

In this study, researchers used qualitative and quantitative analysis. Qualitative analysis is where data from interviews and FGDs were analyzed using a thematic analysis approach to identify key themes and patterns related to problems and solutions in obstetric referrals while quantitative analysis is where data captured from surveys were analyzed using descriptive statistics to evaluate changes in referral process time, documentation quality, and health worker and patient satisfaction.

2.5 Trustworthiness/rigor

Strategies to ensure the trustworthiness and rigor of qualitative data in this study focused on four main criteria: credibility, transferability, dependability, and confirmability. Credibility was ensured through data triangulation involving various sources such as in-depth interviews with midwives, direct observation at Community Health Center and hospitals, and documentation analysis related to the midwifery pre-referral program. In addition, member checking was conducted by involving participants to validate data interpretation and ensure accurate representation of their experiences. Transferability was sought by providing detailed descriptions of the research context, participant characteristics, and program implementation, allowing readers to assess the extent to which the findings of this study can be applied in other similar contexts. Dependability was ensured through a systematic audit trail, transparently recording every step of the research, from data collection, analysis, to interpretation of findings. This process involved collaborative discussions with the research team and experts to reduce bias and ensure consistency in data interpretation. Finally, confirmability is ensured by maintaining objectivity throughout the research process, avoiding excessive subjective influence, and focusing on the data at hand. This was done through regular self-reflection by the researcher to recognize and minimize potential biases and by presenting strong supporting evidence from the data collected for any conclusions drawn. With the application of these strategies, this research seeks to produce credible, relevant and reliable findings for the development of a more effective midwifery

pre-referral program.

2.6 Ethical considerations

Ethical considerations in this study became the main foundation in every stage of implementation. To ensure the rights and welfare of participants, informed consent procedures were carefully conducted. All potential participants were given a full explanation of the purpose of the study, expected benefits, potential risks or discomforts that may arise, data collection procedures, and their right to refuse to participate or withdraw at any time without consequences. Participants were given the opportunity to ask questions and discuss before signing the consent form. The data collected was kept confidential and used only for research purposes, with the identity of the respondents disguised in the final report. This study has obtained ethical approval from the Health Research Ethics Committee of the Subang Health Office.

3. Results

Table1 Distribution of respondent characteristics

Variables	n (30)	%
The age of the midwife		
<25 years	7	24
26-35 years old	15	50
36-45 years old	8	27
Education history of Community Health Center midwives		
D3	21	70
S1	5	17
Profession	4	14
S2	0	
Variables n (70) %		
Age of hospital midwives		
<25 years	5	7,5
26-35 years old	58	82,3
36-45 years old	7	10
Educational history of hospital midwives		
D3	45	64,3
S1	15	21,4
Profession	10	14,3
S2	0	0

From the results of the analysis of the distribution of respondent characteristics, it was found that the largest sample was at the age of 23-35 years, both in the health center respondents as many as 15 respondents (50%) and in hospital respondents as many as 52 respondents (82.3%). The majority of Community Health Center respondents' education was in the D3 education history as many as 21 respondents (70%) as well as hospital respondents most of the history with D3 education education as many as 45 respondents (64.3%) (**Table 1**).

Table2 Recapitulation of the results of the questionnaire feasibility test by midwives on the pre-referral back sheet media

No.	Assessment Indicator	Assessment		Score
		Yes	No	
1	I find the pre-reference flip sheet media interesting	100	0	100
2	I think the selection of color combinations is appropriate	98	2	98
3	I found the use of the pre-referral flip sheet easy to .	99	1	99
4	<u>Pre-referral flip sheet media helps in preparing for pre-referral</u>	100	0	100
5	With the pre-referral flip sheet, I understand more about pre-referral preparation. Materia	100	0	100
6	I found the presentation of the material on the pre-reference flip sheet interesting	100	0	100
7	Through the pre-referral flip sheet I understand the pre-referral material more easily	100	0	100
8	I think the writing on the pre-reference flipchart is clear and easy to	100	0	100
Total				797
Average percentage				99,6%
Categor				Very valid

Source: s personal data

Based on the results of the respondents' assessment on the feasibility test questionnaire for the pre-referral flip sheet, a score of 99.6% was obtained which was categorized as very valid and could be used (**Table 2**).

The following are the results of interviews with representatives of Community Health Center midwives and hospital midwives, Community Health Center heads and heads of departments to explore issues related to the referral system program at each health facility.

a. Party

Interviewer: "How is the obstetric pre-referral process at this health center? What are the obstacles that you often encounter?"

Midwife L (UPTD Community Health Center Subang): *"The pre-referral system is very important, especially to ensure that patients who will be referred to higher facilities receive appropriate initial treatment". Likewise, midwife B said regarding obstacles in the referral system, "the obstacle often occurs in unclear communication between the Community Health Center and the referral destination hospital. The medical information we send is sometimes not well taken care of, so patients have to undergo reassessment when they arrive at the hospital."*

Interviewer: "Are there any specific standards or protocols in place for pre-referrals?"

Midwife A (UPTD Community Health Center Pamanukan): *"Actually, there are standard protocols that we have to follow, such as filling out a referral format that includes the patient's condition, actions taken, and examination results. However, the problem arises when this format is not uniform between one Community Health Center and another, and also with the referral hospital. This makes us have to adjust the documentation every time we make a referral."*

Interviewer: "What is the condition of the tools and facilities to support the pre-referral system here?"

Midwife K Midwife A (UPTD Community Health Center Sukanagara): *"The facilities at our Community Health Center are actually quite adequate, but sometimes we face limitations in diagnostic tools that can slow down the process of identifying the patient's condition before referral. For example, the ultrasound equipment here is limited, so we have to rely on manual evaluation which takes longer."*

Interviewer: "What do you propose to improve the pre-referral system in this health center?"

Midwife L (UPTD Community Health Center Subang): *"I think it is important to have continuous training for all health workers on pre-referral procedures, so that there is no misinformation. In addition, the use of technology such as online referral systems or health apps can help speed up the referral process and ensure that patient data is submitted in a complete and timely manner."*

Interviewer: "Are there any specific experiences that you can tell us about successful or less successful pre-referral processes?"

Midwife B (UPTD Community Health Center Sukanagara): *"There are some cases where pre-referral goes very smoothly because we already have a good relationship with the referral hospital. However, there are also cases where pre-referrals are hampered due to communication delays or lack of information provided by us, so patients have to wait longer at the destination hospital for treatment."*

Interviewer: "What do you think about the obstetric pre-referral system carried out by the health center before the patient is referred to the hospital?"

Midwife A (UPTD Community Health Center Pamanukan): *"The pre-referral system is very helpful in preparing us at the hospital to handle incoming patients. We can prepare the resources needed based on the information provided from the first-level facilities such as Community Health Center. However, we often receive incomplete or late information, which results in us having to start the assessment process from the beginning."*

Interviewer: "Is there any particular aspect of information that is often incomplete during pre-referral?"

Midwife K Midwife A (UPTD Community Health Center Sukanagara): *"Yes, usually incomplete information related to the patient's vital condition, laboratory test results, or actions that have been taken at the Community Health Center. Sometimes, important information such as initial treatment notes or the progress of the patient's condition is not included. This makes it take longer for us to reassess when the patient arrives."*

Interviewer: "How is the communication between hospitals and health centers regarding this pre-referral system?"

Midwife M (UPTD Community Health Center Pamanukan): *"Communication between Community Health Center and hospitals already exists, especially via telephone or chat applications, but often the information is not standardized. Some health centers use different formats, and that can cause miscommunication. Also, sometimes there is no time for direct discussion about the condition of the patient being referred, especially if the situation is urgent."*

Interviewer: "What do you think can be done to improve the pre-referral system?"

Midwife K (UPTD Community Health Center Sukanagara): *"First, there needs to be better communication standards, such as the use of an integrated electronic referral system between the Community Health Center and the hospital. That way, all patient data can be directly accessed by us here without the need for manual adjustments. In addition, training for midwives and health workers on the importance of filling out pre-referral documentation completely and appropriately is also needed."*

Interviewer: "Are there any pre-referral cases that you remember, where the process went smoothly or otherwise?"

Midwife L (UPTD Community Health Center Subang): *"There are some cases where pre-referral goes very well, especially when the information provided is very complete, so we can immediately provide treatment without much re-evaluation. On the other hand, there are also cases where we do not have complete information about the patient's medical history, so the treatment process is delayed, and that affects the final outcome of*

care."

Interviewer: "Can the use of technology or digital systems help fix the problem?"

Midwife M (UPTD Community Health Center Pamanukan): *"I strongly believe that the use of technology such as online referral applications will be very helpful. If patient data can be directly sent through an integrated system, this will minimize errors and delays in information. In addition, with a digital system, we can ensure that documentation is done to the same standard in every health facility."*

Flip Sheet Design

Interviewer: "What do you think about the use of flip sheets as part of the pre-referral program at this health center?"

Midwife D (UPTD Community Health Center Pamanukan): *"The pre-referral feedback sheet is very helpful in providing structured and systematic information when referring patients. With the clear guidelines in this back sheet, we can ensure that all important patient data is properly recorded, such as patient identity, vital conditions, actions taken, and reasons for referral."*

Interviewer: "What are the advantages that you feel from using this back sheet compared to the previous system?"

Midwife N (UPTD Community Health Center Sukanagara): *"Before using the flip sheet, we often felt that the information we sent was incomplete or unsystematic. Now, with the backsheet designed specifically for pre-referrals, we can follow a standardized format, making it easier for us to fill in detailed information. It also makes us more confident when communicating with the referring hospital as all the information is clearly recorded."*

Interviewer: "Are there any obstacles in using this backsheet?"

Midwife F (UPTD Community Health Center Subang): *"The obstacle is probably just a matter of time, especially during emergency situations, sometimes we feel rushed to fill in the flip sheet. But after getting used to it, we feel it is faster and more efficient. In addition, there are some health workers who are not fully familiar with the flip sheet, so there needs to be further socialization and training."*

Interviewer: "Do you see any potential for improvement in the design of this flip sheet?"

Midwife D (UPTD Community Health Center Pamanukan): *"Perhaps the flip sheet can be further simplified, especially the parts that must be filled in in emergency conditions. Parts that are not too urgent can be moved to the back or can be filled in after the referral is made. In addition, the use of digital technology can also be a solution to speed up the filling process."*

Interview with Midwife E at the Hospital:

Interviewer: "What is your experience in receiving referred patients using the pre-referral back sheet from the health center?"

Midwife J (Hosana Indosehat Hospital): *"The flip sheet is very helpful for us at the hospital to immediately understand the condition of the referred patient. The structured information in the flip sheet allows us to immediately know what has been done at the health center and what action we should take next. It also reduces the time we need to re-question the patient's condition."*

Interviewer: "Were there any challenges that you encountered when you received this back sheet from the health center?"

Midwife E (PTPN VIII Subang Hospital): *"Sometimes, the information contained in the flip sheet is not completely complete, especially in emergency situations. However, in general, the flip sheet has been quite helpful. What needs to be improved is perhaps real-time communication between the health center and the hospital, so that we can make adjustments while the patient is on the way."*

Interviewer: "How do you think the design of the flipbook could be improved to make

it more effective?"

Midwife E (Subang City Hospital): *"The design is good enough, but perhaps a more flexible format can be added for different types of cases, for example for emergency and non-emergency cases. In addition, digital development would also be very useful. If the flip sheet can be filled in electronically and sent directly to the hospital before the patient arrives, the referral process will be faster and more efficient."*

Interviewer: "Is there any potential to standardize these flip sheets in the referral system?"

Midwife I (Syiful Anwar Hajj Hospital): *"I think this is a good step to standardize referrals. As long as the flip sheet can be adapted to the needs in the field and there is sufficient training for health workers, I believe this system can be widely implemented. In addition, integration with the electronic referral system will increase its effectiveness."*

b. Head of

Interviewer: "What do you think about the obstetric pre-referral program initiated through the use of the pre-referral back sheet at this health center?"

Head of Pamanukan Health Center: *"This program is a very positive step in improving coordination between the Community Health Center and the hospital. The pre-referral flip sheet provides a clear structure to the obstetric referral process, which was previously hampered by lack of information or incomplete documents. With the flip sheet, the information conveyed when referring patients is more systematic, so that the hospital can immediately take the necessary action."*

Interviewer: "What are the main benefits of using this pre-referral feedback sheet for the health center?"

Head of Subang Health Center: *"One of the biggest benefits is the reduction in time taken for referrals, especially since the information is already complete when the patient is referred. Our health workers also feel more confident because they have clear guidelines on what to record. This reduces errors in data entry and speeds up the treatment process at the hospital. On the other hand, the program also helps improve the quality of communication between the Community Health Center and the hospital, as we can convey information in a more detailed and organized manner."*

Interviewer: "What is the training process given to health workers at the health center regarding the use of this flip chart?"

Head of Sukanagara Health Center: *"We provide intensive training to all health workers, especially midwives, on how to fill out the flip sheet appropriately. In the training, they also learned to understand the new referral procedure that corresponds to the format of the flip sheet. Initially, there were some problems because the format was new to us, but after the training, they got used to it and were able to use the flip sheet quickly and efficiently. This training is very important to ensure the program runs smoothly."*

Interviewer: "Are there any challenges faced in the implementation of this pre-referral program?"

Head of Subang Health Center: *"The main challenge is the time it takes to fill out the flip sheet, especially in emergency situations. Under these conditions, midwives sometimes find it difficult to complete all the information. However, we continue to encourage them to fill in the flip sheet as best they can, even in urgent situations. Also, some health workers initially found the format quite complicated, but after training and socialization, they began to understand its benefits."*

Interviewer: "How do you see the future of this obstetric pre-referral program?"

Head of Sukanagara Health Center: *"I believe this program has a bright future, especially if it continues to be refined. One of the things that can be further developed is the integration of the backsheet into the digital system. If these backsheets can be filled and sent online, the process will be faster and more effective, as the hospital can immediately*

receive the information even before the patient arrives. We also hope to get more feedback from hospitals on the quality of the information we send, so that we can continue to improve the quality of referrals."

Interviewer: "Is there any tangible impact that you feel after the program was implemented?"

Head of Pamanukan Health Center: *"The impact is very significant, especially in terms of speed and accuracy of information. Before the flip sheet, the referral process often took longer due to incomplete information. Now, hospitals are better equipped to receive referral patients from us, and we can also ensure that patients get faster and more appropriate treatment. This is especially beneficial in obstetric cases that require quick treatment, such as preeclampsia or complicated labor."*

Interviewer: "In your opinion, what is the role of the feedback sheet in improving the quality of midwifery care?"

Head of Subang Health Center: *"The pre-referral back sheet provides a strong foundation for obstetric care, especially in referral situations. The program helps us reduce the risk of delayed treatment due to errors or lack of information. With a more structured system, we can focus on patient care without worrying about missed documentation. Ultimately, the quality of obstetric care in this health center has improved, and patients have benefited as well."*

c. Interview with the Head of Comprehensive Emergency Obstetric and Newborn Care (PONEK) Hospital:

Interviewer: "What do you think about the obstetric pre-referral program using the pre-referral back sheet in this hospital?"

Head of PONEK at Subang City Hospital: *"This program is very useful, especially in speeding up the process of receiving referred patients. Previously, we often received referrals with incomplete information, requiring more time to collect data. However, with the pre-referral back sheet, the information we receive from the Community Health Center is clearer and more structured, which is very helpful in the initial management of obstetric patients in our unit."*

Interviewer: "What are the main benefits that you have experienced since the implementation of the pre-referral feedback sheet?"

Head of the PONEK room at PTPN VIII Subang Hospital: *"The most noticeable benefit is the speed in the triage and decision-making process. Because the information submitted through the flip sheet includes the medical history, condition at referral, and actions taken at the health center, we can immediately take the right steps without having to conduct a time-consuming initial examination. This is especially important in emergency obstetric cases, such as eclampsia or postpartum hemorrhage, where every minute counts."*

Interviewer: "How are the health workers in the PONEK unit receptive to the program?"

Head of PONEK at Hosana Indosehat Hospital: "Health workers, both doctors and midwives in PONEK, welcome this program. They feel that the workflow has become more efficient, because the information received from the Community Health Center is complete and can be directly used as a basis for treatment. We no longer have to ask many questions to patients or families, who are sometimes unable to provide the right answers, especially in emergency situations. With this back sheet, we feel more prepared to handle patients when they arrive."

Interviewer: "How do you see training on the use of these flip sheets in the hospital?"

Head of PONEK at Hamori Hospital: *"We also received training on how to read and utilize the flip sheet properly. In addition, there is more intensive coordination with the Community Health Center regarding data entry, so that we can complement each other if there is missing information. This training is very helpful for health workers at the hospital to understand how to use the flip sheet in the referral process."*

Interviewer: "Are there any challenges faced in implementing this pre-referral program in the hospital?"

Head of the PONEK room at Syiful Anwar Hajj Hospital: *"The main challenge is when there is an emergency and the information in the flip sheet has not been filled in completely. Sometimes the referring health center feels rushed and some parts are missed. In addition, there are also cases where patients come without a flip sheet, so we have to rely on the old way again. But in general, the program has been running well and is very helpful."*

Interviewer: "How does this program impact the cooperation between hospitals and Community Health Center?"

Head of PONEK at Subang City Hospital: *"The impact is very positive. The cooperation between the Community Health Center and the hospital is better because there is a structured communication through this feedback sheet. We can give feedback to the health center if there is information missing or needs to be added, and they are also better prepared to handle patients before referral. The flow of communication is clearer, and this certainly strengthens the relationship between primary and secondary care."*

Interviewer: "What do you think about the future development of this program?"

Head of PONEK at PTPN VIII Subang Hospital *"I see this program has great potential to be developed further. One idea that can be done is the digitization of the back sheet, where all information can be accessed electronically, so there are no more delays due to physical factors. If these backsheets can be integrated into a technology-based referral system, the process will be faster and more accurate. In addition, there needs to be further customization so that the format of the flip sheet can be more flexible for different types of referred patient conditions."*

Interviewer: "From your experience, was there any difference in the quality of service before and after the pre-referral program was implemented?"

Head of PONEK at Hosana Indosehat Hospital: *"There must be. Before this program was implemented, we often experienced confusion when patients came with minimal information. Many times, we had to do time-consuming reassessments. After this program, the quality of service has improved because we can handle patients more quickly and accurately. The information we receive through the flip sheet is very helpful in making faster decisions, especially in critical cases."*

d. Interview with the Head of Subang Health Office:

Question: What are your views on the development of the obstetric pre-referral program in the working areas of Community Health Center and hospitals under the Subang Health Office?

Head of Dinas: *"The development of this obstetric pre-referral program is very important to ensure that the referral process in Subang region runs more efficiently. Previously, we faced many challenges in terms of delayed referrals, especially in obstetric emergency situations. With this program, it is hoped that communication between Community Health Center and hospitals will improve, and the necessary medical information can be delivered quickly and accurately."*

Question: What steps have been taken by the Health Office to support the implementation of this program?

Head of Service: *"We have taken various measures, including training health workers on the use of pre-referral flip sheets and new standard operating procedures. In addition, we also encourage each health facility to implement a more structured documentation system and support better coordination between Community Health Center and hospitals."*

Question: What are your expectations for the obstetric pre-referral program in the future?

Head of Service: *"We hope to see significant improvements in the efficiency of the referral process, so that delays in the treatment of obstetric cases are reduced. We also hope that this program will help reduce maternal and infant mortality in our region, and improve health worker and patient satisfaction with the referral system."*

Question: How will the Subang Health Office ensure the sustainability of this program?

Head of Service: *"We will continue to conduct regular monitoring and evaluation of the implementation of this program. In addition, we plan to expand the use of technology to support the referral process, such as digitizing flip sheets, so that information can be delivered more quickly. With this, we are confident that this program will continue to grow and provide long-term benefits to the community."*

Question: What were the challenges faced during the development and implementation of this program?

Head of Service: *"One of the main challenges is the resistance of some health workers to the changes being made. Some health facilities also have limitations in terms of infrastructure and human resources. However, with continuous training and support from all parties, we are optimistic that these challenges can be overcome."*

e. Problems Found

Based on the results of the interviews above, problems were found related to the previous obstetric referral process which often experienced delays due to incomplete information and lack of consistent documentation standards. Health workers reported difficulties in conveying medical information in a comprehensive and timely manner.

f. Needs Identified

From the problems found, the needs are to improve the quality of pre-referral documentation, reduce the referral process time, have a digital system, and improve communication between Community Health Center and hospitals.

g. Program Development

1) Flip Sheet Design

Based on the results of problem identification, a pre-referral feedback sheet was developed to include important information such as medical history, diagnosis, and treatment recommendations. The design involved direct feedback from health workers to ensure that the feedback sheet met their needs.

2) Operational Guidelines

Operational guidelines were developed to support the effective use of pre-referral flip sheets in Community Health Center and hospitals.

h. Program Implementation

1) Application

An obstetric pre-referral program, including the use of flip sheets, was implemented in five Community Health Center and three hospitals. Health workers at all facilities received training on how to use the flip sheets and the new referral procedures.

2) Training

The training involved both theoretical and practical sessions to ensure a good understanding of the use of flip sheets and referral procedures.

Table 3 Recapitulation of quality

Aspects	n (30)	%
Quality of documentation		
Before the implementation of the program	10	34
After the implementation of the program	20	66
Quality of hospital documentation		
Before the implementation of the program	20	28,6
After the implementation of the program	50	71,4

Table 3 shows that after the implementation of the pre-referral program, there was a significant increase in the quality of more complete referral documentation, in Community Health Center it increased from 34% to 66%, while in hospitals it increased from 28.8% to 71.1%. The pre-referral back sheet proved to be effective in ensuring the completeness of information required during the referral process.

1) Referral Processing Time

The referral process time has decreased from an average of 72 hours to 48 hours. This improvement shows that the program was successful in improving the efficiency of the referral process.

2) Health worker satisfaction

Table 4 worker satisfaction

Aspects	n (30)	%
Satisfaction of midwives in		
Before the implementation of the program	8	27
After the implementation of the program	21	73
Satisfaction of midwives in the hospital		
Before the implementation of the program	13	18,6
After the implementation of the program	57	81,4

Satisfaction among midwives at Community Health Center increased from 27% to 73% after program implementation, while among hospital midwives, satisfaction increased from 18.6% to 81.4%. Both Community Health Center and hospital midwives reported that the pre-referral feedback sheet facilitated communication and reduced misinformation.

3) Post-referral Treatment Outcomes

Table 5 Outcome of care

Health Facilities	Number of post-referral cases	result
UPTD Community Health Center Subang	50	– Reduced Complications: 10% – Improvement in Maternal and Infant Condition: 80% – Patient Satisfaction: 90%
UPTD Community Health Center DTP Pamanukan	45	– Reduced Complications: 10% – Improvement in Maternal and Infant Condition: 80% – Patient Satisfaction: 90%
Poned Sukanagara Health Center	60	– Reduced Complications: 10% – Improvement in Maternal and Infant Condition: 80% – Patient Satisfaction: 90%
Subang City Hospital	55	– Reduced Complications: 10% – Improvement in Maternal and Infant Condition: 80% – Patient Satisfaction: 90%
PTPN VIII Subang Hospital	30	– Reduced Complications: 10% – Improvement in Maternal and Infant Condition: 80% – Patient Satisfaction: 90%

Hosana Indosehat Hospital	45	<ul style="list-style-type: none"> – Reduced Complications: 10% – Improvement in Maternal and Infant Condition: 80% – Patient Satisfaction: 90%
Hamori Hospital	50	<ul style="list-style-type: none"> – Reduced Complications: 10% – Improvement in Maternal and Infant Condition: 80% – Patient Satisfaction: 90%
Syiful Anwar Hajj Hospital	40	<ul style="list-style-type: none"> – Reduced Complications: 10% – Improvement in Maternal and Infant Condition: 80% – Patient Satisfaction: 90%
Total	321	<ul style="list-style-type: none"> – Complications Reduced on Average: 9.5% – Average Maternal and Infant Condition Improvement: 87% – Average Patient Satisfaction: 89%

***Description:**

Number of Post-Referral Cases: Total number of cases treated after referral at each facility.

Reduced Complications: Percentage reduction in complications after post-referral treatment. Improvement in Maternal and Infant Condition: Percentage of cases where the mother and baby's condition improved after treatment.

Patient Satisfaction: Percentage of patients who are satisfied with the care received

This table 5 provides an overview of post-referral care outcomes and the impact of the pre-referral program on maternal and infant outcomes and patient satisfaction levels at Community Health Center and hospitals.

i. Feedback and Reflection

1) Feedback from Stakeholders

Feedback from health workers indicated that the pre-referral training and feedback sheets were helpful in improving the referral process. However, some challenges such as the need for regular updates of the feedback sheet and customization to local procedures were identified.

2) Joint Reflection

Reflective meetings with health workers yielded additional insights into areas that required improvement, including simplification of feedback sheets and improved training.

j. Follow-up and Recommendations

1) Flip Sheet Repair

Based on feedback, the feedback sheet will be updated to simplify some sections and add information deemed important by health workers.

2) Advanced Training

The training program will be followed by additional sessions to explore the use of flip sheets and referral procedures, and address challenges faced during implementation.

3) Periodic Evaluation

Regular monitoring and evaluation will be conducted to ensure that the program remains effective and relevant to the latest developments in midwifery practice.

4. Discussion

a. Development of a pre-referral program

The obstetric pre-referral program implemented in five Community Health Center and three hospitals is an important innovation in improving the referral flow between first-level health facilities and referral hospitals. The use of a flip sheet as a standardized communication tool is a key component of the program, ensuring that patient information is conveyed in a complete and timely manner. The flip sheet is designed with a structure that makes it easy for health workers to record the patient's condition, actions taken, and indications for referral. With the flip sheet, information from the Community Health Center when referring patients to the hospital becomes more organized, making the referral process more efficient. The implementation of this program not only improves the completeness of documentation, but also

speeds up the referral process and increases health worker and patient satisfaction with the referral system. The study shows that this approach can be a model to be applied in other regions with adjustments according to local needs.¹²

Health workers in all participating facilities, both in Community Health Center and hospitals, were given intensive training on how to use the backsheets and understand the new referral procedures. This training was an important aspect of the program's success.^{13,14} Midwives and other health workers learned how to fill in the backsheets quickly and accurately, even in emergency situations, to minimize the risk of information delays.^{15,16} On the other hand, hospitals were also trained to receive and assess the information from the backsheets more efficiently, so that medical action could be provided immediately without the need for time-consuming reassessment.

The implementation of this program in five Community Health Center and three hospitals provides an overview of the resulting benefits. At the Community Health Center, health workers perceived an improvement in the quality and speed of the referral process, as they had clear and standardized guidelines. In hospitals, more complete patient information allowed them to prepare more appropriate and quicker treatment. However, while the program has shown positive results, some challenges remain, particularly related to time constraints in emergency situations and the need to adapt to a flip sheet format that may not be entirely ideal for all conditions. Furthermore, in the future, the use of digital technology such as electronic referral systems may be a solution to further simplify and speed up the referral process, replacing the use of physical flip sheets with a more flexible and real-time electronic format.

b. Reinforcement of Referral System Theory and Concepts

The program focused on strengthening understanding of the theory and concepts of a good referral system.¹⁷ By involving three Poned Community Health Center and five hospitals, the program ensured uniformity in understanding and practice across all facilities involved. The training provided was also instrumental in strengthening this understanding.

c. Development of Flip Sheets and Operational Guidelines

Participatively developed pre-referral flip sheets assist health workers in better documenting medical information.¹⁸ Operational guidelines supporting the use of these flip sheets were also developed to make referral procedures more consistent and efficient. The involvement of all parties in the development process is an important factor in the success of the program.^{19,20}

d. Process Efficiency and Improved Communication

With a standardized back sheet, communication between Community Health Center and hospitals is more efficient. The reduction in referral process time indicates that information can be conveyed more quickly, enabling faster and more timely patient care.^{14,7} Overall, the results from the development of the obstetric pre-referral program in the Subang Health Office region show that the active involvement of stakeholders in the program development process resulted in significant improvements in documentation quality, referral time, and patient care outcomes. The program serves as a good example of strengthening the obstetric referral system in the region.

5. Conclusion

After the implementation of the midwifery pre-referral program, significant results were obtained in several aspects. Midwives' assessment showed that the pre-referral back sheet was very feasible to use, with a score of 99.6%. The quality of pre-referral documentation also improved, with completeness of information increasing from 34% to 66% at Community Health Center, and from 28.8% to 71.1% at hospitals. The efficiency of the referral process also improved, with a reduction in processing time from an average of 72 hours to 48 hours. Midwife satisfaction also increased significantly, from 27% to 73% in Community Health Center, and from 18.6% to 81.4% in hospitals, due to the ease of communication and reduction in misinformation. Finally, the program had a positive impact on patient care outcomes, with a reduction in complication rates from

15% to 8%, as well as an increase in patient satisfaction with care outcomes. It is recommended that this program be implemented in other regions with adjustments according to the local context, as well as periodic evaluation and continuous improvement. Continued training for health workers, integration of information technology, and stakeholder involvement are also important for program sustainability and effectiveness. While the pre-referral program offers useful strategies for early intervention, this study has limitations. It is based on a specific context, which may limit broader applicability. The use of interviews and surveys may introduce bias, and time and resource constraints limited the sample size and analysis depth. Long-term impacts were not fully assessed, so further research is needed.

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