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Partnering with Expectant Mothers to Identify Pregnancy Risk Factors

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A B S T R A C T

The Poedji Rochjati Scorecard (KSPR) is a simple screening tool that can help midwives identify the level of pregnancy risk from the outset. The aim of this community service initiative was to improve pregnant women's understanding of pregnancy risk factors and to optimise the use of the KSPR in risk assessment. The methods employed included health education sessions, demonstrations on how to use the KSPR, and risk category assessment through the completion of the scoring form by healthcare workers. The results of the activity showed that the majority of pregnant women were in the low-risk group (55 per cent); however, there were still women classified as high-risk (40 per cent) and very high-risk (5 per cent) who required more intensive monitoring.

INTRODUCTION

Maternal mortality remains a significant global health challenge, especially in low- and middle-income countries. Maternal Mortality Rate (MMR) is influenced by a variety of factors, including access to health services, quality of services, women's empowerment, and certain pregnancy risk factors. (Tajvar, Hajizadeh, and Zalvand 2022). The quality of health services available to women during pregnancy and childbirth A study highlights that poor quality of antenatal and childbirth services disproportionately affect women from low socioeconomic backgrounds in Kenya, where maternal mortality rates can reach 3,795 per 100,000 live births in the poorest districts (Sharma et al. 2017). This glaring gap underscores the importance of ensuring equitable access to quality healthcare, as national averages can mask significant inequalities. Access to maternal health services is also strongly influenced by socio-demographic factors. Moyo et al. found that high parity, or multiple pregnancies, is a significant risk factor for maternal mortality in Zambia, as women with higher parity often have lower access to antenatal services. (Moyo et al. 2018)

Women's empowerment plays an important role in improving maternal health outcomes. Research shows that empowered women are more likely to make effective use of maternal health services. (Moyo et al. 2018) women's empowerment is related to the quality of services received, which suggests that increasing women's decision-making power can lead to better health outcomes (Belay et al. 2025) Various studies have shown that various dimensions of women's empowerment, such as education, economic independence, and decision-making power, significantly affect maternal health outcomes. This highlights the need for targeted interventions taking into account the socio-demographic profile of women, especially in areas with high maternal mortality rates. The results of the study emphasize the need to accurately measure the women's empowerment index to effectively understand its relationship with maternal mortality. In East Nusa Tenggara, maternal mortality rates are significantly influenced by the quality of health services available to women during pregnancy and childbirth. The health of pregnant women is an important indicator in determining the quality of health development of a nation. The Maternal Mortality Rate (MMR) in Indonesia is still a challenge, although it has shown a downward trend in recent years. Various reports show that the majority of maternal deaths occur as a result of complications that can actually be prevented through early detection, identification of risk factors, and proper management during pregnancy. This condition shows the need for systematic efforts to strengthen the partnership between midwives and women so that every pregnant woman gets responsive, quality, and evidence-based midwifery services.

One of the approaches that has become a national reference in screening pregnancy risk is the Poedji Rochjati Score (SPR). This instrument is widely used to identify pregnant women who are at high risk of developing complications, such as anemia, hypertension in pregnancy, pregnancy of risk age, risk parity, poor nutritional status, and a history of poor obstetrics. Screening risk factors through KSPR has been proven to help midwives in determining care plans, making timely referrals, and providing more targeted education to pregnant women and their families. (Vaira and Nisa 2023). In various regions, including the work area of the Tarus Health Center, Central Kupang District, Kupang Regency, the implementation of KSPR has not been fully optimal. Pregnant women's low understanding of risk factors, limited family knowledge, and lack of two-way communication between midwives and women are often obstacles to achieving quality pregnancy care. Comprehensive socialization of pregnancy risk factors is one of the key strategies to overcome this problem. Education provided through a partnership approach allows pregnant women to understand their pregnancy conditions, recognize danger signs, and play an active role in health decision-making.

Increasing midwifery partnerships with women is an important pillar in the modern midwifery service model. A collaborative, communicative, and equal relationship between midwives and women not only increases trust, but also strengthens the mother's independence in maintaining her health. When the socialization of risk factors is carried out effectively, pregnant women are better able to carry out early detection, utilize antenatal services regularly, and follow the care plan according to the midwife's recommendations. Thus, the socialization of pregnancy risk factors based on the Poedji Rochjati Score is not only a tool to identify risks, but also as part of efforts to empower women and strengthen partnerships in midwifery services. This effort is expected to improve the health of pregnant women, prevent complications, and ultimately contribute to reducing the number of maternal illnesses and deaths in Indonesia. The purpose of this activity is to increase pregnant women's understanding of pregnancy danger signs and risk factors and increase the involvement of pregnant women in maintaining pregnancy health through education and midwife-female partnerships based on the Poedji Rochjati Score (SPR), so that pregnant women are able to recognize risk factors early on, make appropriate health decisions, and make optimal use of antenatal services.

IMPLEMENTATION AND METHODS

This service activity uses a direct counseling method at the East Penfui Pustu in the work area of the Tarus Health Center, Kupang Regency to pregnant women who have previously distributed KSPR to all pregnant women. In addition, before counseling is carried out, we provide questionnaires to find out the initial abilities of pregnant women, We provide materials related to pregnancy with risk groups in pregnant women, causes, and complications that can be caused as well as handling when experiencing complications. Before providing the material, participants were given a questionnaire containing questions to measure participants' knowledge. After counseling and providing

material on the introduction of risk factors in KSPR, the team then conducted a demonstration practicum in which a pregnant woman was assessed based on the risk factors contained in the card, then grouped into risk factors, after which a demonstration by each pregnant woman to determine the risk group of each mother.

Figure 1. Counseling on Pregnancy Risk Factors and the Use of KSPR for Pregnant Women

The next method is with Demonstration and Redemonstration about the use of KSPR, pregnant women assess their own condition and provide scores, related to risk question items that require medical confirmation, then we accompany pregnant women in the development of scores, the results of the use of KSPR.

Figure 2. Demonstration of The Use of KSPR And Practice of Use for Pregnant Women

RESULTS AND DISCUSSION

The results presented are the results of pre post counseling and demonstration activities, presented in table

Table 1. Knowledge of Pregnant Women in the Use of KSPR

	Post test				**Percentage**
Pre Test	Less	Enough	Good	Total	
Good	1	4	8	13	65
Enough	0	1	5	6	30
Less	0	1	0	1	5
Total	1	6	13	20	100

Health counseling interventions for pregnant women have been proven to have a positive impact on increasing participants' knowledge. The results of the analysis showed a shift in the category of knowledge from pre-test to post-test, especially in participants with sufficient and insufficient knowledge categories. All participants who were originally in the poor category increased to the sufficient category, while most of the participants with the sufficient category increased to the good category. These findings show that health counseling is an effective strategy in increasing pregnant women's knowledge about early detection of pregnancy risks. These results are in line with the research of Destriyanti, Catholic, and Charitas (2025) which shows that health promotion significantly increases pregnant women's knowledge about pregnancy warning signs after being given educational interventions. (Hanifah Uki Retno; Lestari, Anik 2025)

Increasing knowledge is also supported by the use of learning media that is in accordance with the characteristics of the participants. Research by Hadijah et al. (2021) shows that counseling using audiovisual media provides better knowledge improvement than conventional lecture methods because it is able to increase participants' attention, understanding, and memory. In addition, the provision of education packages combined with supporting media, such as guidebooks and digital media, has been proven to meaningfully increase the knowledge and attitudes of pregnant women so that the material is easier to understand and remember.(Karjono et al. 2026)

This condition indicates the need for additional strategies, such as a more personalized educational approach, follow-up sessions, or the use of audiovisual educational media. The multiple approach has been shown to be more effective in increasing knowledge retention and changing health behaviors in pregnant women (Medika 2023).

Table 2 . Results of Using Poedji Rochjati Scorecard for Early Detection of Risk Factor Groups for Pregnant Women

Risk Factor Groups	F	%
Low Risk Group (KRR)	**11**	**55**
High Risk Group (KRT)	**8**	**40**
Very High Risk Group (KRST)	**1**	**5**

The distribution of these results shows that the use of KSPR is effective in identifying variations in risk levels in pregnant women. The proportion of pregnant women with high risk (40%) and very high (5%) indicates the importance of early detection to prevent further complications. These findings are in line with a number of studies that have used KSPR as a pregnancy risk screening tool and have been proven to provide benefits in midwifery practice. Recent studies show that KSPR has been widely used in early detection and risk management activities of pregnant women in various regions in Indonesia, and has an impact on improving the management of risky pregnancies (Petricka, Pembayun, Antika, and Putri 2025), (Petricka, Pembayun, Antika, Putri, et al. 2025). With a clear knowledge of the risk groups, health workers can conduct follow-up assessments, provide appropriate education, and plan additional referrals or monitoring according to the risk level of pregnant women.

The results showed that the distribution of pregnancy risk based on the Poedji Rochjati Scorecard (KSPR) was quite varied, with most mothers in the low-risk group, but there was still a significant proportion in the high-risk and very high-risk categories. These findings confirm that although some pregnant women do not have major risk factors, early detection remains an important aspect to identify individuals who need more intensive monitoring. KSPR, as a simple and easy-to-apply screening instrument, provides a clear picture of the mother's condition from the beginning of the antenatal visit so that midwives can group mothers according to their respective risk levels.

The proportion of pregnant women who are in the high-risk category (40%) shows that obstetric and clinical factors that have the potential to affect the course of pregnancy are still quite widely found in the community. This condition can be related to reproductive age, parity, birth distance, poor obstetric history, or unmonitored medical conditions.(Petricka, Pembayun, Antika, Putri, et al. 2025) The use of KSPR in this context serves as a clinical tool that facilitates health workers in making quick decisions regarding referral needs, monitoring intensity, and health education strategies needed to prevent further complications.

These findings also show the urgency of strengthening public education about pregnancy risk factors so that mothers have an adequate understanding of the importance of regular antenatal check-ups and early risk management. Good maternal health knowledge is related to pregnant women's compliance in conducting antenatal visits according to recommendations, so education is an important part of improving the quality of pregnancy services (Putri et al. 2023). With the consistent use of the Poedji Rochjati Scorecard (KSPR), health workers can not only identify risks, but also plan more targeted interventions, such as counseling, periodic monitoring, and referrals to facilities with more complete services. This is in line with the concept of antenatal services which emphasizes risk screening, early detection of complications, and providing appropriate interventions during pregnancy (Susilawati and Yanti 2023).

CONCLUSIONS AND RECOMMENDATIONS

The use of the Poedji Rochjati Scorecard (KSPR) is effective in helping to detect early pregnancy risk levels in pregnant women. The results showed that although most mothers were in the low-risk category, there were still high-risk and very high-risk mothers who needed more intensive monitoring. The application of KSPR in community service activities has proven to be beneficial in increasing awareness, strengthening risk factor education, and helping midwives plan appropriate follow-up to prevent pregnancy complications. KSPR is recommended to be used regularly in antenatal services as a pregnancy risk screening tool. Midwives need to improve education and monitoring of high-risk pregnant women and strengthen follow-up and referral systems to prevent pregnancy complications.

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