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Descriptive study of pregnant women's knowledge level about high-risk pregnancy

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ABSTRACT

Pregnancy is a physiological process, beginning with egg fertilization and culminating in child birth, although pregnancy is a natural process, not every pregnancy proceeds without problems. Some women encounter difficulties that could lead to pregnancies with a high risk. The objective of this research is determining the degree of knowledge expectant women have on high-risk pregnancies. For this investigation, a descriptive research methodology was used. The participants comprised 41 pregnant women chosen using overall sampling techniques. The main instrument used to gather data was a questionnaire. Uni-variate methods were used to conduct data analysis. According to the results, most participants lacked enough knowledge regarding high-risk pregnancies; 36 people (88%) displayed little understanding; only 4 individuals (10%) had great understanding; and only one person (2%) was fairly informed. Regarding participant demographics, almost all were in their twenties to early 30s; nevertheless, many still showed inadequate knowledge. Nearly all participants in every evaluated subject matter showed a low degree of knowledge. The study finds that awareness of high-risk pregnancies among pregnant women is still fairly low, therefore stressing the need of better and more enduring maternal health education programs.

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INTRODUCTION

The moment an egg is fertilized, which is also known as fertilization, is when pregnancy begins. It continues until the birth of the child, which is a natural event. From the first day of the last menstrual cycle, a woman is usually pregnant for about 280 days, or 40 weeks, which is typical for women of reproductive age (Herinawati et al., 2021). Pregnancy is a significant period in a woman'slife that brings about several shifts in her physical, mental, and social well-being. Many internal and external factors can influence the wellbeing of both mother and child amid pregnancy (Prafitri & Kusuma, 2025). Pregnancy is a physiological process, but not all pregnancies proceed

smoothly. Some pregnant women experience problems that can lead to high-risk pregnancies (Tan et al., 2025).

To lower the Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) in Indonesia and enhance the health of pregnant women and children, the government has put in place a number of health policies. These include P4K (Childbirth Planning and Complication Prevention Program), Safe Motherhood, and one of the targets of the fifth Sustainable Development Goal (SDGs). (Kemenkes RI, 2020). The 2023 Ministry of Health Republic Indonesia MMR (Maternal Mortality Rate) statistics indicate that the MMR is still approximately 205 deaths for every 100,000 live births. (Kemenkes RI, 2021). Figures from The East Java Provincial Health Service, which were published in August 2023, indicate that the maternal mortality rate in East Java fell from 234. 7 per 100,000 live births in 2021 to 93 per 100,000 live births in 2022. The maternal mortality rate was 147. 07 deaths for every 100,000 live births, according to the 2023 Health Profile Data from the Sampang Regency Health Office. Compared to 2022, when the rate was about 81. 73 per 100,000 live births, this number rose. There are three main factors that cause maternal deaths in 2023, these three factors include hypertension (16 cases), bleeding (3 cases), heart and blood vessel disorders (1 case), and other cases (2 people) (Dinas Kesehatan Kab. Sampang, 2023).

The fact that there are still many difficulties in enhancing maternal health—particularly in addressing delays in the early identification of risk factors—is highlighted by the high rate of maternal mortality. By evaluating risk factors or warning signs, problems that develop during pregnancy and risks during delivery may actually be identified early (Tofure et al., 2025). A study conducted at Karawang Regional Hospital found that the cause of maternal death was comorbidities such as severe preeclampsia, eclampsia, and hypovolemic shock. These deaths are preventable if early detection of complications in the mother during pregnancy is carried out properly (Purnamawati et al., 2023). A mother's ability to recognize potentially dangerous symptoms during pregnancy is crucial for preventing more serious health problems. However, the reality is that many pregnant women still do not fully understand or are unaware of these danger signs. This lack of awareness is a major contributing factor to delays in treating risky conditions (Tofure et al., 2025). Threre are three late cases that the indirect cause of maternal mortality is the continued prevalence. The three late cases are as follows: a delay in identifying warning signs of labor experienced by pregnant women, a delay in decision-making, a delay in referral to a healthcare facility, and a delay in treatment from healthcare staff at the facility (Hutabarat, 2023).

Knowledge that pregnant women already have significantly influences the development of their attitudes and behavior during pregnancy. Without sufficient information, pregnant women will face difficulties in recognizing pregnancy danger signs, which can lead to errors in decision making (J. M. Sari & Maryam, 2025). The implementation of the Birth Planning and Complication Prevention Program (P4K) is directly influenced by the knowledge base of high-risk pregnant women. The P4K Program is a pregnancy checkup program run by midwives. This program is carried out to provide knowledge and understanding to pregnant women, partners (husbands), and family members about potentially high-risk pregnancies. In addition, this program also emphasizes planning the birth process to support the government's efforts to reduce maternal mortality in Indonesia (Agustina et al., 2025). Yanti's research findings on howpregnant women's knowledge of high-risk pregnancies relates to their birth preparation show that the knowledge possessed by pregnant women significantly influences how prepared they are for childbirth. Mothers with a good understanding are usually better able to prepare for the birth process, while a lack of knowledge can result in unpreparedness that could potentially endanger the safety of the mother and baby (Yanti & Wulandari, 2025).

Maternal knowledge about high-risk pregnancies is of significant urgency in the context of modern midwifery practice, which emphasizes promotive and preventive approaches. The World Health Organization states that most obstetric complications, such as hemorrhage, preeclampsia, and infection, can be prevented through early detection and appropriate intervention. In

midwifery practice, the effectiveness of early detection is greatly influenced by the mother's ability to recognize risk factors and danger signs during pregnancy. Descriptive research on maternal knowledge levels is crucial for obtaining empirical insights as a basis for developing educational interventions, strengthening continuity of care, and optimizing the role of midwives in maternal health promotion. Given the increasing prevalence of pregnancies with comorbidities and risk factors during the reproductive years, this research is relevant today to ensure that evidence-based midwifery service strategies can be designed and targeted. Without systematic efforts to identify and improve maternal knowledge, the risk of delays in managing complications will remain high, ultimately leading to increased maternal and perinatal morbidity and mortality. For this reason, it is essential to assess what pregnant women know about the hazards of pregnancy. This study aimed to assess the extent to which pregnant women were informed about high-risk pregnancies in order to design and deliver the right and successful prenatal education. This study's findings are anticipated to offer a foundation for creating better health education and intervention strategies to reduce the likelihood of pregnancy complications and improve maternal and infant health in Sampang Regency.

RESEARCH METHOD

This study used a descriptive research design with a quantitative approach. Its purpose was to objectively, systematically, and accurately document pregnant women's understanding of high-risk pregnancies at the time of the study, without providing any treatment or intervention to participants. The level of knowledge that pregnant women have regarding high-risk pregnancies, which encompasses their understanding of the risk factors, symptoms, and preventive and management strategies for the early stages of such pregnancies, was the only variable examined in this research. The results of the knowledge level measurement were then categorized into good, sufficient, and poor levels, based on the scores obtained from the questionnaire.

The research was conducted in September - October 2025 in Torjun Village, Torjun Health Center Working Area, Sampang Regency. All 41 pregnant women in Torjun Village, made up the study population.This population is the target population, a group of subjects whose characteristics align with the research objectives, namely pregnant women who potentially need knowledge about high-risk pregnancies. Total sampling was the sampling method employed in this study, which yielded a sample size of 41 expectant women.

The data used in this study consisted of primary and secondary data. Primary data was obtained directly from respondents through questionnaires containing questions about the definition of high-risk pregnancy, risk factors, pregnancy danger signs, and prevention and early treatment efforts. The research methods section is well explained, explaining the data used, how it was collected, and how it was analyzed. Secondary data were obtained from records or reports of the number of pregnant women at the study site. The instrument for this study was a closed-ended questionnaire, developed from theories and literature on high-risk pregnancies.

The data collection process was carried out after the researcher obtained permission from the Sampang Regency Health Office. The researcher provided an explanation of the purpose and procedures for completing the questionnaire before administering it to respondents. After obtaining informed consent, respondents were given sufficient time to complete the questionnaire independently, and the researcher was ready to provide explanations if there were any questions that were not understood. Each question item was structured in a true-false format. Each correct response received a score of 1, while each incorrect response received a score of 0. The collected data were then edited, coded, and tabulated before being analyzed. Data analysis was conducted using univariate analysis to determine the frequency distribution and percentage of mothers' knowledge levels regarding high-risk pregnancies. The results of the analysis are presented in the form of frequency distribution and percentage tables. Knowledge was measured by categorizing respondents' scores as a percentage. The respondent's knowledge was categorized as good (if their

score was ≥ 76% of the maximum possible), sufficient (if their score was between 56% and 75% of the maximum possible), and insufficient (if their score was 55% or less of the maximum possible).

RESULTS AND DISCUSSIONS

Research Results

a. Respondent Characteristics by Age

Table 1. Age distribution of participants based on frequency

No.	Age (Years)	Frequency (*f*)	Percentage (%)
1.	< 20	1	2
2.	20-35	35	86
3.	>35	5	12
	Total	41	100

Source: Research data, 2025

Based on Table 1 above, almost all respondents were between 20 and 35 years old that is 35 respondents (86%), 5 respondents (12%) were older than 35 years old, and a small proportion were younger than 20 years old (1 respondent).

b. Respondent Characteristics Based on Education

Table 2. Distribution of respondents according to their education levels

No.	Level of education	Frequency (*f*)	Percentage (%)
1.	No school	0	0
2.	Elementary School	4	10
3.	Junior High School	16	39
4.	Senior High School	18	44
5.	Academy/University	3	7
	Total	41	100

Source: Research data, 2025

Table2 shows that almost half of the respondents had a high school education, that is 18 people (44%), 16 people (39%) had a junior high school education, 4 people (10%) had an elementary school education, 3 people (7%) had attended an academy/university and none had not attended school.

c. Distribution of Respondents According to Parity

Table 3. Distribution of respondents according to parity

No.	Parity	Frequency (*f*)	Percentage (%)
1.	Primipara	9	22
2.	Multipara	32	78
3.	Grandemultipara	0	0
	Total	41	100

Source: Research data, 2025

Based on table 3 above, almost all respondents were in the multipara category, that is 32 people (72%), 9 people in the primipara category (22%) and none were grandemultipara.

d. Level of Knowledge About High-Risk Pregnancy

Table 4. Frequency distribution of knowledge levels about high-risk pregnancies

No.	Knowledge Category	Frequency (*f*)	Percentage (%)
1.	Good	4	10
2.	Sufficient	1	2
3.	Insufficient	36	88

Total	41	100

Source: Research data, 2025

Table 4 above shows that 36 people (88%) of respondents included in insufficient knowledge level, 4 people (10%) included in good knowledge level and a small portion, that is 1 person (2%) included in the sufficient category.

e. Respondents' Knowledge Level Based on Risk Pregnancy Knowledge Indicators

Table 5. Frequency distribution of respondents' knowledge levels based on indicators of high-risk pregnancy knowledge

No.	Knowledge indicators	Good (%)	Sufficient (%)	Insufficient (%)	Total (%)
1.	Understanding high-risk pregnancy	5 (12%)	2 (5%)	34 (83%)	41 (100%)
2.	Pregnancy risk factors	4 (10%)	1 (2%)	36 (88%)	41 (100%)
3.	Signs and symptoms of high-risk pregnancy	3 (7%)	2 (5%)	36 (88%)	41 (100%)
4.	Prevention and early treatment	6 (15%)	3 (7%)	32 (78%)	41 (100%)

Source: Research data, 2025

Based on table 5 above, on the indicator of understanding high-risk pregnancy, almost all respondents included in insufficient knowledge category, that is 34 people (83%), 5 people (12%) include in good knowledge category and 2 people (5%) include in sufficient knowledge category. On the indicator of pregnancy risk factors, almost all respondents include in insufficient knowledge category, that is 36 people (88%), while 4 people (10%) respondents include in the good knowledge category and 1 person (2%) include in the category of sufficient knowledge. Furthermore, on the indicator of signs and symptoms of high-risk pregnancy, almost all respondents, that is 36 people (88%) include in the category of poor knowledge, while respondents with good knowledge are 3 people (7%) and sufficient knowledge are 2 people (5%). On the indicator of prevention and early management of high-risk pregnancy, almost all respondents, that is 32 people (78%) include in insufficient knowledge category, although there are 6 people (15%) respondents with good knowledge and 3 people (7%) include in sufficient knowledge category.

Discussion

The study's findings on the level of knowledge revealed that 36 participants (88%) lacked adequate understanding of pregnancies with high risk. This figure indicates the potential risks that can arise during pregnancy. This situation is not merely a figure, but reflects the real challenges in efforts to prevent maternal and neonatal complications through effective education. In a study conducted by Prafitri, it was found that pregnant women's knowledge has a significant impact on the early recognizable proof of high-risk pregnancies. Furthermore, this lack of understanding contributes to low awareness of the risks and delays in medical prevention efforts. This indicates that pregnant women who lack information are more likely to face problems during their pregnancies due to not knowing the right time to consult or seek medical help (Prafitri & Kusuma, 2025). Good knowledge is very important so that pregnant women can recognize danger signs and immediately seek medical help (Jumriani, 2025).

Knowledge itself serves as a catalyst that a person takes in through their sensory perceptions, which then elicits cognitive, emotional, and motivational reactions. Of the five senses, vision holds the highest influence in conveying information to the human mind, especially regarding learning materials that are visual in nature. In the context of prenatal care, insufficient knowledge or understanding of the potential hazards connected to pregnancy and delivery can act as a major obstacle for mothers-to-be (Farming et al., 2025). Knowledge plays a crucial role in influencing health behaviors in pregnant women. Women with a deeper understanding are typically more active in participating in antenatal care (ANC) programs and taking preventative measures, such as regular checkups, taking supplements, or paying closer attention to danger signs during pregnancy. Research has appeared a positive relationship between information and

behavior amid ANC (Mar'atus Sholikah et al., 2024). With nearly all respondents reporting low knowledge, this indicates a potential for minimal adherence to health behaviors, which can increase the likelihood of problems during pregnancy. The results (Table 1) show that nearly half of the respondents had a Senior High School education. Education is a crucial element influencing an individual's ability to receive, understand, and process health-related data. Pregnant women with lower educational backgrounds often experience difficulty absorbing information provided by medical personnel, both through antenatal counseling sessions and written educational materials. Formal education significantly influences critical thinking skills and conceptual understanding, so mothers with higher education are typically better able to understand information about pregnancy risks, danger signs, and preventative measures. This is often in line with investigate conducted by Sembiring (2025) which states that there's a relationship between the information of pregnant ladies and the consistency of pregnancy check-ups (Sembiring et al., 2025). Education has an indirect impact on high-risk pregnancies. Those with higher education are more knowledgeable than those with less education (Desmariyenti & Arisonaidah, 2025).

The study found that almost all respondents were between 20 and 35 years old, which is biologically and reproductively considered a low-risk group. This age is typically considered the ideal reproductive period because the physical and mental development of expectant mothers is fully developed. In theory, pregnant women in this age range are expected to have better cognitive capacity to receive and understand health-related information, such as insights into high-risk pregnancies. However, the study revealed that although most respondents were at the ideal reproductive age, their understanding of high-risk pregnancies was still predominantly low. This suggests that age alone does not automatically guarantee high levels of knowledge, and that other factors significantly influence pregnant women's knowledge, such as education level, access to information, previous pregnancy experiences, and the quality of education received during antenatal care. Research by Tamalla state that age did not show a significant relationship with knowledge level, likely due to small variations in respondents' reproductive age ranges that do not directly affect access to health information (Susanti et al., 2025). Prior knowledge and experience were the primary reasons women were willing to take risks based on it. Women asserted that they could manage the risk, believing it to be manageable due to the insights they had obtained from the pregnancies of others or from their own past pregnancies (Shojaeian et al., 2021).

The study results showed that almost all respondents were multiparous. Multiparous pregnant women typically have experience from previous pregnancies, which is expected to provide them with a better understanding than first-time mothers. This experience allows them to obtain information from medical personnel, manage symptoms during pregnancy, and identify situations requiring medical attention. However, this study revealed that although almost all respondents had a history of previous pregnancies, their level of knowledge regarding high-risk pregnancies was still relatively low. This suggests that experience from previous pregnancies does not always contribute to adequate knowledge. While previous childbirth experiences can provide mental preparation, not all of them are positive (Safitri et al., 2024). Research by Setyarini & Fitriyani states there was no noteworthy relationship between equality and information level. This interpretation aligns with the Health Belief Model theory, which emphasizes that health knowledge and behavior are not solely influenced by a person's biological condition or reproductive status, but rather are determined by individual perception, motivation, and information availability (Setyarini & Fitriyani, 2024).

The study results, based on indicators of knowledge about high-risk pregnancies, showed that almost all respondents had insufficient knowledge for each indicator. In the first indicator, pregnant women did not fully understand the basic principles of high-risk pregnancies, which can cause problems for both the mother and the baby. This lack of knowledge regarding the concept of high-risk pregnancies can lead to a lack of concern for pregnant women's health. Understanding

basic principles is crucial for shaping healthy attitudes and behaviors during pregnancy. Moms who are unconscious of the meaning of a high-risk pregnancy frequently see it as a ordinary state, making them less sensitive to possible symptoms or changes. This agrees with earlier research showing that a mother's knowledge about pregnancy is crucial for her prenatal health. Mothers can expand this knowledge from several sources: health professionals (midwives and doctors) during checkups through counseling and Q&A sessions, or through mass media such as electronic channels (tv) and print materials (magazines, daily papers, tabloids, blurbs, etc.) (Suhadah et al., 2023).

Regarding pregnancy risk factors, almost all respondents included in insufficient knowledge category. Dangerous signs of pregnancy, such as bleeding, severe abdominal pain, swelling accompanied by severe headaches, and decreased fetal movement, are still poorly understood by the majority of pregnant women. Lack of understanding of the signs and symptoms that indicate a high-risk pregnancy is a serious issue because it directly impacts delays in seeking medical attention. Ignorance of danger signs is often a major cause of delays in managing complications that arise during pregnancy. A mother's knowledge strongly influences her ability to recognize danger signs during pregnancy. The more informed she is, the more likely she is to take prompt measures for early detection of those danger signs (Dianti, 2021). High-risk pregnancies can be prevented through pregnancy examinations and monitoring, including early detection of high-risk pregnancies, which centers on conditions that can lead to maternal and newborn child passing (Haryadi et al., 2025).

Regarding the prevention and early management indicators for high-risk pregnancies, the study results indicated that almost all participants had inadequate knowledge. This indicates that many pregnant women still lack a full understanding of the importance of regular antenatal care, following recommended iron supplementation, and recognizing when dangerous symptoms require medical attention. This lack of understanding of these indicators can directly impact the low level of of ideal utilization of maternal wellbeing administrations. Pregnant ladies who need understanding of preventive measures and early management tend to be inactive and only seek health services when health problems are already quite severe. Research conducted by Sari revealed that ANC compliance remains low, influenced by a lack of education, access to healthcare services, and limited medical personnel. Antenatal care education and screening programs have been shown to increase knowledge among pregnant women and need to be continuously improved to support maternal and infant health (I. Sari et al., 2025). By increasing knowledge and awareness, pregnant women can take more active steps to identify and manage high-risk pregnancies, which can ultimately reduce maternal and fetal mortality rates (Handayani et al., 2023).

This study presents a novel approach by comprehensively mapping the level of knowledge of pregnant women regarding high-risk pregnancies based on specific domains: understanding high-risk pregnancy, Signs and symptoms of high-risk pregnancy, and prevention and early treatment efforts in the context of primary health care. Unlike previous studies, which generally only report general knowledge categories (good, fair, poor), this study identifies in detail areas of knowledge deficits that could potentially hinder the early detection of pregnancy complications. Furthermore, this study provides contextual empirical evidence relevant to midwifery practice at the primary care level, enabling the design of more targeted communication, information, and education strategies based on the actual needs of pregnant women. Thus, this research's contribution is not only descriptive but also strategic in supporting the strengthening of the role of midwives as the frontline in promotive and preventive efforts to reduce the risk of maternal morbidity and mortality.

CONCLUSION

Grounded in the findings from the study and examination concerning the perceptions of pregnancy risks among expectant women, it was determined that nearly all participants displayed a lack of adequate knowledge. Despite the fact that nearly all individuals fell within the optimal reproductive age bracket of 20 to 35 years, this alone does not guarantee an elevated level of awareness about pregnancies categorized as high-risk. Low levels of knowledge were also observed across educational backgrounds and birth rates, for both primiparous, multiparous, and grandemultiparous mothers, indicating that formal education and previous pregnancy experience do not fully contribute to improving pregnant women's understanding. Furthermore, across all knowledge indicators, including the definition of high-risk pregnancy, risk factors, signs and symptoms, and how to prevent high-risk pregnancies, almost all participants demonstrated low understanding. Therefore, there is a need for more comprehensive and continuous improvement in maternal health education in antenatal care services to broaden prospective mothers' understanding of potentially high-risk pregnancies. Therefore, further research should utilize analytical designs to identify key determinants and their impact on health-seeking behavior. Furthermore, intervention studies are essential to evaluate the effectiveness of locally tailored antenatal education models. Given that limited knowledge in certain areas can potentially hinder early detection of complications, the results of this study also emphasize the urgency of strengthening more standardized, structured, and evidence-based maternal education policies in midwifery services, particularly at the primary care level.

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