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Original Research

Changes in Pregnant Women's Knowledge of High-Risk Pregnancy Before and After Counseling

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Abstract

Background: High-risk pregnancy is a condition that can lead to complications and threaten the health of both the mother and the fetus, potentially resulting in morbidity or mortality. Several factors contribute to high-risk pregnancy, including maternal age under 20 years or over 35 years, short birth spacing (<2 years), and grand multiparity.
Objective: This study aimed to assess the level of knowledge of pregnant women regarding high-risk pregnancy before and after counseling at the Sanrobone Health Center.
Methods: This study used a descriptive quantitative design with a pre–post approach. The population and sample consisted of 52 pregnant women, selected using total sampling. Data were collected using a questionnaire consisting of 20 questions related to knowledge of high-risk pregnancy, administered before and after counseling.
Results: Before counseling, 8 respondents (15.4%) had good knowledge, 17 respondents (32.6%) had sufficient knowledge, and 27 respondents (52.0%) had poor knowledge. After counseling, the proportion of respondents with good knowledge increased to 21 (40.4%), those with sufficient knowledge were 26 (50.0%), and those with poor knowledge decreased to 5 (9.6%).
Conclusion: Counseling significantly improved the knowledge of pregnant women regarding high-risk pregnancy. Strengthening educational interventions is essential to support early detection and prevention of pregnancy complications.

Keywords: High-risk pregnancy; maternal knowledge; counseling; health education; pregnant women

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Introduction

Pregnancy is a physiological process that occurs in women, beginning with fertilization and continuing until childbirth. Under normal conditions, pregnancy lasts for approximately forty weeks, calculated from the first day of the last menstrual period (Ambar et al., 2021). However, certain conditions can lead to complications that endanger both the mother and the fetus. One such condition is postterm pregnancy, defined as pregnancy that exceeds 42 weeks or 294 days. Postterm pregnancy can affect fetal development and increase the risk of fetal death due to insufficient oxygen and nutrient supply. It is also associated with perinatal morbidity, macrosomia, and complications during delivery, such as postpartum hemorrhage and the need for operative procedures (Ambar, 2021).

Maternal mortality remains a major global health problem. According to a 2012 report from the International Fund for Children of World Disasters (UNICEF), pregnancy and childbirth complications cause the death of nearly 10,000 women each year. The maternal mortality rate (AKI) is one of the important indicators in assessing the success of maternal health development. According to Kurniasari et al., 2019 in the journal Ajeng, high AKI can be used as an indicator of the level of health problems,

availability of resources, and quality of health services (Hazairin et al., 2021). In Indonesia, maternal mortality is still relatively high, and high-risk pregnancies contribute significantly to these outcomes.

High-risk pregnancy refers to conditions that pose a danger to the health of the mother and baby and therefore require immediate attention. Several factors contribute to high-risk pregnancies, including maternal age, parity, and nutritional status. Women aged under 20 years or over 35 years have a higher risk of complications due to biological and physiological factors (Surakarta & Resti, 2023). In addition, mothers with poor nutritional status, such as chronic energy deficiency (KEK), and low hemoglobin (HB) levels during pregnancy are more susceptible to complications that may affect both the mother and fetus (Swandini & Ningrum, 2021).

Lack of knowledge about pregnancy, particularly regarding high-risk conditions and danger signs, is another important contributing factor. Many pregnant women are not fully aware of the warning signs of complications during pregnancy. Common danger signs include vaginal bleeding, loss of consciousness, severe headache accompanied by blurred vision, high fever, severe abdominal pain, and difficulty breathing (Nur Hikmah, 2022). Knowledge plays a crucial role in enabling pregnant women to recognize these signs early and seek appropriate healthcare. Knowledge is defined as a person’s ability to understand, recall, and recognize information obtained through the senses (Noviana, 2018).

Efforts to reduce maternal mortality require increasing awareness and early detection of high-risk pregnancies. Promoting maternal knowledge about pregnancy risks and danger signs is essential to prevent complications and improve maternal and fetal outcomes (Najmah et al., 2022). Therefore, this study aims to analyze the relationship between maternal knowledge and the incidence of high-risk pregnancy, as well as to identify factors associated with the occurrence of high-risk pregnancy.

Methods

Study Design

This study used a descriptive quantitative design with a pre–post approach. The research aims to describe the level of knowledge of pregnant women regarding high-risk pregnancy before and after counseling interventions. This design was chosen to measure changes in respondents' knowledge based on the intervention provided.

Samples

This study involved 52 pregnant women in the Sanrobone Health Center, with a sample number comparable to a total of 52 people who responded. In this study, sampling methods were used as a whole (total sampling), where all members of the population were included as research participants.

Instruments

The main instrument used in this study was a questionnaire sheet. This questionnaire is designed to measure the level of knowledge of pregnant women about high-risk pregnancies, both before and after counseling. The questions in the questionnaire cover important aspects related to risk factors, pregnancy danger signs, and pregnant women's general understanding of high-risk pregnancies. This instrument is used directly to the respondents and is filled with the help of the researcher to ensure the understanding and accuracy of the answers. Before being used, the questionnaire was tested for validity and reliability. The validity test was conducted using item-total correlation, and all items were declared valid. The reliability test was carried out using Cronbach’s alpha, and the instrument showed a reliability coefficient indicating that it was reliable for data collection.

Data Collection

Data collection was carried out directly through the distribution and filling out of questionnaires to all respondents totaling 52 pregnant women in the working area of the Sanrobone Health Center. All respondents first participated in the counseling activities provided by the researcher, then filled out pre- and post-counseling questionnaires.

Data Analysis

Data analysis was carried out descriptively using a quantitative approach by calculating the percentage of respondents' answers in the categories of knowledge (good, sufficient, and poor) before and after counseling. The data was analyzed to identify changes in the level of knowledge that occurred due to the counseling intervention. The results of the frequency tabulation are presented in the form of tables to illustrate the distribution and percentage of pregnant women's knowledge related to high-risk pregnancies.

Ethical Considerations
The ethics permit is issued by the Tanawali Takalar Stikes Ethics Institute. Providing an informed consent sheet, informed consent was given to the respondents before the research was conducted by providing a consent sheet to become a respondent.

Results

In table 1, based on maternal education with a total of 52 respondents, most of the respondents with elementary education level 9 (17.3%), junior high school 14 (27%), high school 21 (40.3%), and s1 8 (15.4%). With 52 respondents, most of them were <20 years old 18 people (34.6%), 20-35 years old 23 people (44.3%), and >35 years old 11 people (21.1%). With the number of respondents 5.3 people, the characteristics of respondents based on maternal parity, as shown in table 3., there are mostly 10 mothers with 1-2 children (19.3%), 19 mothers with 3 children (36.5%), and 23 mothers with more than 3 children (44.2%). As shown in table 4, it can be concluded that the respondent attributes are based on maternal parity with the number of respondents as many as 52 people, most of the IRTs are 45 people or (86.5%) and honorary people are 7 people (13.5%). Based on table 5, it can be concluded that before the counseling of 52 respondents, there were 8 people (15.4%) who were knowledgeable, 17 people or (32.6%), and 27 people (52%) were not enough. Based on table 5.6, it can be concluded that after counseling from 52 respondents, 21 people (40.4%) were knowledgeable, 26 people or (50%), and less than 5 people (9.6%).

Table 1 Characteristics of the respondents studied

Education	**n**	**%**
Elementary	9	17,3
Junior High School	14	27
Senior School	21	40,3
Bachelor	8	15,4
Age	**n**	**%**
<20 years old	18	34,6
20-35 years old	23	44,3
>35 years old	11	21,1
Parity	**n**	**%**
1-2 children	10	19,3
3 children	19	36,5
>4 children	23	44,2
Work	**n**	**%**
IRT	45	86,5
Honorary	7	13,5
Previous knowledge	**n**	**%**
Good	8	15,4
Enough	17	32,6
Less	27	52
Knowledge of the Aftermath	**n**	**%**
Good	21	40,4
Enough	26	50
Less	5	9,6
Total	**52**	**100**

Source: SPSS Processed Data

Discussion

The findings of this study show that most respondents were in the productive age group (20–35 years), had a high school education level, and were predominantly housewives. In addition, a considerable proportion of respondents had parity >4, which is considered a risk factor for high-risk pregnancy. These characteristics indicate that although most respondents are in a relatively safe reproductive age, other factors such as parity and educational background still contribute to pregnancy risk.

The main finding of this study is the significant improvement in pregnant women's knowledge after counseling. Before the intervention, more than half of the respondents (52%) had poor knowledge, while only 15.4% had good knowledge. After counseling, there was a notable shift, with 40.4% of respondents having good knowledge and only 9.6% remaining in the poor category. This indicates that counseling plays an important role in increasing maternal knowledge regarding high-risk pregnancy.

This finding supports previous studies showing that knowledge is strongly influenced by educational interventions. For example, Loisza (2020) found that factors such as age, parity, education, employment, and economic status are associated with high-risk pregnancy, particularly through their influence on maternal knowledge. However, unlike Loisza (2020), which emphasizes demographic and socioeconomic determinants, the present study highlights that knowledge can be significantly improved through targeted counseling, regardless of baseline characteristics.

Similarly, Aeni (2013) reported that maternal age and parity are significantly associated with high-risk pregnancy, along with knowledge, employment, and economic status. The results of this study are consistent with these findings, as respondents with varying characteristics still showed improved knowledge after intervention. This suggests that while demographic factors contribute to risk, modifiable factors such as knowledge can be addressed through health education programs.

Furthermore, the findings are in line with Rangkuti & Harahap (2020), who stated that high-risk pregnancies differ from normal pregnancies in terms of complications and risks. Increased knowledge enables pregnant women to better recognize danger signs and seek timely care, which is essential in preventing complications. This is also supported by findings from other studies indicating that knowledge of danger signs is associated with safer pregnancy outcomes.

However, this study also identified several practical challenges during the counseling process. Some respondents were less attentive due to environmental distractions, such as noise from passing vehicles, which may have affected their understanding. This indicates that the effectiveness of counseling is not only determined by the content but also by the delivery environment and participant engagement.

In addition, maternal knowledge is influenced by multiple factors, including education, age, parity, and employment. Although this study did not perform inferential statistical analysis to test these relationships, the descriptive findings suggest that these variables may play an important role and should be explored further in future research.

Limitations of this study should be acknowledged. First, the study used a relatively small sample size (n=52) from a single health center, which may limit the generalizability of the findings. Second, the study design was descriptive without advanced statistical analysis, so causal relationships cannot be established. Third, the use of self-reported questionnaires may introduce response bias. Despite these limitations, this study provides important insights into the effectiveness of counseling in improving maternal knowledge about high-risk pregnancy.

Conclusion

This study demonstrates that counseling has a significant role in improving the knowledge of pregnant women regarding high-risk pregnancy. There was a clear shift in knowledge levels, where initially most respondents had low levels of knowledge, but after counseling, the majority moved into sufficient and good knowledge categories. This indicates that educational interventions are effective in increasing awareness and understanding of pregnancy risks and danger signs. Improved maternal knowledge is an important step toward early detection and prevention of complications in high-risk pregnancies. Therefore, integrating regular counseling programs into maternal health services is highly recommended to enhance maternal and fetal outcomes. However, considering the limitations of this study, further research is needed with larger sample sizes and more comprehensive analytical methods to explore the relationship between knowledge and other influencing factors such as age, education, parity, and socioeconomic status. Future studies are also encouraged to evaluate the long-term impact of counseling interventions on behavioral changes and pregnancy outcomes.

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