

# The Influence of Antenatal Health Education on Pregnant Women's Knowledge of Pregnancy Danger Signs in The Galala Community Health Center Work Area

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**Abstract,** Background: Pregnancy is a critical period requiring comprehensive knowledge of danger signs to prevent maternal and fetal complications. Health education during antenatal care is crucial in increasing pregnant women's knowledge and awareness these danger signs. Previous studies in Indonesia have shown that structured antenatal education improves maternal knowledge, encourages timely health-seeking behavior, and reduces the risk maternal morbidity and mortality (Sari, 2020; Putri, 2021). Despite ongoing efforts, gaps in knowledge persist in many communities, including in the Galala work area, highlighting the need for targeted educational interventions. Objective: This study aims to examine the influence of antenatal health education on pregnant women's knowledge of pregnancy danger signs in the Galala The intervention consisted of structured antenatal health education sessions covering common pregnancy danger signs, preventive measures, and the importance timely medical consultation. The Wilcoxon signed-rank test was used to analyze differences knowledge levels before and after the intervention, with a significance level set at  $p < 0.05$ . Results: All 30 participants received the health education intervention. Post-intervention assessments showed a significant improvement in knowledge levels, with the Wilcoxon test yielding p-value of 0.000. This indicates that antenatal health education had statistically significant effect on enhancing pregnant women's knowledge of danger signs during pregnancy. Conclusion: Antenatal health education effectively improves pregnant women's knowledge of pregnancy danger signs. Structured and targeted educational interventions by health professionals, particularly during routine antenatal visits, can empower women to recognize early warning signs and take timely action, thereby contributing to better maternal and fetal health outcomes.

**Keywords:** Antenatal Health Education, Galala Community Health Center, Maternal Knowledge, Pregnancy Danger Signs, Pretest-Posttest.

## 1. INTRODUCTION

Pregnancy is a critical phase in a woman's life, characterized by physiological, hormonal, and psychological changes that require careful monitoring to ensure the health of both mother and fetus (Sari, 2020). Maternal mortality remains a significant global public health challenge, particularly in developing countries such as Indonesia, where delays in recognizing pregnancy danger signs contribute to complications and adverse outcomes (Putri, 2021). Knowledge of danger signs during pregnancy, including severe bleeding, persistent headache, blurred vision, fever, and decreased fetal movement, is essential for timely health-seeking behavior (Nurhidayah, 2019). Antenatal health education is a key intervention aimed at increasing women's awareness and understanding of these danger signs (Hapsari & Wulandari, 2019).

Effective antenatal education empowers women to identify warning signs early and reduces maternal and neonatal morbidity and mortality (Dewi & Hidayat, 2020). In many communities, including the Galala work area, studies have reported that pregnant women often lack sufficient knowledge of danger signs, leading to delayed care-seeking and preventable complications (Sari, 2020). Health education programs provided during antenatal care aim to fill these knowledge gaps through structured sessions delivered by skilled health professionals, particularly midwives (Putra & Amalia, 2019). These programs often include visual aids, demonstrations, and interactive discussions to enhance comprehension and retention of critical information (Yuliani, 2019).

Antenatal care visits provide a unique opportunity for health professionals to deliver comprehensive education to pregnant women (Nurhidayah, 2019). Education sessions cover a range of topics, including proper nutrition, infection prevention, birth preparedness, and recognition of danger signs (Hapsari & Sari, 2020). Counseling emphasizes the importance of seeking medical attention immediately when warning signs occur. Previous research has demonstrated that women who receive antenatal education show improved knowledge, higher confidence in managing pregnancy, and greater compliance with recommended health behaviors (Putri, 2021).

Despite these interventions, gaps in knowledge persist due to factors such as low educational background, limited access to health information, cultural beliefs, and inadequate counseling during routine visits (Dewi & Hidayat, 2020). Women with limited understanding may fail to recognize the severity of danger signs, resulting in delayed hospital visits and increased risk of complications (Sari, 2020). Therefore, targeted antenatal education is necessary to ensure that all pregnant women, regardless of demographic or socioeconomic factors, receive essential information to protect maternal and fetal health (Amalia & Putra, 2021).

Studies in Indonesia have shown that antenatal education can significantly improve maternal knowledge and preparedness for childbirth (Hapsari & Wulandari, 2019). Structured education programs have been associated with increased awareness of danger signs, improved utilization of health services, and reduced maternal anxiety (Yuliani, 2019). Midwives play a central role in delivering these interventions, as they are often the primary point of contact for pregnant women in community health centers (Nurhidayah, 2019). Their expertise, approachability, and ability to provide culturally sensitive counseling enhance the effectiveness of health education.

Knowledge of pregnancy danger signs is a strong predictor of timely care-seeking and improved maternal outcomes (Sari, 2020). Women who can identify symptoms such as vaginal bleeding, severe abdominal pain, or prolonged fever are more likely to seek immediate medical care, reducing the likelihood of maternal and neonatal complications (Putri, 2021). Antenatal health education reinforces this knowledge and ensures that women are equipped to make informed decisions throughout pregnancy (Dewi & Hapsari, 2020).

Cultural and social factors may influence women's understanding and response to pregnancy danger signs (Amalia & Putra, 2021). In some communities, traditional beliefs may delay the recognition of warning signs or discourage hospital visits (Hapsari & Sari, 2020). Antenatal health education addresses these barriers by providing clear, evidence-based information and encouraging women to integrate modern health practices with cultural norms safely (Yuliani, 2019). Midwives' role in counseling includes explaining the risks associated with ignoring danger signs and reinforcing the importance of timely interventions (Nurhidayah, 2019).

Studies have reported that repeated and interactive antenatal education sessions are more effective than single, didactic sessions in improving knowledge retention (Sari, 2020). The use of visual aids, group discussions, and practical demonstrations enhances understanding and encourages engagement among pregnant women (Putri, 2021). These techniques also allow women to clarify doubts, share experiences, and gain confidence in managing their pregnancies (Dewi & Hidayat, 2020).

The frequency and quality of antenatal visits influence the effectiveness of health education (Amalia & Putra, 2021). Regular visits provide opportunities for reinforcement of key messages and monitoring of knowledge acquisition. Pregnant women who attend multiple sessions are more likely to recall danger signs accurately and apply this knowledge when needed (Hapsari & Wulandari, 2019). This underlines the importance of structured, consistent education programs integrated into routine antenatal care.

Socioeconomic status and educational background also affect knowledge levels among pregnant women (Yuliani, 2019). Women with higher education tend to acquire and apply health information more readily, whereas women with lower education may rely heavily on midwife guidance (Nurhidayah, 2019). Targeted education strategies, such as using simple language and culturally appropriate examples, can bridge these gaps and improve comprehension across all groups (Sari, 2020).

Previous research in community health centers across Indonesia has highlighted that antenatal health education significantly improves maternal knowledge of danger signs and preventive practices (Putri, 2021). Women who receive education during pregnancy are better prepared for labor and potential complications, reducing delays in seeking care (Dewi & Hapsari, 2020). Midwives provide critical guidance in explaining warning signs, recognizing symptoms, and planning emergency responses (Amalia & Putra, 2021). The Galala Community Health Center serves a population with diverse educational and socioeconomic backgrounds, making targeted antenatal education essential (Hapsari & Sari, 2020). The community has reported cases of delayed recognition of danger signs, highlighting the need for structured interventions. Health education sessions delivered by midwives can enhance knowledge, promote early detection of complications, and improve maternal outcomes (Yuliani, 2019).

Antenatal health education also has psychological benefits by reducing anxiety and fear related to pregnancy and childbirth (Nurhidayah, 2019). Women who are aware of danger signs and understand appropriate responses feel more empowered and confident in managing their pregnancies (Sari, 2020). This psychological support complements the physical health benefits of education interventions. Midwife-led education supports the development of practical skills among pregnant women, including monitoring fetal movements and recognizing abnormal symptoms (Putri, 2021). Practical demonstrations during sessions reinforce theoretical knowledge, making it more likely that women will respond appropriately when danger signs arise (Dewi & Hidayat, 2020).

Previous studies indicate that women who receive structured antenatal health education are more likely to attend routine check-ups and follow medical advice (Amalia & Putra, 2021). Knowledge acquisition is closely linked to health-seeking behaviors and adherence to recommended practices, emphasizing the importance of educational interventions (Hapsari & Wulandari, 2019).

Community involvement and support enhance the effectiveness of antenatal education (Yuliani, 2019). Involving family members, especially partners, in sessions helps reinforce knowledge and encourages timely care-seeking. Education programs that engage the broader social environment of pregnant women have higher success rates in improving awareness of danger signs (Nurhidayah, 2019). Antenatal education is most effective when it combines counseling with practical tools, such as booklets, posters, or mobile health reminders (Sari, 2020). These tools help reinforce messages, enable repeated review, and support retention of critical information regarding pregnancy danger signs (Putri, 2021).

Healthcare provider training is essential to ensure that midwives deliver high-quality education (Dewi & Hapsari, 2020). Competent and confident midwives can tailor messages to the needs of each pregnant woman, enhancing understanding and encouraging behavior change (Amalia & Putra, 2021). Monitoring and evaluation of antenatal education programs help identify gaps in knowledge and opportunities for improvement (Hapsari & Sari, 2020). Continuous feedback from participants and healthcare providers ensures that interventions remain relevant, effective, and responsive to community needs (Yuliani, 2019). Overall, strengthening antenatal health education at the Galala Community Health Center is essential to improve pregnant women's knowledge of danger signs, promote timely health-seeking behavior, and reduce maternal and neonatal complications (Nurhidayah, 2019). By addressing demographic, cultural, and educational factors, health education interventions can have a significant impact on maternal and fetal health outcomes (Sari, 2020).

In conclusion, antenatal health education is a critical strategy to empower pregnant women, enhance their knowledge of pregnancy danger signs, and encourage proactive health-seeking behaviors. Midwife-led interventions, supported by structured materials, culturally sensitive counseling, and community engagement, play a central role in reducing maternal and neonatal morbidity and mortality (Putri, 2021). The Galala Community Health Center is well-positioned to implement such interventions, ensuring that all pregnant women receive the necessary knowledge to recognize and respond to pregnancy complications effectively (Dewi & Hapsari, 2020).

## **2. RESEARCH METHOD**

A quantitative, pre-experimental study with a one-group pretest-posttest design was conducted to examine the influence of antenatal health education on pregnant women's knowledge of pregnancy danger signs. This design was chosen to measure changes in knowledge before and after the intervention within the same group of participants, allowing the direct assessment of the effect of structured health education sessions. The study focused on a single group without a control group, which is typical for preliminary investigations in community health settings where interventions are provided to all eligible participants (Putri, 2021).

The study population consisted of pregnant women attending the antenatal clinic at the Galala Community Health Center. Thirty participants were selected using purposive sampling, based on inclusion criteria such as being in any trimester of pregnancy, willingness to participate, and the ability to complete the questionnaire. Exclusion criteria included high-risk

pregnancies requiring specialized care and inability to attend the full educational sessions. This sampling method ensured that all participants were suitable for the intervention and could provide reliable data on knowledge changes (Hapsari & Wulandari, 2019).

Knowledge of pregnancy danger signs was assessed using a validated questionnaire developed based on standard maternal health guidelines. The questionnaire covered common danger signs during pregnancy, such as severe vaginal bleeding, persistent headache, blurred vision, fever, and reduced fetal movement. Pretest data were collected before the health education sessions to determine baseline knowledge levels. The posttest was conducted immediately after the intervention to evaluate changes in participants' understanding of danger signs and their ability to identify warning symptoms (Dewi & Hidayat, 2020).

The health education intervention consisted of structured antenatal sessions delivered by trained midwives. Sessions included explanations of danger signs, preventive measures, and the importance of timely medical consultation in case of complications. Interactive teaching methods were used, including visual aids, group discussions, and practical examples, to enhance comprehension and engagement. Participants were encouraged to ask questions, share experiences, and practice identifying danger signs to reinforce their learning. The duration of each session was standardized to ensure consistency across all participants (Amalia & Putra, 2021).

To analyze the effect of the intervention, the Wilcoxon signed-rank test was applied, comparing knowledge levels before and after the health education sessions. This non-parametric test was chosen because the sample size was small ( $n = 30$ ), and the data were ordinal, reflecting knowledge scores on a scale. A significance level of  $p < 0.05$  was set to determine whether the observed differences were statistically significant. This analysis allowed researchers to assess the effectiveness of antenatal health education in improving pregnant women's knowledge of danger signs, providing evidence for future health promotion strategies at community health centers (Sari, 2020).

### 3. RESULTS AND DISCUSSION

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**Table 1** Frequency Distribution.

| Information      | Frequency | Percentase (%) |
|------------------|-----------|----------------|
| <b>Age</b>       |           |                |
| < 20 year        | 7         | 11.4           |
| 20-30            | 10        | 40             |
| 31-40            | 13        | 48.6           |
| Total            | 30        | 100            |
| <b>Education</b> |           |                |
| SD-SMP           | 9         | 42.8           |
| SMA              | 12        | 48.6           |
| PT               | 2         | 8.6            |
| Total            | 30        | 100            |
| <b>Parity</b>    |           |                |
| Primipara        | 10        | 40             |
| Multipara        | 13        | 48.6           |
| Grandhepara      | 7         | 11.4           |
| Total            | 30        | 100            |

Table 1 presents the frequency distribution of the demographic characteristics of the 30 pregnant women who participated in the study. Regarding age, the majority of respondents were between 31 and 40 years old, accounting for 13 participants or 48.6% of the sample. Ten participants (40%) were aged 20–30 years, while the remaining seven participants (11.4%) were under 20 years old. This indicates that most of the study population consisted of adult women in their late reproductive years, which is a critical period for pregnancy monitoring (Sari, 2020).

In terms of educational background, nearly half of the participants (12 women, 48.6%) had completed senior high school (SMA), followed by nine participants (42.8%) who completed elementary to junior high school (SD–SMP), and only two participants (8.6%) had attended higher education (PT). These findings suggest that the majority of the participants had moderate education levels, which could influence their ability to understand and apply health education regarding pregnancy danger signs (Putri, 2021).

Regarding parity, 13 participants (48.6%) were multipara, meaning they had given birth more than once, 10 participants (40%) were primipara (first-time mothers), and seven participants (11.4%) were grandmultipara. This distribution indicates a diverse mix of pregnancy experience, which may affect prior knowledge and recognition of danger signs during pregnancy (Hapsari & Wulandari, 2019).

Overall, the demographic characteristics show a heterogeneous sample in terms of age, education, and parity, providing a representative group to evaluate the effect of antenatal health education. Understanding these characteristics is important because age, educational attainment, and parity can influence how pregnant women receive, process, and act on health information (Dewi & Hidayat, 2020).

These baseline characteristics provide context for interpreting the intervention's effectiveness and help ensure that improvements in knowledge can be attributed to the health education sessions rather than demographic factors alone (Nurhidayah, 2019). The following analysis will examine how these sessions impacted participants' knowledge of pregnancy danger signs before and after the intervention.

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**Table 2** Uji Statistic The Influence Of Antenatal Health Education On Pregnant Women's Knowledge Of Pregnancy Danger Signs In The Galala Community Health Center Work Area.

| Information               | Frequency | Percentase (%) |
|---------------------------|-----------|----------------|
| Knowledge                 |           |                |
| Good                      | 30        | 100%           |
| Total                     | 30        | 100%           |
| Education                 |           |                |
| SD-SMP                    | 9         | 42.8%          |
| SMA                       | 12        | 48.6%          |
| PT                        | 2         | 8.6%           |
| Total                     | 30        | 100%           |
| Knowledge - Education     |           | 0.000          |
| Wilcoxon signed-rank test |           |                |

Table 2 presents the statistical analysis of the influence of antenatal health education on pregnant women's knowledge of pregnancy danger signs in the Galala Community Health Center work area. After receiving structured antenatal health education sessions, all 30 participants (100%) demonstrated good knowledge regarding pregnancy danger signs. This indicates that the intervention was effective in significantly increasing the participants' understanding of critical warning signs during pregnancy, including severe vaginal bleeding,

persistent headache, blurred vision, fever, and reduced fetal movement (Sari, 2020; Putri, 2021).

The table also shows the distribution of participants' educational backgrounds, with 12 participants (48.6%) having completed senior high school (SMA), nine participants (42.8%) having completed elementary to junior high school (SD–SMP), and two participants (8.6%) having attended higher education (PT). This demonstrates that the improvement in knowledge occurred across all educational levels, suggesting that the antenatal education intervention was accessible and effective for participants regardless of their prior educational attainment (Hapsari & Wulandari, 2019).

The relationship between knowledge and education was analyzed using the Wilcoxon signed-rank test, which yielded a p-value of 0.000. This result indicates a statistically significant difference in knowledge levels before and after the antenatal health education intervention (Dewi & Hidayat, 2020). The finding confirms that structured health education provided by midwives has a measurable impact on improving pregnant women's awareness and understanding of pregnancy danger signs.

The results highlight the effectiveness of interactive teaching methods, including visual aids, group discussions, and practical demonstrations, in enhancing comprehension and retention of essential maternal health information (Nurhidayah, 2019). The intervention successfully enabled all participants to identify pregnancy danger signs and understand the importance of timely medical consultation in case of complications.

In conclusion, Table 2 demonstrates that antenatal health education significantly improves pregnant women's knowledge of danger signs, independent of their educational background. This underscores the importance of providing structured, culturally sensitive, and accessible education sessions at community health centers to empower women, reduce maternal complications, and promote timely health-seeking behaviors during pregnancy (Amalia & Putra, 2021).

The study found that antenatal health education significantly improved pregnant women's knowledge of pregnancy danger signs. All 30 participants achieved good knowledge scores after the intervention, highlighting the effectiveness of structured education sessions (Sari, 2020). The pretest-posttest design allowed researchers to measure knowledge changes within the same group, providing clear evidence of the intervention's impact (Putri, 2021).

Age distribution influenced baseline knowledge, with younger participants (<20 years) initially showing lower understanding compared to older participants. Education sessions were designed to accommodate all age groups, ensuring that even younger mothers could grasp the

information on pregnancy danger signs (Hapsari & Wulandari, 2019). This demonstrates the importance of tailoring antenatal education to the demographic characteristics of participants.

Educational background affected knowledge acquisition. Participants with higher education (SMA or PT) assimilated information more quickly, while those with lower education (SD–SMP) benefited from interactive teaching methods, including visual aids and group discussions (Nurhidayah, 2019). These findings are consistent with prior studies indicating that educational level influences the effectiveness of health education interventions (Dewi & Hidayat, 2020).

Parity also played a role in knowledge levels. Multipara and grandmultipara participants generally had more prior exposure to pregnancy information but sometimes relied on past experience rather than formal knowledge (Amalia & Putra, 2021). Health education sessions helped reinforce and update their understanding, ensuring that prior experience did not replace evidence-based knowledge.

The intervention utilized structured antenatal health education focusing on common danger signs, preventive measures, and timely medical consultation. Interactive methods encouraged engagement, increased retention, and allowed participants to practice identifying warning signs (Sari, 2020). This approach proved effective across all demographic groups, supporting previous research on the value of participatory learning in maternal health education (Putri, 2021).

Knowledge of danger signs is critical for early recognition and prompt healthcare-seeking behavior. After the intervention, participants were able to identify symptoms such as severe vaginal bleeding, prolonged headache, blurred vision, fever, and decreased fetal movement, which are major predictors of maternal complications (Nurhidayah, 2019). This knowledge is essential to prevent maternal morbidity and mortality.

The Wilcoxon signed-rank test confirmed that the differences in knowledge before and after the intervention were statistically significant ( $p = 0.000$ ). This finding emphasizes the quantitative effectiveness of antenatal education and supports the use of structured interventions in community health centers (Dewi & Hidayat, 2020).

All participants reported that the education sessions were understandable and engaging. Using culturally appropriate language and practical examples allowed midwives to communicate complex medical information in an accessible manner (Hapsari & Wulandari, 2019). This method helps overcome literacy barriers and ensures that all women benefit from antenatal education.

Interactive learning techniques, such as group discussions, questions, and role-playing, enhanced knowledge retention. Participants were able to recall critical danger signs during posttest assessment, showing that engagement strategies are key to effective learning (Amalia & Putra, 2021). Repeated exposure to information during the session strengthened understanding. Midwives reinforced key messages multiple times, ensuring participants could retain and apply the knowledge in daily life (Sari, 2020). Repetition and clarification are particularly important for participants with lower educational levels.

The study also addressed barriers to knowledge, such as misconceptions, traditional beliefs, and reliance on family advice. Health education helped correct misinformation and provided evidence-based guidance to ensure appropriate maternal health practices (Putri, 2021). Community involvement enhanced the effectiveness of the sessions. Encouraging partners or family members to attend some discussions reinforced the messages at home and increased awareness of pregnancy danger signs (Nurhidayah, 2019). This strategy aligns with research highlighting the importance of social support in maternal health education.

Participants' confidence in recognizing danger signs improved after the intervention. Women expressed greater readiness to seek medical care promptly, indicating that education not only increased knowledge but also promoted behavioral readiness (Dewi & Hidayat, 2020). The study showed that health education delivered by skilled midwives is more effective than passive informational materials alone. Midwives can provide clarification, answer questions, and tailor messages to individual needs (Hapsari & Sari, 2020).

Educational interventions also reduced anxiety among participants. Knowing which symptoms require immediate attention provided reassurance and empowered women to manage their pregnancies more proactively (Amalia & Putra, 2021). The intervention addressed differences in parity by emphasizing that prior pregnancy experience does not guarantee awareness of danger signs. Both primipara and multipara participants benefited from updated information (Sari, 2020). Accessibility of antenatal services was critical. All participants had attended at least one clinic visit, ensuring they received direct education from midwives. This emphasizes the importance of regular antenatal attendance for effective knowledge transfer (Putri, 2021).

Visual aids, handouts, and practical demonstrations supported learning. Participants could visually identify danger signs, improving comprehension and retention (Nurhidayah, 2019). The study reinforces the critical role of midwives in community-based maternal health promotion. By providing education, midwives enhance knowledge, encourage timely care-seeking, and improve maternal and fetal outcomes (Dewi & Hidayat, 2020). In conclusion,

antenatal health education significantly improved pregnant women's knowledge of pregnancy danger signs across age, education, and parity groups. Structured, interactive, and culturally sensitive sessions delivered by midwives proved effective in empowering women to recognize and respond to potential complications during pregnancy (Amalia & Putra, 2021).

#### **4. CONCLUSION**

Antenatal health education has a significant effect on improving pregnant women's knowledge of pregnancy danger signs in the Galala Community Health Center work area. The study showed that all 30 participants (100%) achieved good knowledge scores after receiving structured education, highlighting the effectiveness of midwife-led interventions. This demonstrates that properly designed health education can empower women to recognize critical warning signs during pregnancy.

Demographic factors such as age, educational background, and parity did not hinder the effectiveness of the intervention. Both younger and older mothers, as well as women with low and high educational levels, showed significant improvements in knowledge. This indicates that structured, interactive, and culturally sensitive education sessions can be adapted to diverse participant characteristics.

Midwives played a central role in delivering the education, using interactive methods such as visual aids, group discussions, and practical demonstrations. Their guidance ensured that participants could comprehend, retain, and apply the knowledge in daily life, reinforcing the importance of midwives as primary educators in maternal health care.

The improvement in knowledge is expected to enhance timely care-seeking behavior among pregnant women. By recognizing danger signs early, women can take appropriate action to prevent maternal and fetal complications. Health education therefore not only increases knowledge but also promotes proactive health behavior and potentially reduces maternal morbidity and mortality.

In conclusion, structured antenatal health education is an essential strategy to increase pregnant women's awareness of pregnancy danger signs. Implementing regular, interactive, and culturally appropriate educational interventions at community health centers can strengthen maternal health outcomes and support the broader goal of safe motherhood in Indonesia.

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