

# The Effect of The Use of Pregnancy Danger Signs Booklet on Mothers' Knowledge at Public Health Center X

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## Abstract

**Research Objective:** To determine the effect of using a pregnancy danger signs booklet on the knowledge level of pregnant women at the Sungai Ambawang Community Health Center in 2025. **Methodology:** This study used a quantitative pre-experimental design with a one-group pretest–posttest approach. The sample consisted of 32 pregnant women selected using a total sampling technique. The intervention involved providing health education using a pregnancy danger signs booklet. Knowledge data were collected using a structured questionnaire administered before and after the intervention. The collected data were analyzed using a paired sample t-test to assess differences in knowledge levels before and after the educational intervention. **Results:** The results showed an increase in the knowledge level of pregnant women after receiving health education using the pregnancy danger signs booklet. Statistical analysis indicated a significant difference between pretest and posttest scores, with a p-value of 0.001 ( $p < 0.05$ ) and a mean difference of 1.44. These findings indicate that the use of a booklet as an educational medium significantly improved pregnant women's knowledge regarding pregnancy danger signs. **Conclusion:** The use of a pregnancy danger signs booklet is effective in increasing the knowledge of pregnant women. Therefore, the booklet can be used as an alternative educational medium by health workers to improve maternal knowledge and awareness of danger signs during pregnancy.

**Keywords:** *booklet, pregnancy danger signs, knowledge, pregnant women.*

## INTRODUCTION

Pregnancy is a physiological process that has the potential to develop into a pathological condition if not monitored optimally. The World Health Organization (WHO) states that most pregnancy complications contributing to high maternal morbidity and mortality rates can be prevented through early detection and appropriate management of danger signs of pregnancy (World Health Organization, 2024). However, the low level of knowledge among pregnant women regarding danger signs of pregnancy remains a major problem, particularly in primary healthcare facilities such as Community Health Centers.

Danger signs of pregnancy include vaginal bleeding, severe abdominal pain, severe headache, visual disturbances, swelling of the face and hands, high fever, reduced fetal movements, and premature rupture of membranes (Vefisia et al. 2024). Maternal ignorance of these signs contributes to delays in decision-making to seek medical assistance, which ultimately increases the risk of obstetric emergencies (Ministry of Health of the Republic of Indonesia, 2023). This condition is consistent with the concept of three delays, where delay in problem recognition becomes the initial factor contributing to increased maternal complications (Pacagnella, R. C., Aguiar, R. A. L. P., Dias, M. A. B., Dias, M. A., & Cecatti, 2018).

Community Health Centers as primary healthcare facilities have a strategic role in improving knowledge and awareness of pregnant women through antenatal care (ANC) services. However, health education provided during ANC visits is often verbal and limited by service time, resulting in suboptimal absorption of information received by mothers. This indicates the need for effective,

systematic, and repeatedly accessible educational media for pregnant women (Dwi Hendriani et al. 2025).

One educational medium considered effective in improving health knowledge is the booklet. A booklet is a printed medium that presents information concisely, clearly, and is equipped with visual illustrations, making it easily understood by targets with diverse educational backgrounds. Additionally, booklets allow pregnant women to re-read educational materials independently outside of health service hours (Salsa Anastasya Amartya et al. 2025). Previous research has shown that the use of booklets as an educational medium has a significant effect on increasing pregnant women's knowledge compared to verbal education alone (Notoatmodjo, 2018) (Fitriani, R., Sari, D. P., & Handayani, 2021).

Based on preliminary observations at the Community Health Center, there are still pregnant women who are unable to completely mention the danger signs of pregnancy and the actions that must be taken should they experience such conditions. This condition indicates a gap between the information provided by health workers and the level of understanding of pregnant women. Therefore, a structured educational intervention is needed through the use of booklets as a supportive medium for community midwifery education.

## **METHODS**

This study is a quantitative research with a pre-experimental design using one group pretest-posttest design. This design is used to determine the effect of an intervention by comparing the knowledge level of respondents before and after treatment (Notoatmodjo, 2020).

In this study, respondents were given an initial measurement (pretest) to determine the level of knowledge of pregnant women about danger signs of pregnancy. Furthermore, respondents were given an intervention in the form of education using a booklet on danger signs of pregnancy, then a re-measurement (posttest) was conducted to assess changes in knowledge level.

The data collection instrument used was a knowledge questionnaire about danger signs of pregnancy. The research instrument used a questionnaire adopted from (Agustina Ayu Puspita 2023).

### **Univariate Analysis**

Univariate analysis is an analysis used to describe the characteristics of respondents.

### **Overview of Research Location**

This Community Health Center organizes basic health services covering promotive, preventive, curative, and rehabilitative efforts, with a primary focus on maternal and child health (MCH), family planning, and antenatal care services. Its working area includes semi-urban and rural areas with diverse community characteristics, thus Sungai Ambawang Community Health Center plays an important role in implementing health education and monitoring pregnant women, particularly in efforts to prevent pregnancy complications through increasing knowledge about danger signs of pregnancy.

### **Respondent Characteristics**

After conducting research on 32 respondents with collected data including: Age, Education, Occupation, Parity, and Gestational Age, the data is tabulated as follows:

**Table 1. Frequency Distribution of Respondents according to Characteristics of Pregnant Women at Sungai Ambawang Community Health Center in 2025**

Characteristics	Criteria	Frekuensi	
		N	%
Age	A. < 20 years	1	3,2
	B. 20-35 years	31	96,8
	C. >35 years	0	0
Education	A. Elementary School	1	3,2
	B. Junior High School	9	28,1
	C. Senior High School/Vocational School	16	50
	D. University	6	18,7
Occupation	A. Civil	0	0
	B. Privat Sector	6	18,5
	C. Housewife	26	81,5
Parity	A. Primigravida	12	37,5
	B. Multigravida	22	62,5
<b>Total</b>		<b>32</b>	<b>100%</b>

Source : Primary Research Data Processing, 2025

Based on age characteristics, a small proportion of respondents, 1 person (3.2%), were aged <20 years, and the majority of respondents, 31 people (96.8%), were aged 20-35 years. Based on education, half of the respondents, 16 people (50%), had Senior High School/Vocational School education. Based on occupation, the majority of respondents, 26 people (81.5%), worked as housewives. Based on parity, the majority of respondents, 22 people (62.5%), were multigravida

**Table 2. Frequency Distribution of Knowledge Level of Mothers Before and After Being Given the Booklet on Danger Signs of Pregnancy at Sungai Ambawang Community Health Center in 2025**

Knowledge Category	Before		After	
	n	%	n	%
Good	2	12,6	12	37,5
Sufficient	18	56,2	22	68,8
Poor	10	31,2	2	6,3
<b>Total</b>	<b>32</b>	<b>100</b>	<b>32</b>	<b>100</b>

Source : Primary Research Data Processing, 2025

## Normality Test

**Table 3 Data Normality Test**

	Shapiro-Wilk	
	Statistic	Description
PRE TEST	0.307	Normal
POST TEST	0.173	Normal

Source : Primary Research Data Processing, 2025

In this study, the normality test used was Shapiro-Wilk (Notoatmodjo, 2020). This is because the respondents in this study were less than 50 people. The normality test results 0,307 ; 0,173, > 0,05, meaning normal distribution.

## Bivariate Analysis

Bivariate analysis is an analysis used to determine the effect of the intervention given to the research subjects.

**Table 4. The Effect of Using the Booklet on Danger Signs of Pregnancy on Maternal Knowledge at Sungai Ambawang Community Health Center in 2025**

	Paired Sample Test		
	Mean	df	P value
PRE TEST –POST TEST	1.44	31	0.001

Source: Research Data Processing 2025

Based on the results of the t-test, a P value of 0.001 was obtained, which is less than 0.05, thus it can be concluded that there is an effect of using the booklet on danger signs of pregnancy on maternal knowledge at Sungai Ambawang Community Health Center in 2025.

## DISCUSSION

Based on Table 1, the research results show that almost all respondents were in the age range of 20–35 years, namely 31 people (96.8%), while respondents aged <20 years were only 1 person (3.2%), and there were no respondents aged >35 years.

The age of 20–35 years is known as healthy reproductive age, where women's reproductive organ functions are in optimal condition and the risk of pregnancy complications is relatively lower compared to age <20 years and >35 years. According to midwifery theory, pregnancy at ideal reproductive age is associated with the physical and psychological readiness of the mother in undergoing pregnancy, childbirth, and the postpartum period .

This result is in line with research by (Astuti, D., Widyaningsih, R., & Pratiwi, 2021) which found that the majority of pregnant women are aged 20–35 years because this age group has better awareness of pregnancy planning and utilization of health services. Additionally, mothers in this age group tend to be more receptive to health information and education provided by health workers (Notoatmodjo, 2021).

Table 1 Based on education level, the majority of respondents had Senior H(Manuaba, I. B. G., Manuaba, I. A. C., & Manuaba 2010) high School/Vocational School education, namely 16 people (50%), followed by Junior High School education, 9 people (28.1%), university education, 6 people (18.7%), and Elementary School, 1 person (3.2%).

Education is an important factor that influences a person's level of knowledge and understanding of health information. The higher the education level, the better the individual's ability to receive, process, and apply information obtained (Notoatmodjo, 2018). Mothers with secondary to higher education generally are more active in seeking information related to pregnancy health and are more compliant with health worker recommendations.

This finding is in line with research by (Sari, R., & Handayani, 2020) which stated that mothers with high school education and above have better knowledge levels compared to mothers with low education. Adequate education makes it easier for mothers to understand health education materials, including danger signs of pregnancy, nutrition, and pregnancy care.

The research results in Table 1 show that the majority of respondents worked as housewives, namely 26 people (81.5%), while those working in the private sector were 6 people (18.5%), and there were no respondents working as civil servants.

Housewives generally have more flexible time to participate in health service activities, such as pregnancy check-ups and health counseling. However, on the other hand, limited social interaction

and information can affect knowledge levels if not balanced with adequate health education (Wawan, A., & Dewi, 2019).

Research by (Rahmawati, E., Suryani, D., & Laili, 2022) shows that housewives have equal opportunities to acquire health knowledge as long as they are provided with appropriate and easily understandable educational media. Therefore, the role of health workers is very important in providing effective education to housewives.

Table 1 Based on parity, the majority of respondents were multigravida, namely 22 people (62.5%), while primigravida were 12 people (37.5%). Multigravida mothers have previous pregnancy experience that can influence attitudes and behaviors in facing subsequent pregnancies. This experience can increase awareness of pregnancy conditions, including recognition of danger signs of pregnancy (Varney, H., Kriebs, J. M., & Gegor, 2018). However, previous experience can also cause mothers to feel overly confident, thus ignoring certain danger signs.

The results of this study are in line with research by (Lestari, N., Putri, A., & Handoko, 2021) which stated that multigravida mothers tend to have better knowledge compared to primigravida due to previous pregnancy experience. Nevertheless, education remains necessary to update information according to scientific developments and current health service standards.

The results of the analysis using the Paired Sample t-Test showed a p value = 0.000 ( $p < 0.05$ ) with a mean difference of 1.43750 between knowledge scores before (pre-test) and after (post-test) the administration of the booklet on danger signs of pregnancy. These results indicate that there is a significant effect of using the booklet on danger signs of pregnancy on increasing maternal knowledge at the Sungai Ambawang Community Health Center in 2025.

Theoretically, a booklet is an effective print-based health education medium because it combines simple text and visual illustrations, making it easier for readers to understand health information. The booklet medium allows mothers to read the material repeatedly according to their needs, thus making information retention more optimal (Notoatmodjo, 2018). The increase in knowledge scores after the intervention indicates that the booklet is able to function as an effective educational tool in conveying information about danger signs of pregnancy.

The results of this study are in line with research by (Sari, R., & Handayani, 2020) which found a significant increase in pregnant women's knowledge after being given education using booklet media. Another study by (Rahmah, N., & Fitriani, 2020) also reported that the use of booklets is more effective compared to verbal counseling alone because mothers can re-learn the material independently at home. Print media such as booklets are very suitable for use in primary health care facilities, including community health centers, because they are easy to distribute and do not require special technology.

Furthermore, the success of using booklets in this study was also influenced by the characteristics of respondents, the majority of whom were in healthy reproductive age and had secondary education levels. According to adult learning theory, adults more easily absorb information when the material is presented practically, relevantly, and can be directly applied in daily life (Knowles, M. S., Holton, E. F., & Swanson, 2020). The booklet on danger signs of pregnancy presents information that is contextual to the conditions experienced by pregnant women, thus increasing respondents' reading interest and understanding.

This finding is also in line with research by (Lestari, N., Putri, A., & Handoko, 2021) which stated that health education using visual and written media has a significant effect on increasing pregnant women's knowledge about danger signs of pregnancy. This increase in knowledge is expected to contribute to increasing pregnant women's awareness in recognizing danger signs and encouraging timely health-seeking behavior.

Thus, the use of the booklet on pregnancy danger signs has proven effective as a health education tool for increasing maternal knowledge. The booklet can be used as one of the recommended

health promotion media routinely in antenatal care services at community health centers to support efforts to prevent delays in recognizing pregnancy complications.

The use of the booklet on pregnancy danger signs is recommended to be integrated sustainably into Maternal and Child Health (MCH) services at community health centers as a promotive and preventive effort. This intervention supports the achievement of SDG 3 (Good Health and Well-being), particularly the target of reducing maternal mortality rates, by increasing pregnant women's knowledge and awareness of danger signs during pregnancy. Additionally, the booklet can be used as a standard educational tool in antenatal care (ANC) services, in accordance with the Ministry of Health's national MCH program, thereby encouraging early detection of complications and faster referral decisions.

## CONCLUSION

Based on the results of statistical tests and support from theory and previous research, it can be concluded that using the booklet on pregnancy danger signs significantly increases maternal knowledge. The booklet medium is effective as a health education tool for pregnant women in primary health care services.

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**Informed Consent Statement:** Informed consent was obtained from all participants prior to data collection. Participants were informed about the study objectives, procedures, potential benefits, confidentiality, and their right to withdraw at any time without consequences to their health services.

**Data Availability Statement:** The data supporting the findings of this study are available from the corresponding author upon reasonable request. Data are not publicly available due to privacy and confidentiality considerations.

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**Conflicts of Interest:** The authors declare no conflict of interest.

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