



## Research Article

# The Influence of Booklet Media on Anemia Prevention on The Knowledge of Pregnant Women in The Cigeureung Tasikmalaya Community Health Center

Ai Rahmawati<sup>1\*</sup>, Reni Nurdianti<sup>1</sup>, Fitriani Mardiana Hidayat<sup>1</sup>, Mila Nurlatifah<sup>1</sup>

<sup>1</sup> Nursing Department, Universitas Bhakti Kencana Tasikmalaya, Tasikmalaya City, 46133, Indonesia

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### Correspondence

Phone: (+62) 85310764515

E-mail:

[ai.rahmawati@bku.ac.id](mailto:ai.rahmawati@bku.ac.id)

### Website

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### ABSTRACT

Anemia in pregnant women is a health problem that remains high in Indonesia and can negatively impact the health of both the mother and the fetus. One effort to prevent anemia is through health education. This study aims to determine the effect of booklets on anemia prevention on the knowledge of pregnant women in the Cigeureung Tasikmalaya Community Health Center area. The study used a quantitative method with a One Group Pretest-Posttest design. The sample consisted of 32 pregnant women selected using a purposive sampling technique. The research instrument was a questionnaire consisting of 20 questions about knowledge of anemia prevention. Data analysis used the Wilcoxon test. The results showed that before being given education, most respondents had poor knowledge (53.1%), while after education with booklets, the majority had good knowledge (93.8%). The Wilcoxon test showed a p-value = 0.000 (<0.05), which means there is a significant effect of using booklets on increasing pregnant women's knowledge about anemia prevention. Booklets have proven effective as an educational tool because they can be read repeatedly, are easy to understand, and are visually appealing. It is recommended that health workers utilize booklets as an alternative educational medium in an effort to increase knowledge and encourage anemia prevention behavior in pregnant women.

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## INTRODUCTION

During pregnancy, the body's need for iron increases. This increase occurs due to the increase in maternal blood volume to support fetal growth, placental development, and preparation for blood loss during childbirth (Yanti et al., 2023). The World Health Organization (WHO) recommends a daily intake of 30-60 mg of iron for pregnant women. If this requirement is not met, pregnant women are at risk of developing iron-deficiency anemia, which can significantly impact the health of both mother and baby (Wahyuni et al., 2025).

Anemia that occurs during pregnancy can be caused by various factors, including: spacing between pregnancies, parity, education level, and maternal age (Senjani et al., 2023). Iron deficiency is the leading cause of anemia globally (Wibowo et al., 2021). Poor dietary habits in pregnant women, such as consuming beverages that inhibit iron absorption, such as tea and coffee, contribute to iron deficiency disorders because they can lead to high rates of anemia in pregnant women (Azizah, 2024).

In pregnant women, anemia can cause fatigue, reduce immunity, and increase the risk of pregnancy complications such as bleeding, infection, preeclampsia, and prolonged labor (Pratiwi et al., 2022). This condition also has the potential to increase the risk of maternal morbidity and even mortality if not managed appropriately (Dewi et al., 2024).

The World Health Organization (WHO) states that anemia is one of the ten biggest health issues of the modern era. Women of reproductive age, pregnant mothers, school-aged children, and adolescents are the groups most vulnerable to anemia. Anemia is a major health problem worldwide. According to the WHO, in 2021, globally, iron deficiency caused 41.8% of anemia cases in pregnant women. Anemia was found in Africa at 57.1%, Asia at 48.2%, Europe at 25.1%, and the United States at

24.1%. According to data from the 2022 Basic Health Research (Riskesdas), the percentage of pregnant women with anemia increased over the last five years, from 2017 to 2022. The 2017 Riskesdas recorded a figure of 37.15%, while the 2022 Riskesdas showed an increase to 48.9% (Efendi et al., 2024). Thus, over the past five years, the problem of anemia among pregnant women has increased by 11.8% (Ministry of Health of the Republic of Indonesia, 2022). The results of the 2023 Indonesian Health Survey (SKI) showed that the prevalence of anemia among pregnant women in Indonesia was 27.7%. Information from the West Java Provincial Health Office indicates that the prevalence of anemia among pregnant women remains relatively high, reaching 37.1% with a total of 4,968 cases (West Java Health Office, 2023).

Efforts to prevent anemia during pregnancy, as explained by Solehati et al. in 2018, can be achieved by increasing understanding and changing attitudes to be more positive through education about the importance of adequate nutritional intake. This education should be delivered during antenatal care visits. According to the Indonesian Ministry of Health in 2020, pregnancy check-ups during the transition to new habits should be conducted at least six times during pregnancy, including consuming at least 90 iron supplement tablets, undergoing hemoglobin tests in the first and third trimesters, and seeking immediate medical attention if any unusual symptoms appear. Furthermore, improving the understanding and behavior of pregnant women and their families regarding selecting, preparing, and serving food is also crucial for improving the quality of health and nutrition services in the community.

Anemia can be prevented through a healthy diet, iron supplementation, and regular hemoglobin testing during pregnancy. However, pregnant women's low knowledge and awareness of the importance of hemoglobin testing is a

contributing factor to this condition. One factor supporting hemoglobin level testing in pregnant women is knowledge. Knowledge, or cognitive aspects, play a crucial role in shaping individual behavior (Puspita et al., 2020). Health education can be effective if its delivery is supported by appropriate methods and resources. One widely used medium is print media, such as posters, flyers, flipcharts, brochures, and booklets. Among these media, booklets can be an effective tool for conveying information because they contain text and images that can stimulate reader interest and facilitate reading. A booklet is a small book used to display various information accompanied by engaging images and text. Buku kecil means "little book" (Atiko, S.S., 2019).

Booklets were chosen as a health education tool because they offer several advantages over other educational media, particularly in the context of preventing anemia in pregnant women. Booklets present information concisely, systematically, and easily understood, allowing pregnant women to read the material independently at their own pace and pace. This is important given the limited concentration and fatigue often experienced during pregnancy (Puspasari et al., 2025).

Furthermore, booklets can be reused and stored for a long time, allowing them to be continuously remembered and reviewed. Unlike audiovisual or digital media, which require specific devices and access to technology, booklets are practical, internet-independent, and can reach pregnant women across diverse social and geographic settings (Neherta & Refnandes, 2024)

Many studies have been conducted on the use of booklets in maternal health education, but there is limited research examining the effectiveness of booklets in preventing anemia in pregnant women at the community health center level with specific local characteristics. Furthermore, most studies only assess short-term

changes in knowledge. Therefore, research is needed to examine the effect of booklets on pregnant women's knowledge about anemia prevention at the Cigeureung Community Health Center in Tasikmalaya.

The novelty of this study lies in assessing the effectiveness of educational booklets in improving pregnant women's knowledge about anemia prevention at the primary health care level with specific local characteristics, namely the Cigeureung Community Health Center in Tasikmalaya.

Unlike previous studies, which generally only assessed general changes in knowledge and were conducted in urban areas or referral health facilities, this study integrates a booklet-based educational approach with the socio-demographic context of pregnant women in the community health center's work area, resulting in a more contextual and applicable picture.

Furthermore, this study provides novelty by evaluating booklets as an easily accessible and sustainable self-education tool with the potential to be used as a promotive-preventive strategy for anemia prevention in pregnancy in primary health care.

The background of the problem description motivated the researcher to conduct research on the influence of anemia prevention booklets on the knowledge of pregnant women at the Cigeureung Community Health Center in Tasikmalaya.

## **METHOD**

This study used a quantitative method with a Pre-Post Experiment design. The pretest was conducted before the booklet was given, then after the booklet was given, a posttest was conducted with a 20-minute interval. The population in this study was 215 pregnant women in the Cigeureung Community Health Center area. The sampling technique used purposive sampling for 32 samples.

## RESULTS

Table 1

Frequency Distribution of Knowledge of Anemia Prevention Before Education

Knowledge	n	(%)
Good	0	0%
Enough	15	46,9%
not enough	17	53,1%
Total	32	100%

The analysis results in Table 1, regarding knowledge of anemia prevention among pregnant women before education, show that the majority, 17 (53.1%), had insufficient knowledge.

Table 2

Frequency Distribution of Knowledge Description of Anemia Prevention after Education

Knowledge	n	(%)
Good	30	93,8%
Enough	2	6,3%
not enough	0	0%
Total	32	100%

The results of the analysis in table 2 show the results of knowledge about anemia prevention in pregnant women after being given education, that the majority of them had good knowledge, as many as 30 respondents (93.8%).

Tabel 3

The Influence of Booklets on Anemia Prevention on Pregnant Women's Knowledge

	Z	P-Value
Pregnant Women's Knowledge Before and After Being Given Educational Media Booklets	-5.092b	0,000

Based on Table 3, the p-value was obtained = 0.000 < the a value (0.05) in the intervention group. Therefore, it can be concluded that Ho is rejected and Ha is accepted, which means there is an influence of the booklet media about anemia prevention on the knowledge of pregnant women.

## DISCUSSION

### Knowledge of Anemia Prevention Before Education

Based on the results of the pretest, the knowledge of anemia prevention among pregnant women before receiving education not enough with 17 (53.1%) having insufficient knowledge. The research findings indicate that there has been no significant change in knowledge among pregnant women due to the lack of education to improve knowledge about anemia prevention. This finding aligns with research conducted by Rahmawati (2021), which found that before the education program, respondents' knowledge was low and there had been no change due to a lack of information. Prior to the booklet-based education, most pregnant women reported not knowing much about anemia.

Education is one of the factors that influences a person's understanding, consideration, and acceptance of new things, as well as their self-awareness. The higher a pregnant woman's education, the more likely they are to know about anemia. Knowledge is influenced by several factors, including education. The results of this study show that the majority of respondents 14 respondents (43.8%) had a vocational high school education. It is undeniable that the higher a person's education, the easier it is for them to receive information, and ultimately, their knowledge will increase (Rahmawati, 2021).

### Knowledge Description of Anemia Prevention after Education

Knowledge of pregnant women about preventing anemia after being given education (posttest) Most of them had good knowledge, as many as 30 respondents (93.8%). Knowledge in pregnant women can be influenced by many factors, including age, education, and occupation. With increasing age, mental development also improves (Dahlan & Umrah, 2018). Furthermore, age can influence memory processes. As age increases, a person's strength and maturity

increase, and this is also true for pregnant women. Pregnant women aged 20 to 35 years are better at receiving and understanding information compared to pregnant women aged 18 years. In this study, 25 respondents (78.1%) were aged 20-35. This is in line with Lestari's (2023) research, which found that mothers' ability to prevent anemia is related to their age. The chi-square test yielded a p-value of 0.017.

The research findings indicate an increase in respondents' knowledge after receiving booklet education. This aligns with the research findings of Afrianti & Gusrizal (2022), which explain that methods to stimulate and engage pregnant women's attention in reading can significantly impact their knowledge of the material presented in the booklet. This aligns with research by Purba et al. (2024) Agussafutri et al. (2026), which found that mothers who received educational booklets experienced an increase in knowledge. This indicates that educational booklets as a communication method have proven effective in increasing knowledge.

### **The influence of booklet media on anemia prevention**

Based on the results of statistical analysis using the Wilcoxon test, it was shown that there was a significant difference in the level of knowledge of pregnant women regarding anemia prevention, with a p-value of  $0.000 < (0.05)$ . Health education using booklets can activate and enhance knowledge during the delivery process. The knowledge provided through booklets can be perceived through the sense of sight alone, simply by reading the booklet (Yuliani et al. 2023). To increase knowledge, we can do several things, one of which is providing education about anemia (Az-zahra & Kurniasari, 2022). Using booklets as a medium in health education can stimulate reading interest, which can be done repeatedly, thus helping users acquire and

memorize health education information (Apriyanti et al., 2014)

### **CONCLUSIONS AND RECOMMENDATION**

Knowledge of anemia prevention before the booklet education was provided to pregnant women was mostly in the poor category. Knowledge of anemia prevention after the booklet education was provided to pregnant women was mostly in the good category. The booklet media had an impact on knowledge of anemia prevention among pregnant women. Based on the research results, educational booklet media is recommended as an effective media in increasing the knowledge of pregnant women regarding anemia prevention.

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