



## HEALTH EDUCATION WITH A BALANCED NUTRITION POCKETBOOK FOR PREGNANT WOMEN IN THE FIRST TRIMESTER

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### Abstract

**Introduction:** Chronic energy deficiency can affect the growth of the fetus. Based on a preliminary study, 80% of pregnant women do not understand nutrition in early pregnancy. health education aims to make pregnant women healthier than before. Pocket book has characteristics more flexibly, easy to carry anywhere, and can be read at any time.

**Objective:** This study aims to determine the effect of health education with pocket books on knowledge of balanced nutrition in pregnant women in the first trimester.

**Method:** This is a quantitative research type, pre-experiment one group pre-post test design without control. The population in this study were all pregnant women in the first trimester at the Independent Practice of Midwife Noris Hadi in February – March included 25 pregnant women. The sampling technique used total sampling. The intervention was health education with the lecture method and discussion with pocket book media. Data were analyzed univariately and bivariately. The instrument used a questionnaire that had been tested for validity and reliability.

**Result:** Almost all respondents are aged 20-35 years, pregnant women who have a college education are very low, most respondents are working women. there were no pregnant women in the first trimester who experienced a decrease in score after being given health education. The average increase in score of 24 pregnant women was 12.5 poin. There was 1 pregnant woman in the first trimester who had the same pre-test and post-test results.

**Conslusion:** there is a difference in test results before and after being given Health Education with a pocket book regarding knowledge of balanced nutrition for pregnant women.

**Keywords:** balanced nutrition, health education, pocket book.

## Introduction

Good nutrition can affect health. Abnormal growth and development indicate nutritional deficiencies. Nutritional status is influenced by several interrelated factors. Adequate nutritional intake to meet the body's needs and infection status can affect a person's nutritional status (Laswati, 2017). The health and nutritional conditions of the mother before, during pregnancy and after delivery affect fetal growth and the risk of stunting. Other factors in the mother that affect are the mother's posture (short), too close a pregnancy spacing, the mother being a teenager, and inadequate nutritional intake during pregnancy (Pusdatin, 2018). Nutritional intake in pregnant women has an impact on the health of the mother and the growth of fetus. During pregnancy, nutritional needs increase 2-3 times compared to non-pregnant women. Nutritional problems that occur in pregnant women, such as chronic energy deficiency, can affect the growth of the fetus in the womb, babies who are born can be born with LBW and malnutrition which can trigger stunting in children (Nasriyah & Ediyono, 2023).

Chronic energy deficiency in pregnant women can cause birth risks such as difficult labor, prolonged labor, premature labor or labor that is faster than expected, postpartum bleeding, and increased need for surgical procedures to assist with labor (Kusumastuti et al., 2023). Based on routine report data sources in 2022 collected from 34 provinces, it is known that there are 283,833 pregnant women with Upper Arm Circumference <23.5 cm (risk of Chronic energy deficiency) out of 3,249,503 pregnant women whose Upper Arm Circumference is measured, so it is known that the achievement of pregnant women with energy deficiency risk is 8.7% (Dirjen Kesmas, 2022).

Based on a preliminary study at the Independent Practice of Midwife Noris Hadi in 2023, out of 300 pregnant women in the first trimester, there were 40 pregnant women. Interviews were conducted with 10 pregnant women in the first trimester, saying that 80% of pregnant women do not understand nutrition in early pregnancy because they think that the food they eat every day is sufficient in early pregnancy and consuming milk during pregnancy is enough for mothers to sufficient nutritional needs. Pregnant women need to improve their knowledge to correct the wrong perception about pregnant women's nutrition. One way to improve pregnant women's knowledge is by conducting health education. According to Sari, (2013), health education aims to make pregnant women healthier than before. The health learning process can be implemented using health promotion media. Health education can facilitate the transfer of knowledge to pregnant women, so that they are expected to be able to apply healthy living in everyday life. Based on Yulianasari et al., (2019) nutrition education with booklet media is quite effective in increasing knowledge and practice.

Just like booklets, pocket books can also be a medium for health promotion. Pocket book has characteristics more flexibly, easy to carry anywhere, can be stored, can be read at any time, Not bound by time, In presenting advertisements it is more informative, complete and specific for consumer needs, In terms of conveying criticism, print media is more substantial and more effective because it is reviewed more deeply and can accommodate many opinions (Jatmika et al., 2019). This study aims to determine the effect of health education with pocket books on knowledge of balanced nutrition in pregnant women in the first trimester.

## Method

This is a quantitative research type, pre-experiment one group pre-post test design without control. The population in this study were all pregnant women in the first trimester at the Independent Practice of Midwife Noris Hadi in February-March included 25 pregnant women. The sampling technique used total sampling. The intervention was health education with the lecture method and discussion with pocket book media. Questionnaires on balanced nutrition were given before and after health education. The questionnaire has been tested for validity with the results of all questions valid and a cronbach alpha value of 0.751. data presentation with univariate and bivariate.

## Result and Discussion

This study was conducted on 25 pregnant women in the first trimester who visit Independent Practice of Midwife Noris Hadi for antenatal care. The following are the results of the study

Table 1. Characteristics of Respondent

Variable	N	%
<b>Age</b>		
<20 years old	0	0
20-35 years old	24	96
>20 years old	1	4
<b>Education</b>		
Elementary and junior High School	8	32
Senior High School	13	52
University	4	16
<b>Occupation</b>		
Not Working	10	40
Working	15	60
<b>Total</b>	<b>25</b>	<b>100</b>

Based on table 1, almost all respondents are aged 20-35 years ( 96% or 24 respondents). Pregnant women who have a college education are very low (16% or 4 respondents). Most respondents are working women (60% or 15 respondents).

Table 2. Bivariat Analysis Pre-Test and Post-Test

Variable	N	Minimum	Maximum	Mean	P Value
Pre_Test	25	64	96	85,12	0,000
Post_Test	25	88	100	96,8	

Wilcoxon Test

Based on table 2, it is known that there is a difference in test results before and after being given Health Education with a pocket book regarding knowledge of balanced nutrition for pregnant women.

Table 3 Wilcoxon Test Result

	N	Mean Rank
<i>Negative Ranks</i>	0 <sup>a</sup>	0,00
<i>Positive Ranks</i>	24 <sup>b</sup>	12,50
<i>Ties</i>	1 <sup>c</sup>	
<b>Total</b>	<b>25</b>	

Based on table 3, there were no pregnant women in the first trimester who experienced a decrease in score after being given health education. The average increase in score of 24 pregnant women was 12.5 poin. There was 1 pregnant woman in the first trimester who had the same pre-test and post-test results.

Based on characteristic of our respondents, almost all respondents are aged 20-35 years. Pregnant women who have a college education are very low. Most respondents are working women. According to Nuradhiani., (2021) poor nutritional status in pregnant women will have an impact on fatigue while working. In addition, fatigue while working will also affect the nutritional status of pregnant women, so pregnant women who work are expected to be able to meet nutritional needs so that optimal nutritional status can be achieved during pregnancy. Fatigue during pregnancy can be avoided by limiting working hours, amount of work, workload during pregnancy, and having time to work and rest alternately.

Based on study Ernawati et al., (2018) suggests that mothers who are too young (<20 years) or too old (>35 years) are at risk of experiencing chronic energy deficiency. There is a relationship between employment status and the incidence of chronic energy deficiency in pregnant women. Pregnant women who are only housewives (not working) are at risk of experiencing chronic energy deficiency.

Pregnant women of adolescent age with low weight gain during pregnancy, chronic energy deficiency and low intake of energy, protein, folic acid and iron are at risk of giving birth to babies with low birth weight (Retni et al., 2016) . The level of education also has an exponential relationship with the level of health. The higher the level of education, the easier it is to accept the concept of healthy living independently, creatively, and sustainably. A person's educational background is related to the level of knowledge, if the mother's level of nutritional knowledge is good, it is expected that the nutritional status of the mother and her toddler will also be good. The ability to absorb knowledge will increase according to the increase in a person's education and this ability is closely related to a person's attitude towards the knowledge they absorb (Kartikasari et al., 2012).

Our study known that there is a difference in test results before and after being given Health Education with a pocket book regarding knowledge of balanced nutrition for pregnant women. Pocket books have been widely used as a medium for health education. Various studies have shown the effectiveness of pocket books in increasing knowledge. Our research is in line with the pocket book research in knowledge about stunting conducted by Dianna, D., Damayanti, D. F., & Purnamasari, M (2023) there is a significant difference in knowledge before and after being given the pocket book.

Pregnant women with less knowledge are more likely to ignore their health and do things that can accidentally harm themselves and their fetus. This will worsen with the lack of information obtained before and during pregnancy (Rohmatika et al., 2022). In another study comparing pocket books and leaflets, it was found that the use of pocket books as one of the media for nutritional education regarding the importance of consuming vegetables and fruits can improve the knowledge and practice of elementary school students. Pocket books were more effective in improving the knowledge and practice of students in the treatment group than in the control group given leaflets (Azadirachta & Sumarmi, 2017). When compared with audiovisual media, research shows that there is no difference in the average between the group that has been given health promotion using the audiovisual method and the group that has been given health promotion using the pocket book method in increasing knowledge (Wibowo & Suryani, 2013).

This study has limitations in that health education was only conducted at a time and the time gap between pre-test and post-test was less than 24 hours and the number of samples was small. To reduce bias, in further research, the follow-up time can be extended and the number of samples increased.

## Conclusion

Our study found there is a difference in test results before and after being given Health Education with a pocket book regarding knowledge of balanced nutrition for pregnant women. there were no pregnant women in the first trimester who experienced a decrease in score after being given health education. The average increase in score of 24 pregnant women was 12.5 poin. There was 1 pregnant woman in the first trimester who had the same pre-test and post-test results.

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