

The Effect of Local Wisdom-Based Health Education and Mentoring on Changes in Knowledge about Nutrition for Pregnant Women at the Wara Selatan Community Health Center in 2026

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Abstract: Background: Knowledge of pregnant women about nutrition is an important factor that influences the behavior of meeting nutritional needs during pregnancy. Low knowledge can increase the risk of chronic energy deficiency (CED), anemia, low birth weight (LBW), and stunting. One effort that can be done to improve the knowledge of pregnant women is through mentoring and health education based on local wisdom that utilizes the potential of local culture and food so that it is more easily accepted by the community. Objective: This study aims to analyze the effect of mentoring and health education based on local wisdom on changes in knowledge about nutrition of pregnant women at the Wara Selatan Community Health Center, Palopo City in 2026. Method: This study used a quasi-experimental design with a one group pretest-posttest design approach. The study was conducted at the Wara Selatan Community Health Center, Palopo City in May–June 2026. The study population was all 44 pregnant women who visited the Wara Selatan Community Health Center. The sample was determined using a total sampling technique so that 44 respondents were obtained. Data collection was carried out using a questionnaire on knowledge about nutrition of pregnant women before and after the intervention. Data analysis used the Wilcoxon Signed Rank Test with a significance level of $\alpha = 0.05$. Results: Before the intervention, the majority of respondents had poor knowledge (47.7%), while after the intervention, the majority were in the sufficient (45.4%) and good (43.2%) categories. The Wilcoxon Signed Rank Test results showed a Z value of -5.014 with Asymp. Sig. (2-tailed) = 0.000 ($p < 0.05$), indicating a significant difference in knowledge before and after the intervention. Conclusion: Local wisdom-based health education and mentoring significantly improved nutritional knowledge among pregnant women at the Wara Selatan Community Health Center in Palopo City. This intervention model can be used as an innovation in antenatal care to improve the knowledge of pregnant women and support efforts to prevent CED, anemia, low birth weight (LBW), and stunting during the first 1,000 days of life.

Keywords: Health Education; Knowledge; Local Wisdom; Mentoring; Nutrition For Pregnant Women.

1. INTRODUCTION

Pregnancy is a crucial period for the health of both mother and fetus, as it increases the need for energy, protein, vitamins, and minerals to support fetal growth and maintain maternal health. Pregnant women's knowledge of nutrition is a key determinant of their nutritional behavior during pregnancy. Good knowledge encourages mothers to choose nutritious foods, utilize local food sources, and comply with health care provider recommendations, thereby reducing the risk of anemia, chronic energy deficiency (CED), low birth weight (LBW), and stunting. Conversely, low nutritional knowledge remains an indirect cause of high maternal nutritional problems in various regions of Indonesia (Ministry of Health of the Republic of Indonesia, 2023; World Health Organization [WHO], 2023).

The phenomenon in Indonesia shows that maternal nutrition remains a public health challenge. The Indonesian Nutritional Status Survey (SSGI) reports that the prevalence of pregnant women at risk of developing CED remains quite high in various provinces, including South Sulawesi. Furthermore, the prevalence of anemia among pregnant women remains above the national target, leading to an increased risk of pregnancy complications and impaired fetal growth. This situation demonstrates that nutritional interventions are not sufficient through supplementation alone, but also require increased knowledge and behavioral changes through effective health education that is appropriate to the cultural characteristics of the community (Ministry of Health of the Republic of Indonesia, 2023; Health Development Policy Agency, 2024).

In the Wara Selatan Community Health Center (Puskesmas) in Palopo City, antenatal care services have been routinely provided through prenatal classes and individual counseling. However, based on initial observations and information from health workers, pregnant women still lack an understanding of nutritional needs during pregnancy, the importance of consuming nutritious local foods, and how to process local ingredients such as moringa leaves, fish, and eggs to meet their nutritional needs. Furthermore, various dietary restrictions, passed down through generations, continue to exist, limiting the consumption of certain nutritious foods. This situation indicates that conventional educational approaches have not been fully able to change the knowledge and behavior of pregnant women, thus requiring a more contextual health education strategy that takes into account local cultural values.

Various studies have shown that nutrition education during pregnancy plays a crucial role in improving knowledge, food quality, and maternal health outcomes. A scoping review conducted by McKay et al. (2026) of 169 studies reported that various nutrition education methods had a positive impact on knowledge, eating behavior, and several maternal health outcomes, although their effectiveness was influenced by the delivery method, intervention duration, and health worker involvement. These findings were supported by a systematic review by Lassi et al. (2023) which showed that two-way nutrition counseling during pregnancy improved nutritional behavior, adherence to health recommendations, and several maternal and neonatal outcomes. The effectiveness of interventions was higher when health education was delivered interactively and continuously compared to one-way counseling.

The concept of local wisdom has begun to be widely developed in health promotion because it is considered more easily accepted by the community. The WHO (2023) emphasized that health interventions that consider local culture are more effective than universal approaches. Health education approaches that consider local culture are increasingly recommended in antenatal care. A systematic review by Abdulwahab et al. (2026) showed that antenatal education packages tailored to the sociocultural context of the community were more effective in increasing pregnancy preparedness, maternal health literacy, and family involvement than general educational approaches.

Research gaps remain. First, most studies only examine the effectiveness of health education without combining it with ongoing mentoring. Second, previous research has primarily utilized general educational media such as leaflets, videos, or lectures, thus failing to incorporate local cultural values as part of a behavior change strategy. Third, very few studies have specifically evaluated the effectiveness of local wisdom-based health education for pregnant women in South Sulawesi, particularly Palopo City. Therefore, research is needed that integrates mentoring and local wisdom-based health education as a more contextual intervention model.

This study develops a different approach than previous research by integrating support for pregnant women, participatory health education, and the use of local wisdom in the form of readily accessible local foods. Support is provided continuously so that pregnant women not only receive information but also receive motivation, reinforcement, and evaluation of their application in their daily lives. This approach is expected to produce better knowledge changes than conventional health education.

Based on this phenomenon, the research problem can be formulated as follows: "Is there an influence of local wisdom-based health education and mentoring on changes in knowledge about nutrition of pregnant women at the Wara Selatan Community Health Center, Palopo City in 2026?" This problem formulation is important to answer considering that increasing knowledge is the first step in changing nutritional behavior which is ultimately expected to improve the nutritional status of pregnant women and support stunting prevention since the First 1,000 Days of Life period.

The innovation of this research lies in the development of an intervention model that combines intensive mentoring with local wisdom-based health education through the use of local foods appropriate to the Palopo community's culture. This approach emphasizes not only the delivery of information but also strengthens the learning process through ongoing mentoring, making it more contextual, easy to implement, potentially significantly improving the knowledge of pregnant women, and replicable in antenatal care services at other community health centers with similar cultural characteristics.

2. METHOD

This study used a quasi-experimental design with a one-group pre-test and post-test design approach. The study was conducted by measuring the increase in knowledge regarding nutritional fulfillment during pregnancy through the use of local foods in the form of Moringa leaves and free-range chicken eggs. The study was planned to be carried out at the Wara Selatan Community Health Center in 2026. The study period was May - June 2026. The population in this study were all pregnant women in the Wara Selatan Community Health Center area totaling 44 people. The research sample was 44 pregnant women. The sampling technique can use total sampling. This study used several instruments consisting of respondent characteristics instruments and questionnaires. Data analysis used the Wilcoxon Signed Rank Test.

3. RESULTS AND DISCUSSION

Respondent Characteristics Analysis

Table 1. Frequency distribution of characteristics of research respondents (N=44)

Category	n	%
Age		
<20 years	2	4.5
20–35 years	33	75.0
>35 years	9	20.5
Education		
Elementary School	5	11.4
JUNIOR HIGH SCHOOL	5	11.4
SENIOR HIGH SCHOOL	29	65.8
Bachelor	5	11.4
Work		
Housewife	30	68.2
Self-employed	5	11.3
Private sector employee	9	20.5
Total	44	100.0

Source: Primary Data 2026

Based on Table 1, it is known that Based on Table 1, it is known that of the 44 respondents, the majority were in the 20–35 age group, as many as 33 people (75.0%), while respondents aged >35 years were 9 people (20.5%) and <20 years were 2 people (4.5%). Based on education level, the majority of respondents had a high school education, namely 29 people (65.8%), while respondents with elementary school, junior high school, and bachelor's degrees each numbered 5 people (11.4%). Viewed from occupation, the majority of respondents were housewives as many as 30 people (68.2%), followed by private employees as many as 9 people (20.5%), and self-employed as many as 5 people (11.3%). These characteristics indicate that the majority of respondents were in a healthy reproductive age with a secondary education level and did not work in the formal sector, thus having relatively homogeneous characteristics as targets for health education interventions.

Univariate Analysis

Table 2. Distribution of Knowledge of Pregnant Women Before Intervention (Pre-test)

Category	n	%
Good	8	18.2
Enough	15	34.1
Not enough	21	47.7
Total	44	100

Based on Table 2, it is known that before receiving local wisdom-based health education and mentoring interventions, the majority of respondents had a knowledge level in the poor category, namely 21 respondents (47.7%). Furthermore, 15 respondents (34.1%) had sufficient knowledge, while only 8 respondents (18.2%) had good knowledge.

These results indicate that before the intervention, most pregnant women lacked adequate knowledge regarding nutritional needs during pregnancy. This situation highlights the continued need to improve knowledge through more effective health education methods tailored to the characteristics of the local community.

Table 3. Distribution of Pregnant Women's Knowledge Literacy After Intervention (Post-test)

Category	n	%
Good	19	43.2
Enough	20	45.4
Not enough	5	11.4
Total	44	100

Based on Table 3, it is known that after being provided with local wisdom-based health education and assistance, there was an increase in the level of respondents' knowledge. Most respondents were in the sufficient knowledge category, namely 20 people (45.4%), followed by the good knowledge category of 19 people (43.2%), while respondents with poor knowledge category decreased to 5 people (11.4%).

These results demonstrate a change in the distribution of knowledge levels after the intervention. The number of respondents with good knowledge increased compared to before the intervention, while the number of respondents with poor knowledge decreased significantly. This indicates that the intervention has the potential to improve pregnant women's knowledge of nutrition during pregnancy.

Bivariate Analysis

Table 4. Normality Test Results

Variables	Shapiro–Wilk Statistics	p-value	Information
Pre-test	0.768	0,000	Not normally distributed
Post-test	0.773	0,000	Not normally distributed

Based on Table 4, it is known that the results of the normality test using the Shapiro–Wilk test show a significance value (p-value) for the pre-test data of 0.000 and a post-test of 0.000. This significance value is less than 0.05 ($p < 0.05$), so the knowledge score data before and after the intervention is declared not normally distributed.

Because the data did not meet the normality assumption, the statistical analysis to determine the effect of local wisdom-based health education and assistance on changes in pregnant women's knowledge was continued using a nonparametric test, namely the Wilcoxon Signed Rank Test.

Table 5. The Effect of Local Wisdom-Based Health Education and Mentoring on Changes in Knowledge about Pregnant Women's Nutrition at the Wara Selatan Community Health Center in 2026

Variables	Z	Asymp. Sig. (2-tailed)
Posttest–Pretest	-5,014	0,000

Wilcoxon Signed Rank Test Results

Based on table 5, it is known that the results of the analysis using the Wilcoxon Signed Rank Test obtained a Z statistic value of -5.014 with an Asymp. Sig. (2-tailed) value of 0.000. This significance value is smaller than the specified significance level ($\alpha = 0.05$), so H_0 is rejected and H_1 is accepted.

Thus, it can be concluded that there is a significant influence of local wisdom-based health education and mentoring on changes in knowledge about nutrition in pregnant women at the Wara Selatan Community Health Center in 2026. These results indicate that the intervention provided is effective in increasing respondents' knowledge regarding nutritional fulfillment during pregnancy.

Discussion

The results of the study showed that there was a significant influence of mentoring and health education based on local wisdom on changes in knowledge about nutrition for pregnant women at the Wara Selatan Community Health Center in 2026. The results of the Wilcoxon Signed Rank Test obtained an Asymp. Sig. (2-tailed) value of 0.000 ($p < 0.05$), which indicated that there was a significant difference between the level of knowledge before and after the intervention. Before the intervention, most respondents were in the poor knowledge category, while after the intervention there was an increase in the number of respondents who had good and sufficient knowledge. This finding indicates that the combination of mentoring and health education based on local wisdom can improve pregnant women's understanding of nutritional needs during pregnancy. This finding is in line with WHO recommendations that nutritional counseling during pregnancy is an important part of antenatal care to improve the quality of maternal diet and pregnancy outcomes.

The increase in knowledge after intervention can be explained through the theory of behavior change proposed by Notoatmodjo (2021), which states that knowledge is a cognitive domain that forms the basis for the formation of health attitudes and behaviors. Individuals who acquire information through health education will experience an increased ability to understand, remember, and apply that information in their daily lives. In this study, health education accompanied by mentoring allowed pregnant women to receive repeated reinforcement of information, making the learning process more effective than one-way counseling.

The findings of this study can also be explained using the Health Promotion Model (HPM) developed by Pender. This model explains that changes in health behavior are influenced by previous experiences, perceived benefits, interpersonal support, and individual commitment to action. The mentoring provided during the study provided interpersonal support from health workers, while health education increased the perception of the benefits of nutritional fulfillment during pregnancy. The combination of these two components encouraged pregnant women to more easily accept information and increased their knowledge about the use of nutritious local foods as part of a healthy lifestyle.

Furthermore, the results of this study align with Bandura's Social Cognitive Theory, which emphasizes the importance of interactions between individuals, the environment, and behavior. Through mentoring, pregnant women not only receive information but also receive examples, motivation, feedback, and opportunities to discuss daily experiences. This social learning process increases the pregnant women's self-efficacy in understanding and applying nutritional messages. Therefore, the increase in knowledge is not solely due to the delivery of the material but also to the interactions that occur during mentoring.

The results of this study align with those of Rahmawati et al. (2021), who reported that antenatal nutrition education in Indonesia still faces various obstacles, such as limited counseling time, a lack of nutrition professionals, and suboptimal delivery methods. This study emphasized the need for nutrition education to be developed through more contextual, interactive approaches involving various health professionals to more effectively improve the knowledge of pregnant women. The results of this study indicate that a mentoring model combined with health education can be one solution to overcome these obstacles.

The results of this study are consistent with those of Lassi et al. (2023), who, through a systematic review, concluded that interactive nutrition counseling during pregnancy can improve knowledge, eating behavior, and several indicators of maternal and infant health. Interventions involving two-way communication and mentoring yield better results than passive information provision. A study by Sisay et al. (2026), through a systematic review and meta-analysis, found that nutrition education combined with the use of local foods significantly increased the dietary diversity of pregnant women. This

suggests that using local food sources as an educational medium has great potential to improve the quality of nutritional intake during pregnancy.

The success of the intervention in this study is also thought to have been influenced by the use of a local wisdom-based approach. The health education materials not only explained nutritional needs during pregnancy but also linked them to the use of readily available local foods, such as moringa leaves, free-range chicken eggs, local fish, and other traditional foods. This approach made the information easier to understand because it aligned with the respondents' daily experiences. Research on culture-based prenatal care patterns in Indonesia shows that cultural values significantly influence maternal health behaviors, so interventions that take cultural aspects into account tend to be more readily accepted by the community.

Mentoring during the research also made a significant contribution to increasing knowledge. Unlike one-way health education, mentoring allows for two-way communication between health workers and pregnant women. Through this process, each mother can share her challenges, beliefs, and eating habits, allowing health workers to provide solutions tailored to each individual's situation. The WHO confirms that personalized and ongoing nutrition counseling is more effective than general information delivery because it improves diet quality, adherence to nutritional recommendations, and pregnancy outcomes.

Overall, the results of this study indicate that local wisdom-based health education and mentoring are effective interventions for improving nutritional knowledge for pregnant women. This increased knowledge is expected to form the basis for changes in nutritious food consumption behavior, increase adherence to ANC services, and support efforts to prevent chronic energy deficiency, anemia, low birth weight, and stunting during the first 1,000 days of life. These findings reinforce the importance of developing a health promotion model that integrates scientific approaches with local culture so that it can be implemented sustainably in maternal health services at the community health center (Puskesmas) level.

4. CONCLUSION

Based on the results of research on the effect of local wisdom-based health education and mentoring on changes in knowledge about nutrition for pregnant women at the Wara Selatan Community Health Center in Palopo City in 2026, it can be concluded that there was an increase in knowledge among pregnant women after the intervention in the form of local wisdom-based health education and mentoring. Before the intervention, most respondents had a level of knowledge in the poor category, whereas after the intervention, most respondents experienced an increase to the sufficient and good categories.

The results of the analysis using the Wilcoxon Signed Rank Test showed a Z value = -5.014 with Asymp. Sig. (2-tailed) = 0.000 ($p < 0.05$). These results indicate a significant difference between the level of knowledge of pregnant women before and after the intervention. Thus, the research hypothesis is accepted, so it can be concluded that local wisdom-based health assistance and education have a significant effect on increasing knowledge about nutrition in pregnant women at the Wara Selatan Community Health Center, Palopo City in 2026.

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