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Effectiveness Of Milkfish On Increasing Hemoglobin Levels In Pregnant Women At The Sebengkok Tarakan Health Center

Sarita[1], Retno Palupi Yonni Siwi[2], Erma Retnaningtyas[3], Anggrawati Wulandari[4], Asruria Sani Fajriah[5]
Program Study Midwifery, Faculty Nursing and Midwifery, Universitas STRADA Indonesia
[*]**Corresponding author:** saritabeccerajji91@gmail.com

ABSTRACT
The low behavior of checking hemoglobin levels in pregnant women is influenced by several factors, including the lack of knowledge of pregnant women regarding the importance of examinations and their lack of desire or willingness to know the benefits of checking hemoglobin levels. The aim of this research was to determine the effectiveness of milkfish in increasing hemoglobin levels in pregnant women. Method: The research design is pre-experimental with a one-group pre-post test design approach. The population is all 30 pregnant women who will have their hemoglobin levels checked at the Sebengkok Tarakan Community Health Center. The sampling technique used was total sampling and 30 respondents were found using the Wilcoxon statistical test. The results of the analysis of 30 respondents before being given milkfish, 20 respondents (60%) of them had a low category and after being given education 25 respondents (83.4%) of them had low HB. Results: Statistical test results using the Wilcoxon test with a value of p=0.001 (a<0.05), so it can be concluded that H0 is rejected and H1 is accepted, which means that there is an effect of the effectiveness of milkfish on increasing hemoglobin levels in pregnant women at the Sebengkok Tarakan Health Center Conclusion: Based on the research results, the category of checking hemoglobin levels in pregnant women. It is hoped that health workers will further improve their skills in communicating effectively with pregnant women so that they are willing to carry out examinations as a form of initial prevention in dealing with hemoglobin levels and feeling safe during the pregnancy process.

Keywords*:* Milkfish, Increased Hemoglobin Levels

INTRODUCTION

One food that can increase hemoglobin levels in the blood is milkfish. Milkfish (Chanos chanos) is a type of freshwater fish favored by the public due to its high economic value, ease of cultivation, and rich nutritional content. Every 100 grams of milkfish contains various nutrients. Consuming milkfish during pregnancy is proven to be beneficial in minimizing the risk of premature birth and low birth weight. This benefit is because milkfish is a nutritious food rich in vitamin B12. Adequate vitamin B12 consumption during pregnancy can support optimal growth and development of the fetus and reduce the risk of low birth weight (Adawiyah, 2019).

Efforts to increase hemoglobin levels in pregnant women, in addition to administering iron tablets, can be combined with complementary therapy derived from various nutrients. Various nutrients essential for supporting the pregnancy process come not only from milkfish but also from various other nutritional sources. To meet your nutritional needs during pregnancy practically, don't forget to consume Anmum Materna regularly. This is because its

iron content is useful for increasing hemoglobin levels in pregnant women, thus preventing anemia (Rimawati & Kusumawati, 2019).

Anemia in pregnancy is a condition where a pregnant woman's HB level is less than 11 g% in the first and second trimesters, and less than 10.9 g% in the third trimester. Various nutrients contained in milkfish, such as iron, protein, zinc, and omega-3 fatty acids, can support fetal growth and development and meet the mother's nutritional needs during pregnancy. The recommended serving size for milkfish for pregnant women is 2–3 servings per week. Protein deficiency in pregnant women between weeks 20 and 25 significantly impacts the length and weight of the unborn baby. Total fetal protein intake during pregnancy is 350–450 g. The fetus needs 2 g/day of protein for tissue formation and 5.2 g/day for metabolic processes. So the total protein requirement for the fetus is 7.7 g/day. Milkfish also has a high protein content of 20 g/100 g, 2 mg/100 g of iron, and a low fat content of 4.8 g/100 g. Milkfish can increase albumin and hemoglobin levels. Iron requirements double in pregnant women, which is why 75% of anemia is caused by iron deficiency. Iron deficiency affects hemoglobin (Hb) formation, resulting in inadequate oxygen transport to all body tissues. Therefore, mothers with iron deficiency anemia need to be given substances that can form hemoglobin (Alyani et al., 2021).

After conducting a preliminary study in the Sabengkok Community Health Center (Puskesmas) work area, in December 2023, 110 pregnant women with anemia visited. Based on interviews conducted by the researchers, it was discovered that of the five pregnant women who underwent pregnancy check-ups at the Sabengkok Community Health Center, three complained of frequent dizziness and weakness, and after the examination, their Hb levels were <11 grams/dL.

METHODS

This study used a pre-experimental study with a One Group Pretest-Posttest design. This design does not have a comparison group (control), but at least a first observation (pretest) was conducted to test changes that occurred after the experiment. Using a purposive sampling technique, a sample of 30 respondents was obtained. The independent variable was the provision of milkfish carried out by researchers using SOP, and the dependent variable was hemoglobin levels in pregnant women. A statistical test using the Wilcoxon signed rank test was used to determine the two variables. Analysis using the Wilcoxon signed rank test obtained a p result of 0.000 <0.05, so H0 was rejected and Ha was accepted, which means the effectiveness of milkfish on increasing hemoglobin levels in pregnant women at the Sebengkok Tarakan Community Health Center.

RESULT

Table 1 Respondent frequency data based on age

No	Age	Frequency	Precentage (%)
Age			
1.	< 20 years	4	13,3%
2.	20-35 years	23	76,7%
3.	> 35 years	3	10,0%
Work			
1.	Housewife	13	43,3%
2.	Private Employee	9	30,0%
3.	Self-Employed	5	16,7%
4.	Civil Servant	3	10,0%
Education			

1.	SD/MI	0	0,0%
2.	MTs/SMP	8	26,7%
3.	SMA/MA/SMK	18	60,0%
4.	SMA/MA/SMK	4	13,3%
Parity		30	100
1.	Primipara	13	43,3%
2.	Multipara	17	56,7%
HB levels			
1.	Low	22	73,3
2.	Normal	8	26,7
Hemoglobin levels			
1.	Low	5	16,7
2.	Normal	25	83,3

Source: Primary Research Data 2024

Tabel 2 Cross tabulation of respondent characteristics with variable characteristics

Category	**Giving milkfish to increase hemoglobin levels in pregnant women**				Cross tabulation of respondent characteristics with variable characteristics	
	Low (*post test*)		Normal (*post test*)		Total	
	F	%	F	%	F	%
Low (PreTest)	20	60,0%	0	0,0	20	66,7
Normal (Pre Test)	5	23,3%	5	16,6%	10	33,3
Total	25	83,4%	5	16,6%	30	100

Source: Primary Research Data 2024

Based on Table 4.15, it can be seen that in pregnant women in the low category before being given milkfish, the increase in hemoglobin levels changed to positive by 5 (23.3%). In respondents in the normal category, it can be seen that 20 (60.0%) respondents after being given education about sexually transmitted diseases did not have a negative attitude after being given education.

Analisis Hasil Uji Statistik Penelitian

Statistical Test Results

		N	Mean Rank	Sum of Ranks
Category POST - Category PRE	Negative Ranks	6[a]	6.00	66.00
	Positive Ranks	0[b]	.00	.00
	Ties	24[c]		
	Total	30		

Z	-3.317[b]
Asymp. Sig. (2-tailed)	.001

The results of the analysis of the research on the Effectiveness of Milkfish on Increasing Hemoglobin Levels in Pregnant Women at the Sebengkok Tarakan Community Health Center, based on statistical tests using the Wilcoxon test, showed p = 0.001 < 0.05. Therefore, H0 is rejected and H1 is accepted. This means that there is an effect of Milkfish on Increasing Hemoglobin Levels in Pregnant Women at the Sebengkok Tarakan Community Health Center.

DISCUSSION

Determining Hemoglobin Levels of Pregnant Women Before Milkfish at the Sebengkok Tarakan Community Health Center

Based on Table 4.5, of the 30 respondents before being given milkfish on increasing hemoglobin in pregnant women, 8 respondents (26.7%) were in the normal category, and 22 respondents (73.3%) were in the low category. The reason for the low level.

According to (Amini et al., 2020), one factor that can prevent pregnant women from having their hemoglobin levels checked is the fear of receiving unfavorable test results. Receiving unfavorable test results can have several impacts on the examiner, such as disappointment, fear, and regret. They may even withdraw from the examination, hiding the disappointing results from anyone for fear of stigma and discrimination.

In line with this statement, respondents in this study tended to hesitate about the examination due to fear of the results. This fear is understandable given its association with pregnancy.

The results showed that respondents with high school/vocational high school education were most likely in the low category (17 respondents (56.7%), and three respondents (10.0%) with MTs/SMP education had a normal attitude, indicating a normal attitude toward increased hemoglobin levels in pregnant women. Meanwhile, one respondent (3.3%) with high school/vocational high school education showed a negative attitude toward this examination. Each person's educational level is different, and this will influence their ability to think. Higher levels of education also make it easier for someone to think rationally, interpret new information, and describe new problems they will face in the future (Admin et al., 2020).

In line with this statement, in this study, respondents with junior high and high school education tended to question why pregnant women should have their hemoglobin levels

checked when health workers recommended the test, as they felt healthy and had no complaints. They did not understand the importance of this test for detecting diseases during pregnancy.

This study found that respondents aged 20-35 years had the most negative attitudes, at 13 respondents (43.3%).

According to (Tsalitsa & Rachmansyah, 2022), the more mature a person is, the wiser their decision-making behavior will be because older people are more cautious.

In line with this statement, younger respondents, particularly those in their late teens, tended to be unaware of the risks of pregnancy and hemoglobin level testing. They generally viewed the test as a supplement to pregnancy documentation, not a crucial aspect, meaning that any results would not change their pregnancy plans. They half-heartedly underwent the test and counseling.

Judging from the questionnaire results before the milkfish supplementation was administered, almost all respondents agreed that hemoglobin level testing was troublesome and did not feel the need for this test before delivery. This research, similar to the article cited by Anggraini (2020), in Surabaya, generally stated that hemoglobin level health checks are still not considered essential for every pregnant woman, even though they are a must-have before delivery. If every pregnant woman preparing to give birth were aware of this, such tests should be able to protect them from various long-term health risks, both for the pregnant woman herself and her future offspring. Determining the Hemoglobin Levels of Pregnant Women After Milkfish at the Sebengkok Tarakan Community Health Center

Based on Table 4.6, it is known that of the 30 respondents after being given milkfish, 25 respondents (83.4%) had low hemoglobin levels when examining hemoglobin levels in pregnant women, and 5 respondents (16.7%) had normal hemoglobin levels when examining hemoglobin levels in pregnant women..

According to (Notoatmodjo, 2019), health education is a planned effort to encourage people to behave or do what is expected by health educators or promoters through persuasion, persuasion, appeals, invitations, providing information, raising awareness, and so on. This encourages people to undergo health checks to determine their health status. Researchers share this opinion.

In this study, there was an increase in the number of respondents with low hemoglobin levels after milkfish was administered to pregnant women. Therefore, it can be concluded that milkfish administration was successful in encouraging pregnant women to take preventative measures to prevent increased hemoglobin levels.

In this study, three respondents with an Islamic Junior High School (MTs/SMP) education did not exhibit low attitudes during the examination after milkfish administration. According to Notoatmodjo (2018), health education is an effort to persuade or educate the community to take actions to maintain and improve their health.

This statement aligns with the results of previous research, which found that respondents with an education level above high school were more receptive to all information provided and indicated a low level of agreement with the examination. However, among respondents with a junior high school education, after being given milkfish, some respondents still had a low level of agreement regarding increasing hemoglobin levels in pregnant women.

Based on the questionnaire results after being given milkfish, all respondents agreed that testing for hemoglobin levels in pregnant women was troublesome and felt the need for

this test before delivery. These results also align with research by Munawaroh (2019), which mandates a health check as a prerequisite before delivery.

The effectiveness of milkfish on increasing hemoglobin levels in pregnant women at the Sebengkok Community Health Center in Tarakan was analyzed.The statistical test results used a Wilcoxon test with a p-value of 0.001 ($\alpha<0.05$), thus concluding that H0 was rejected and H1 was accepted, indicating that there was an effect of milkfish on increasing hemoglobin levels in pregnant women at the Sebengkok Community Health Center in Tarakan.

This study aligns with research conducted by Khimayatillah et al. (2022), which concluded that there is a relationship between milkfish administration and increased hemoglobin levels in pregnant women, as analyzed using Chi-square analysis with a p-value of 0.024 ($p<0.05$). In this study, before the intervention, 10 respondents (33.3%) were categorized as normal in their assessment of milkfish administration on increasing hemoglobin levels in mothers. After education, the number of respondents with negative attitudes decreased to 5 respondents (16.6%).

CONCLUSION

1. Before being given milkfish, the majority of respondents were in the low category (20 respondents (60%) before being given milkfish).

2. After being given milkfish, the majority of respondents were in the low category (25 respondents (83.4%).

3. The results of the statistical test using the Wilcoxon test with a p-value of 0.001 ($\alpha<0.05$), thus, it can be concluded that milkfish is effective in increasing hemoglobin levels in pregnant women at the Sebengkok Tarakan Community Health Center, regarding the category of hemoglobin level examinations in pregnant women.

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