Original research article

Pre-Matrical Nutrition Counseling, Anthropometric and Hemoglobin Examination In Women Of Fertile Age

Huntari Harahap[1,*], Armaidi Darmawan[2], Tia Wida Ekaputri[3], Erny Kusdiyah[2], Mirna Marhami Iskandar[1], Firmansyah[4]

[1]*Department of Physiology, Faculty of Medicine and Health Sciences, Universitas Jambi*

[2]*Department of Public Health, Faculty of Medicine and Health Sciences, Universitas Jambi*

[3]*Department of Biochemistry and Medical Biology, Faculty of Medicine and Health Sciences, Universitas Jamb*

[4]*Department of Obstetrics and Gynecology, Faculty of Medicine and Health Sciences, Universitas Jambi/RSUD Raden Mattaher Provinsi Jambi*

Correspondence: **huntari_harahap@unja.ac.id**

ABSTRACT

Background: The government's stunting prevention measures begin with improving nutrition, namely during adolescence, in the case of prospective brides, pregnant women, postpartum mothers, and toddlers. Empowerment for women in the community or at home is expected to reduce stunting problems and various child health problems. This study aims to screen for risk factors and prevent stunting in women of childbearing age. **Methods**: Thirty-six women of childbearing age attended this research activity in the Olak Kemang Health Center working area. The activities included pre-marital nutrition education for women of childbearing age, examination of weight, height, arm circumference, and measurement of blood haemoglobin. **Results:** The body mass index of Women of Childbearing Age was the most in the thin category, namely 39% (BMI <18.5), haemoglobin levels >12 as much as 58,33%, upper arm circumference above 22 as much as 78% and there was an increase in knowledge assessed from the results of the pretest and posttest, it is known that the average pretest value is 60, and the posttest value is 80. **Conclusion:** Management of iron tablet administration is needed for women of childbearing age who experience anaemia and increased nutritional intake in women of childbearing age.

Keywords: nutrition counseling; anthropometry; hemoglobin; Women of Childbearing Age (WCA); stunting

INTRODUCTION

The problem of stunting is a health problem that is of concern to the world, including Indonesia. This is because the impact of stunting can interfere with the growth of children; children have suboptimal growth and development, decreased intelligence, decreased learning ability and are susceptible to disease, especially infections.1 Overcoming stunting is still Indonesia's homework that must be addressed immediately. Prevention of stunting is also carried out by the government, namely with the First 1000 Days of Life Movement.[2] The government's steps to

prevent stunting begins with improving nutrition during adolescence for prospective brides, pregnant women, postpartum mothers, and toddlers.[3] In efforts to prevent stunting, this focuses on the role of women. Women play a significant role in raising children, providing care for all family members, and being responsible for fulfilling nutrition and health in the family. Empowerment for women in society or households is expected to reduce the problem of stunting and various child health.[4] this research focuses on Women of Childbearing Age (WCA). This is because the number of WCA in Jambi Province is the second largest as a target for health development, namely 73,095,757 people.[5] Women of Fertile Age are 15 to 49 years old.[6]

Many factors cause stunting. Nutritional status and parenting patterns also play a role in stunting, including low access to food, quantity and nutritional quality, less varied food, poor parenting patterns, and incorrect feeding practices. This condition is greatly influenced by parents' understanding of stunting, especially for mothers. To overcome this problem, education and guidance are needed in the form of increasing knowledge from mothers to improve the nutritional health of mothers and their children.[7] other factors can cause stunting in women of childbearing age, namely anaemia in mothers and adolescent girls, Chronic Energy Deficiency (CED) in pregnant women, and Hypertension in pregnancy. This must also be a concern because genetic factors influence 20-30% of stunting cases.[8] The government is trying to conduct anaemia screening and provide iron tablets to women of childbearing age, both adolescent girls and pregnant women, as an effort to reduce stunting rates. However, for Jambi Province, only 29.9% of anaemia screening processes have been carried out on adolescent girls, and around 46.36% have received iron tablets.[9] It is a concern for all of us to increase anaemia screening efforts in women of childbearing age.

METHODS

This research was conducted through nutritional counselling as intervention to participants, nutritional status and haemoglobin levels examinations in women of childbearing age who visited the Olak Kemang Health Center. The number of participants who took part in this activity was 36 women of childbearing age who were in the working area of the Olak Kemang Health Center. The implementation method in this research was in the form of premarital nutrition counselling, and began with a pretest before starting the counselling and a post-test after the counselling was carried out, anthropometric measurements namely by weighing, measuring height and measuring haemoglobin levels in women of childbearing age.

RESULTS

This research was carried out on July 6, 2024. The location of the activity was in the Hall of the Olak Kemang Health Center. The methods were Hemoglobin (Hb) examination, anthropometric examination and counselling on Pre-Marital Reproductive Health and Nutrition by Dr Firmansyah Sp.OG (K) Obsos, which began with a pretest and posttest. 36 women of childbearing age attended this activity.

Based on the anthropometric examination, the participant's body mass index was known by measuring height and weighing (**Table 1**). An anthropometric examination based on body mass index found that 39% of participants were underweight, 22% were obese I, 20% had normal body mass index, 11% were obese II, and 8% were overweight.

Table 1. Body mass index classification

Category	BMI	n	%
Underweight	<18,5	14	39
Normal	18,5-22,9	7	20
Overweight	23-24,9	3	8
Obesity I	25-29,9	8	22
Obesity II	>30	4	11
Total		36	100

Based on the examination of haemoglobin levels in participants, it was found that most participants, 58.33%, had normal blood haemoglobin levels, and 41.67% had anaemia. The hemoglobin level data of participants can be observed in **Table 2**.

Table 2. Hemoglobin levels

Category	Hb levels	n	%
Normal	>12	21	58,33
Anemia	<12	15	41,67
Total		36	100

Participants also had their upper arm measured (**Table 3**). 72% of the study participants were found to have a normal upper arm circumference. Additionally, 28% of women of childbearing age in the study population were identified as experiencing Chronic Energy Deficiency (CED)

Table 3. Upper arm circumference

Category	UAC	n	%
Normal	>22	26	72
KEK	<22	10	28
Total		36	100

To measure the knowledge of participants, participants took a pretest before the counselling activity and a posttest after the counselling on Reproductive Health and Pre-Marital Nutrition. Based on the results of the pretest and post-test scores, it is known that women of childbearing age who received counselling on Reproductive Health and Premarital Nutrition increased their knowledge. Education on premarital nutrition for women of childbearing age aims to increase their knowledge regarding diet and parenting patterns in an effort to

prevent and handle stunting. The results of the pretest and posttest examinations on **Table 4** below.

Table 4. Pretest-posttest results

Result	Average
Pretest	60
Post-test	80

DISCUSSION

The presented data highlights a concerning health profile among Indonesian women of childbearing age. While a significant proportion (58.33%) exhibited normal hemoglobin levels, a substantial number (41.67%) were anemic. This is particularly alarming as anemia can lead to various health complications, including maternal and infant mortality.

Furthermore, the data on body mass index (BMI) reveals a concerning trend. A significant portion of participants were either underweight (39%) or overweight/obese (33%). This dual burden of malnutrition underscores the need for comprehensive nutritional interventions.

The finding that 28% of women of childbearing age were experiencing Chronic Energy Deficiency (CED) is particularly concerning. CED can have severe consequences for both maternal and child health, including low birth weight, stunted growth, and impaired cognitive development.

The positive impact of reproductive health and premarital nutrition counseling on women's knowledge is encouraging. However, it is crucial to translate this increased knowledge into practical behavior changes. This can be achieved through sustained education and support, as well as addressing underlying socioeconomic factors that contribute to poor nutritional outcomes.

To address the complex issue of malnutrition and its associated health problems, a multi-faceted approach is necessary, including targeted nutritional interventions, improved access to quality food, strengthening health systems:, community-based education and empowerment, policy and programmatic interventions. By addressing these factors, it is possible to improve the nutritional status and overall health of Indonesian women of childbearing age, ultimately contributing to a healthier and more prosperous future for the nation.

CONCLUSION

The screening results found that 39% of women of childbearing age who participated in this research were underweight. Most participants had haemoglobin levels> 12, which was 58.33%; participants also had arm circumferences > 22 cm, which was 72%, and there was an increase in participant knowledge after counselling on reproductive health and pre-marital nutrition, which was marked by the rise in the average value from the pretest with an average of 60 to an average of 80 in the post-test. Nutritional counselling is needed

for women of childbearing age who are underweight and have anaemia to prevent protein-energy deficiency during adolescence and pregnancy preparation.

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