

EFFECTIVENESS OF PREVENTIVE EDUCATION ON CHRONIC ENERGY DEFICIENCY (CED) ON THE NUTRITIONAL STATUS OF PROSPECTIVE BRIDES

Nurul Asyaroti¹, Sulistiyah²

¹⁻² Bachelor of Midwifery Study Program, Institute of Science and Health Technology, Dr. Soepraoen Hospital, Malang, East Java and

Email corresponden : nurulasyaroti62@gmail.com

ABSTRACT

Background: Chronic Energy Deficiency (CED) is one of the nutritional problems that is still a challenge in Indonesia, especially in groups of women of childbearing age and prospective brides. CED in women not only impacts their own health, but also has a high risk of pregnancy and the birth of babies with low birth weight (LBW), stunting, and pregnancy complications. Therefore, nutritional intervention at the premarital stage is an important strategy in efforts to prevent nutritional problems across generations. Objective: This study aims to determine the effectiveness of CED preventive education on the nutritional status of prospective brides. Method: This study uses a quasi-experimental study. Using a pretest-posttest design. The sampling technique uses a total sampling of 30 respondents. Results: The study of knowledge variables using the Wilcoxon test found a sign value of knowledge of prospective brides with a p value of 0.000. Conclusion: The findings of the study which have a p value of $0.000 < (0.05)$ indicate that CED preventive education is effective on the nutritional status of prospective brides.

Keywords: Preventive education; Chronic energy deficiency; nutritional status

INTRODUCTION

Preventive education is an effort to provide information and skills to individuals or communities to prevent the occurrence of undesirable problems or conditions, such as illness, accidents, or violations of the law, before the problem actually occurs.

Indonesia is a developing country, where maternal and child mortality remains a major public nutritional health problem¹. One of the health development targets in the 2020-2024 National Medium-Term Development Plan (RPJMN) is an increased level of health marked by a decrease in maternal and infant mortality rates. The high Maternal Mortality Rate (MMR) in Indonesia is used as a priority health development program by the government in an effort to reduce MMR.

Chronic Energy Deficiency (CED) is a nutritional problem that remains a challenge in Indonesia, particularly among women of childbearing age and prospective brides. CED in women not only impacts their own health but also puts them at high risk for pregnancy and the birth of low birth weight (LBW), stunting, and pregnancy complications. Therefore, premarital nutrition interventions are a crucial strategy for preventing cross-generational nutritional problems.

Prospective brides and grooms are a highly strategic group for nutrition education, given that the preconception period is a crucial time for preparing for a healthy pregnancy. Unfortunately, prospective brides and grooms often lack awareness and knowledge regarding ideal nutritional

status, the risks of CED, and the importance of meeting nutritional needs. Preventive education is an effective approach to improving understanding and healthy nutritional behaviors before pregnancy.

Various studies have shown that health promotion-based educational interventions can improve individual nutritional status, especially when implemented sustainably and using a participatory approach. However, there are limited studies specifically evaluating the effectiveness of preventive education on CED in prospective brides and grooms.

Chronic Energy Deficiency (CED) is a condition of energy and protein deficiency in pregnant women that lasts for a long time (chronic) which results in the mother experiencing health problems characterized by a MUAC < 23.5 cm and the mother appears thin and is at risk of giving birth to a child with Intra Uterine Growth Retardation (IUGR), Low Birth Weight (LBW) and stunting.

According to the Indonesian Ministry of Health (2015), KEK can be caused by two factors, where insufficient nutritional consumption and disease are direct factors causing KEK in pregnant women and lack of food supplies, parenting patterns and environmental health as well as inadequate health services are indirect factors. All direct and indirect factors are influenced by the lack of empowerment of women, families and human resources as the main problem, while economic, political and social crises are the main problems.

Pregnant women with chronic energy deficiency (CED) require higher energy and protein intake because prolonged energy deficiency must be met to restore normal nutritional status. Additionally, other factors that can influence the nutritional status of pregnant women with CED include diet, food consumption, economic status, health status, and factors within the mother herself, such as excessive workload and poor nutritional knowledge.

Based on the introduction presented, the researcher is interested in conducting research to determine the effectiveness of preventive education on chronic energy deficiency (CED) on the nutritional status of prospective brides and grooms.

METHOD

This study was quasi-experimental. The design used a one-group pretest-posttest, measuring the nutritional status of prospective brides and grooms before and after receiving education. Subjects were drawn from the population using simple random sampling. The study involved 30 respondents.

Data analysis in this study consisted of univariate and bivariate data analysis. Bivariate data analysis was conducted to determine the effectiveness of chronic energy deficiency (CKD) preventive education on the nutritional status of prospective brides and grooms. Prior to the bivariate test, data normality was tested. Data normality was assessed using the Shapiro-Wilk test. If the data were normally distributed, the analysis was performed using the dependent t-test/ Paired Subject t-test. However, if the data were not normally distributed, a non-parametric Wilcoxon test was performed.

RESULTS

Table 1. Respondent Characteristics

Variables	N	Percentage
Age		
19-24 years	10	33.4%
25-30 years	15	50.0%
>30 years	5	16.6%
Education		
JUNIOR HIGH SCHOOL	5	16.6%
SENIOR HIGH SCHOOL	10	33.4%
Studying	15	50.0%
Work		
civil servant	10	33.4%
Self-employed	8	26.6%
housewife	12	40.0%

Source: Processed data (2025)

Respondent characteristics data are presented in Table 1. The data shows that the respondents in this study were housewives, civil servants, and self-employed, where most of the subjects were in the young adult category (25-30 years old), namely 15 people (50.0%). Judging from their education level, most of the subjects had a college education, namely 15 people (50.0%).

Univariate Analysis

The following is respondent data regarding preventive education regarding the nutritional status of prospective brides and grooms.

Table 2. Average preventive education on the nutritional status of prospective brides and grooms.

Variables	Mean (cm)	Min (cm)	Max (cm)	SE	N
Nutritional status of prospective brides before education (Pre-Test)	6.33	2	9	1,675	30
Nutritional status of prospective brides and grooms after mentoring (Post Test)	8.18	5	10	1,520	30

Source: Processed data (2025)

Table 2 displays respondent data regarding preventive education regarding the nutritional status of prospective brides and grooms. The pretest score was 6.33. However, the posttest score increased significantly to 8.18. There was a difference of 1.85 between the pretest and posttest.

Hypothesis Testing

The results of the knowledge and attitude tests were not normal as indicated by the results of the Shapiro Wilk test, and then the results of the Wilcoxon Signed Rank Test were used to assess

the data hypothesis.

Table 3 Results of Wilcoxon test analysis

Variables	N	Sign	Information
Pretest	30	0.026	Abnormal
Posttest	30	0.001	Abnormal

Source: Processed data (2025)

The posttest value is 0.001 and the sig value of the pretest value is 0.026. If the p value is $>$, then the data is considered to be regularly distributed (0.05). Since the p value in table 4.6 above is less than (0.05), the data is categorized as not normally distributed, so it is necessary to use the Wilcoxon test for hypothesis testing.

DISCUSSION

Knowledge Before and After Preventive Education on the Health Status of Prospective Brides and Grooms.

Based on research and experience, it is clear that knowledge-based behavior will more often outlast non-knowledge-based behavior. Knowledge, or cognition, is a key domain for formulating one's behavior (Notoatmodjo, 2012).

A pre-test of respondents' knowledge was conducted using a questionnaire before the nutrition education intervention. A summary of all responses yielded a score of 243. Question 4, with an average score of 3, was incorrect. The slogan "four healthy, five perfect" remains valid and beneficial in achieving good nutritional status. Question 5, with a score of 2, focused on the concept of balanced nutrition, which has five pillars and aims to balance nutritional intake and output. Question 10, with a score of 35, demonstrated a strong understanding of the respondents before the intervention.

Incorrect knowledge scores indicate that some respondents are still erroneous. Meanwhile, good knowledge can also be based on the respondents' educational background. According to Notoatmodjo (2012), it is easier to learn or obtain information related to knowledge and information if there is education (Notoatmodjo, 2012). This is consistent with research by Nurmaliza (2019) that found that the average increase in knowledge about the nutritional status of toddlers among mothers with higher education was greater than among mothers with lower education (Nurmaliza, 2019).

The final results of the knowledge variable research using the Wilcoxon test found a sign value for prospective female .

CONCLUSION

Based on the research results, it was concluded that the research findings which had a p value of $0.000 < (0.05)$ showed that KEK preventive education was effective on the nutritional status of prospective brides and grooms.

REFERENCE

- Ministry of Health of the Republic of Indonesia. (2019). Report on the Implementation of the Integration of Susenas March 2019 and SSGBI 2019.
- Notoatmodjo, S. (2012). Health Promotion and Health Behavior. Rineka Cipta.
- Nurmaliza, SH (2019). The Relationship between Mothers' Knowledge and Education and Toddler Nutritional Status. *Asclepius Public Health Journal*, Volume 1 N. <https://doi.org/10.31539/jka.v1i2.578>
- Subu, AM, Siti, et al. 2022. The Effect of Nutrition Education on Knowledge and Attitudes about the First 1000 Days of Life in Prospective Women in the KUA Work Area of Abeli District. *SCIENTIFIC GIZI JOURNAL (JGI)* <https://stikesks-kendari.e-journal.id/JGI> Volume 9 | Number 3 | September-December | 2022 ISSN: 2407-5515, EISSN: 2745-990X
- Afdar, TD, Maria, et al. 2022. Effectiveness of Support for Pregnant Women with Chronic Energy Deficiency on Improving Nutritional Status. *JAKAGI Journal of Food, Health, and Nutrition*, June 2022, 2(2): 37 – 47 e-ISSN: 2775-085X.