

**THE EFFECT OF PRE-CONCEPTIONAL NUTRITION EDUCATION ON INCREASING KNOWLEDGE IN PRE-MARRIAGE WOMEN IN GARUT DISTRICT**

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**Abstract,**

**Introduction**: Many nutritional problems are associated with high maternal and child morbidity rates. Maternal health status is a determinant of the quality of future generations, so it is important to improve the nutritional quality of women early on. Pre-marital women are a priority for health improvement because they are in the pre-conception period. This is a crucial period because it will determine the quality of the pregnancy and the welfare of the baby being born. Knowledge as a factor that determines concern for the fulfillment of balanced nutrition. Special efforts through preconception nutrition education for brides and grooms need to be made in order to achieve a healthy family and quality offspring. The purpose of this study was to determine whether there was an increase in knowledge through pre-conceptional nutrition education for women of premarital childbearing age in Garut district.

**Objectives:** The number of respondents in this study were 30 people selected by purposive sampling method. The data analysis used is the T-dependent statistical test because the data is normally distributed.

**Method**: This study used a pre-experimental design with one group pre-posttest design. The population in this study were women of childbearing age who had planned a wedding in Garut district.

**Result:** The results showed that preconception nutrition education had a significant effect (p value = 0.000) on knowledge with an average increase of 1.77.

**Conclusion:** It is recommended that the health office and the ministry of religion organize nutrition education activities for premarital women in preparing for a healthy pregnancy.

**Keywords: pre-marital, pre-conception nutrition, nutrition education.**

**INTRODUCTION**

The preconception period is three months to one year before pregnancy. A healthy pregnancy will be determined by the quality of cells in this period. Cell quality can be affected by a woman's nutritional status before marriage.The prerequisites for perfect nutrition during the preconception period are the key to the birth of a normal and healthy baby 1.

Based on the Indonesian Demographic and Health Survey (SDKI) in 2017, nutritional problems are quite common among women of childbearing age, there is a 33.5% obesity rate in Indonesia. Obesity in women has a higher prevalence of 41.4% 2. Regarding conception, of course obesity will have a negative impact on pregnancy, namely increasing the risk of bleeding, birth injuries and the birth of a baby with excess weight (macrosomia).

Cases of Chronic Energy Deficiency (CED) in women of childbearing age are no less important because they have a high risk of giving birth to children who suffer from CED in the future. According to Indonesia Basic Health Research 2018, the prevalence of CED in Indonesia is 14.5% among non-pregnant women of childbearing age. Women aged 15-19 years have a higher incidence rate reaching 36.3% 3. Malnutrition can be a threat to the resilience and survival of a nation. women of childbearing age CED before pregnancy have a 4.27 times higher risk of giving birth to babies with low birth weight compared to women of childbearing age who have normal nutritional status. 4.

Results of the Indonesian Nutritional Status Study (SSGI) Ministry of Health (2022) 5 shows the high national prevalence of Stunting at 21.6%. Garut Regency is ranked 8th among the districts that have the highest stunting prevalence rate in West Java, namely 23.6%, exceeding the prevalence rate for West Java (20.2%). Thus, 1 in 3 toddlers in Garut district have a height below the standard for children in their age.

The high mortality rate of mothers and children is closely related to poor nutritional status, 4especially for women, the nation's generation builders. Efforts to prevent nutritional problems in children need to be maximized from the first 1000 days of life through maternal health services. However, in reality, not a great deal of women in childbearing age in Indonesia have 6awareness of the importance of providing balanced nutrition. This condition is proven by research results which state that more than a third of women of childbearing age in Indonesia do not meet national requirements for consuming food that contains sufficient energy and protein 7. Lack of nutritional intake over a long period of time can increase the risk of CED. On the other hand, women's education level influences the incidence of CED, meaning that someone who has a good education can prevent the occurrence of CED. This is in accordance with research in Makasar in 2014, that there was a significant relationship between education and the incidence of CED in preconception women ( *p value* = 0.001) 3.

Knowledge is a factor related to practice in choosing food intake so it will affect a person's nutritional status. Increasing understanding and awareness will have an impact on increasing willingness and improving nutritional behavior. Good nutritional status begins with quality food intake 8. Therefore, it is very important for women of childbearing age from pre-wedding to pay attention in nutritional needs during the preconception period as a long-term health asset for the health of the mother and child 9.

Based on matter the writer interested For research the effect of preconception nutrition education on increasing nutritional knowledge in premarital women of childbearing age in Garut Regency.

**METHOD**

 This type of research is One Group Pre - Post Test design10.This research was carried out in Garut Regency from March to April 2023. The population in this study is women of childbearing age who were planning to marry in Garut regency, with sample 30 people were selected based on purposive sampling method 10. Interventions carried out form education nutrition preconception with one-on-one communication method with flip chart.

 Knowledge data collection methods with questionnaire. Data collection was carried out before and after given intervention. Processing and analyzed of data using the SPSS program and analyzed with T test two sample pair with *p value* ≤ 0.05 11.

**RESULTS**

 This study showed that most of the premarital women in Garut Regency get married in range aged 21 – 35 years (83%), the most level of education are high school (53%). Occupational characteristics of respondents show as much 60% of respondents having job, 13% students, and 27% respondents doesn't have a job.

Table 1 Analysis Difference Knowledge Before and after given Preconception Nutrition Education

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Average** | **Standard Deviation** | **P** | **Difference average** | **IK 95%** |
| Before education | 9.50 | 2,418 | 0,000 | 1.77\* | 0.9 – 2.6 |
| After education | 11.27 | 2,227 |  |  |

Source: Primary Data, 2023

 Table 1 shows that the average knowledge score of respondents before being given the intervention was 9.50. Meanwhile, after being given intervention in the form of counseling, the average score increased to 11.27.

 As a result, there was an increase in knowledge scores after being given education in the amount of 1.77. The results of research using the T-dependent test show that there is an effect between preconception nutrition education on knowledge of women of childbearing age regarding nutrition, with a p value ≤ 0.05.

**DISCUSSION**

The results of the research show that the role of preconception nutrition educators using flip chart educational media is able to significantly increase premarital women's knowledge about nutrition. Based on the *dependent T* test The significant value obtained was *p value* = 0.00 0 < 0.05, which means that there is an influence of preconception nutrition education on increasing premarital women's knowledge regarding nutrition.

According to Ramakrishnan (2019), the many problems that arise in mothers and babies show the importance of a good understanding of pregnancy, especially in the preconception period. Agustine (2021) added that adequate nutrition during the preconception period is important in maintaining nutritional status so it can support optimal reproductive function and plays an important role in providing nutritional reserves for pregnancy. If women do not pay attention to health and nutritional status during preconception, it will cause health problems, such as women with chronic energy deficiency and anemia who are at high risk of giving birth to premature babies with low birth weight. Thus, awareness regarding the importance of preconception nutrition to improve the health of the next generation needs to be raised. Providing interventions in the form of nutrition education can increase knowledge and change behavior in order to reduce the risk of health problems during pregnancy 19,20.

Communication techniques face to face or interpersonal communication is exchanging information, meaning, feelings, and opinions between two or more people via verbal and non-verbal means and ultimately expected change behavior 21. The process of providing education is related to the brain's working memory capacity. Working memory is categorized based on its storage period in the brain. Long-term memory is believed to be the storage of past events, while short-term memory is related to information that can be accessed temporarily and is limited. Thus, the technique and duration of education carried out have a significant influence on improving a person's working memory 22.

Based on Tria Ningsih's research results, Arfah Husna (2022) stated that education had a very significant influence on respondents' nutritional knowledge. This is certainly very helpful in overcoming health problems such as stunting. Providing nutritional education to prospective brides during the preconception period provides very optimal results 23.

Flip chart as educational media also provides significant impact to enhancement knowledge. this is according to studies done by Sutrisno and Sinanto (2022) shows that health promotion media flip chart is adequate for public health education. There is an influence of using flip chart as media promotion to change knowledge, attitudes, and behavior of people about nutrition. This study resulted in the same conclusion with research by Lusyana, et al (2019) that providing intervention in the form of preconception nutrition counseling can increase women's premarital knowledge at the Office of Religious Affairs in Batang Kuis sub-district Deli Serdang district about nutrition, with significant results (p *value* =0.001 24).

Increased knowledge of preconception nutrition in premarital women has an impact on increased awareness of their health status A healthy woman with normal nutritional status during the preconception period will certainly support a healthy pregnancy. Thus, preconception nutrition knowledge is important to understand by woman before marriage 19.

**CONCLUSION**

The results of the research are based on the characteristics of the respondents who mostly married at the ideal age (21 - 35 years) with a high school education level and already had a job.

The average increase in premarital women's knowledge was 1.77 so that the premarital women's knowledge score before and after being given intervention in the form of preconception nutrition education increased from 9.50 to 11.27.

Preconception nutrition education using flip chart educational media had a significant influence on increasing premarital knowledge of women in Garut Regency (p value=0.000).

**REFERENCES**

1. Susilowati Kuspriyanto. Nutrition in the Life Cycle. Bandung: PT Refika Aditama; 2016.

2. Indonesian Ministry of Health. Indonesia Health Profile 2017. Jakarta: Indonesian Ministry of Health; 2018.

3. FMAl's daughter. Education Level, Diarrhea Incidence and Risk of Chronic Energy Deficiency in Women of Childbearing Age in Island Provinces in Indonesia (2018 Riskesdas Data Analysis). College Journal of Nutrition. 2022;11.

4. Ria Gusmanianar, Siti Helmyati, Yhona Paramanitya. The Effect of Nutrition Education on Energy and Protein Intake in Pre-Wedding WUS in Bantul Regency, Yogyakarta. Alma Ata Yogyakarta Journal. 2020;

5. Indonesian Ministry of Health. Pocket Book of 2021 Indonesian Nutritional Status Study Results (SSGI) - Health Development Policy Agency | BKPK Ministry of Health [Internet]. Jakarta: Indonesian Ministry of Health; 2021 [cited 2023 May 7]. Available from: https://www.badanbisnis.kemkes.go.id/buku-saku-hasil-studi-status-gizi-indonesia-ssgi-tahun-2021/

6. Savitri Sayogo. Nutrition for Young Women. Jakarta: Faculty of Medicine, University of Indonesia; 2011.

7. Oivia M, Angraini DI. The Relationship between Knowledge, Attitudes and Behavior Regarding Balanced Nutrition and Nutritional Status in Women of Childbearing Age in Terbanggi Besar District, Central Lampung Regency. Medical profession journal of Lampung University. 2019;9.

8. Wf E, Ar T, U N. Relationship between knowledge and attitudes and balanced nutritional behavior in preconception women in Makassar City. Nutritional Sciences Study Program, Faculty of Public Health, Hasanuddin University; 2014.

9. Pratiwi Hariyani Putri, Nilna Nur Ainani F, Yuliani K, Sunaryo M, Puspitasari P. Education with Booklet Media on Preconception Nutritional Knowledge, Attitudes and Premarital Macronutrient Intake of Women. Preventia : The Indonesian Journal of Public Health [Internet]. 2021 Dec 2 [cited 2023 May 7];6(2):88–96. Available from: http://journal2.um.ac.id/index.php/preventia/article/view/26490

10. Nursalam. Nursing Science Research Methodology: A Practical Approach. Jakarta: Salemba Medika; 2020.

11. Dahlan S. Statistics for Medicine and Health. Jakarta: Salemba Medika; 2016.

12. BKKBN. Spirit 21 25 What is Cool? – BKKBN | West Java [Internet]. 2020 [cited 2023 May 7]. Available from: https://jabar.bkkbn.go.id/?p=2825

13. Oktriyanto, Hilma Amrullah, Dwi Hastuti, Alfiasari. Perceptions of Women's Age of Marriage and Expected Number of Children: Can They Predict Parenting Practices? Jur Ilm Kel & Kons, . 2019;12(2).

14. Mangande JAS, Desi D, Lahade JR. Marital Quality and Mental Health Status in Women Who Marry Early. Journal of Psychiatric Nursing [Internet]. 2021 Mar 28 [cited 2023 May 25];9(2):293–310. Available from: https://jurnal.unimus.ac.id/index.php/JKJ/article/view/7171

15. Pamungkas CE, WD SM, Nurbaety B. Early pregnancy and stunting in toddlers aged 12-59 months in East Lombok Regency. Midwifery Journal. 2021 Aug 18;10(2):141.

16. Arie Anggraini, Novia Sari, Reffi Dhamayanti. The Relationship between Education and Work and Women's Age at Marriage at KUA Depok Yogyakarta. Journal of Research Innovation [Internet]. 2021 [cited 2023 May 7];1(9). Available from: https://stp-mataram.e-journal.id/JIP/article/view/356/296

17. Indonesia SNR. Law of the Republic of Indonesia Number 2 of 1989 concerning the National Education System [Internet]. 1989. Available from: www.djpp.depkumham.go.id

18. Pocut Susila Indra Yeni. Factors Associated with Knowledge of the Use of Generic Medicines in the Community in the Working Area of the Padang Panyang Community Health Center, Nagan Raya Regency, 2015. UTU Repository. 2015;

19. Intan K, Fifit S, Sofiyanti I, Mustika V, Nashita C, Nanda D, et al. The Effect of Preconception Nutrition Counseling on Premarital Women's Knowledge and Attitudes. Proceedings of the National Seminar and CFP Midwifery University of Ngudi Waluyo [Internet]. 2022 Dec 31 [cited 2023 May 8];1(2):696–707. Available from: https://callforpaper.unw.ac.id/index.php/semnasdancfpbidanunw/article/view/227

20. Ramakrishnan U. Nutrition Education during the Preconception Period. Nestle Nutr Inst Workshop Ser. 2019;92:19–30.

21. Purwanti S, Utami SW, Latifah L. Peer Counseling on Adolescent Reproductive Health in Interpersonal Communication. Pandohop Guidance and Counseling Journal [Internet]. 2022 Aug 3 [cited 2023 May 25];2(2):47–55. Available from: https://e-journal.upr.ac.id/index.php/pdhp/article/view/5245

22. Nurhadi J, Syihabuddin S. Increasing Working Memory Activity Assisted by Binaural Beats. Pedagogy: Journal of Educational Sciences [Internet]. 2021 Nov 24 [cited 2023 May 25];21(2):99–106. Available from: http://pedagogi.ppj.unp.ac.id/index.php/pedagogi/article/view/1086

23. Ningsih T, Husna A. The Effectiveness of Nutrition Education on Increasing Knowledge of the Prospective Bride. Morfai Journal [Internet]. 2022 Jun 23 [cited 2023 May 11];2(2):223–8. Available from: https://radjapublika.com/index.php/MORFAI/article/view/247

24. Gloria Doloksaribu L, Malik Simatupang A. The Influence of Preconception Nutrition Counseling on the Knowledge and Attitudes of Premarital Women in Batang Kuis District. Wahana Innovation: UISU Journal of Research and Community Service [Internet]. 2019 Jul 18 [cited 2023 May 7];8(1). Available from: https://jurnal.uisu.ac.id/index.php/wahana/article/view/1445