



Plagiarism Checker X Originality Report

Similarity Found: 6%

Date: Monday, March 14, 2022

Statistics: 113 words Plagiarized / 2011 Total words

Remarks: Low Plagiarism Detected - Your Document needs Optional Improvement.

Correlation between Knowledge about Anemia, Iron, and Folate Consumption with Anemia Status among Premarital Women in Bantul Regency, Yogyakarta Arini H ARDIANTI, Yhona P ARATMANITYA, Siti N URUNNIYAH, Miftakhul J ANNAH and Roni H AMDANI Alma Ata University Jl. Brawijaya 99, Yogyakarta, Indonesia (Received June 14, 2019) Summary Anemia is a condition in which the number of red blood cells or hemoglobin levels in the blood is less than normal. Anemia remains a major problem for global public health. The World Health Organization (WHO) estimates that anemia affected more than 1.62 billion people worldwide. Data from National Health Survey (Riskesdas) in 2013 shown that anemia prevalence was 21.7%.

Yogyakarta Health Profile showed that the prevalence of anemia women of reproductive age has increased from 22,45% to 28,1% between 2010 and 2014, while in Bantul was 20% indicating a moderate public health problem. The objective of this study was to determine the correlation between knowledge, iron intake, and folate intake with anemia status among women of reproductive age in Bantul Regency.: This research used cross sectional method. The samples were selected by using probability sampling method with simple random sampling technique by lottery and specifying inclusion and exclusion criteria. Data was analyzed with Chi-square test using SPSS.

The results showed that there was no correlation between knowledge level and anemia status. Anemia status was significantly correlated with iron intake, but not with folate intake. Conclusion: Anemia was associated with iron intake among women of reproductive age. Key Words women of premarital fertile age, knowledge, anemia, iron intake, folate intake Anemia is a condition the number of red blood cell or hemoglobin (Hb) level in the blood lower than normal. The causes can vary.

Like heavy bleeding, lack of iron level in the body, lack of folate and vitamin B12, leukemia, chronic disease, and so on (1). Anemia is still a big problem in the world. World Health Organization (WHO) estimates that anemia affect more than 1,6 billion people in worldwide (2). Women in premarital fertile age susceptible to anemia because of several problems, i.e menstruation every month, pregnancy, inadequate iron intake, parasitic infections, and most of women in premarital fertile age being worker. This condition make anemia heavier.

Because of that, women in premarital fertile age called vulnerable group of anemia and they need special attention to handle it (2). People who have lack access to food, tend to be suffering iron deficiency. Women in reproductive age was vulnerable group. The main reason was women in reproductive age have a risk of blood lost every menstrual period (3). The government conducted an iron supplementation program for women reproductive age and pregnant women. This program was made to avoid the risk of anemia. Although the rate of supplementation has been above the average, the prevalence of anemia in Indonesia still high (4). Knowledge is one of the factors that stimulate the health behavior.

If pregnant women know and understand the impact of anemia for themselves and their babies, they tend to have a good health behavior. If that can be achieve, women in premarital fertile age can avoid risks of the anemia in pregnancy. Good health behavior has an effect on the decrease of anemia incidence in women premarital fertile age (5). The purpose of this study was to measure the correlation of iron intake, folate intake, and knowledge with anemia among premarital women in Bantul, Yogyakarta.

Hypothesis of this study were: there was association between iron intakes with anemia, there was association between folate intake with anemia, and there was association between knowledge score with anemia. MATERIALS AND METHODS This study used cross-sectional method. This study was conducted in 10 sub-districts in Bantul regency, Yogyakarta, that were Pleret, Sedayu, Sanden, Kretek, Piyungan, Pandak, Kasihan, Banguntapan, and Pundong. Population of this study were women of premarital fertile age who stayed in study areas. The samples were selected using simple random sampling by lottery and specifying inclusion and exclusion criteria.

Independent variable of this study were iron intake, folate intake, and knowledge about anemia. Dependent variable of this study was anemia status. Instrument used in this study: data from office of religious affairs, questionnaire of sample identity, Semi Quantitatif Food Frequency Questionnaire (SQ-FFQ), E-mail: hardiantiarini@gmail.com S377 questionnaire knowledge of anemia, and Quick Check. Data from office of religious affairs consists of name, address, date of marriage, date of birth. Iron and folate intake

were collected from Semi Quantitatif Food Frequency Questionnaire (SQ-FFQ).

List of food in SQ-FFQ arranged from food which common be eaten by people in that area. SQ-FFQ used to know the diversity of food and eating behavior. From that questionnaire, then the data entered to Nutrisurvey program to know the iron and folate intake from each subject. Data of supplement consumed by subject did not entered in Nutrisurvey. To collect knowledge about anemia used a questionnaire with 15 questions. Each question consists of four choices. Each people should choose the right answer. Each true answer has 6.67 points.

The total point will be categorized into three knowledge scores. The instrument used for examining hemoglobin (Hb) levels was a digital hemoglobinometer test, named quick check Hb. Blood test is done by primary health care. Data of Hb was used to determine anemia status. Data analysis. Data were analyzed with SPSS. All measurements were presented as mean, percentages, and frequencies. Chi-square test was used to see the association of each independent with dependent variable and presented in tables. RESULTS Subject characteristic Total 190 women from 10 sub districts in Bantul enrolled in this study.

The general characteristic of the subject presented in Table 1. Most of subject was 21–35 y. The subject mostly had completed university (57.4%). 65.3% of the subjects working as government or private employee. Cut point of income level was Rp1.572.150 based on regional minimum salary in Bantul. Most of subject (71.1%) have income more than minimum salary. 20% from subject were anemia, with Hb level lower than 12 g/dL. 124 of 190 women have medium category knowledge score. Most of subjects (54.7%) did not eat enough iron, and low folate intake (68.4% women) (Table 1). Bivariate analysis Knowledge score about anemia grouped into 3 categories.

That were “good” if knowledge score more than 80 “medium” when knowledge score 60–80, and if score less than 60 called “low”. The association between knowledge score and anemia status was presented in Table 2. Iron intake grouped into 2 categories. Low iron intake if less than 20.8 mg/d (<80% RDA) and normal iron intake if more or equal to 20.8 mg/d (≥80% RDA). The grouping of iron intake based on the recommendation 26 mg/d for women. The relationship between iron intake and anemia status was describe in Table 3. Data of folate intake collected from SQ-FFQ. the recommendation folate intake for women aged 15–49 y Table 2. Relationship between knowledge score and anemia status.

Knowledge score	Anemia status	p value	Anemia	NotAnemia	n	%	n	%												
Good	14	36.8	52	34.2	0.81	Medium	20	52.7	78	51.3	Low	4	10.5	22	14.5	Total	38	100.0	152	100.0

Table 3.

Relationship between iron intake and anemia status. Iron intake Anemia status p value
 Anemia NotAnemia n % n % Normal 11 17.2 75 49.3 Low 27 71.1 77 50.7 0.024 Total 38
 100.0 152 100.0 Table 1. General characteristic of the subjects. Variables n % Age group
 20 y 21–35 y 18 172 9.4 90.5 Education Junior high school Senior high school University
 5 76 109 2.6 40.0 57.4 Occupation not yet working Government/private employee
 Entrepreneur Others 8 124 38 20 4.2 65.3 20.0 10.5 Income level _Rp 1.572.150 _Rp
 1.572.150 135 55 71.1 28.9

Knowledge score Good Medium Low 66 98 26 34.7 51.6 13.7 Iron intake Normal Low 86
 104 45.7 54.7 Folate intake Normal low 60 130 31.6 68.4 Anemia status No Yes 152 38
 80 20 Iron supplement No Yes 85 105 44.7 55.3 S378 old was 400–600 _g/d. The cut of
 this score was 80% from RDA. Low folate intake if less than 80% RDA (that was less than
 320 _g/d), and normal folate intake if more than 80%RDA. The association of folate
 intake and anemia status describe in Table 4. DISCUSSION Based on Table 1. Most of
 subject was not anemia. Only 20% of subject has Hb level under 12 g/dL. Anemia
 prevalence in this study is near with national anemia prevalence (18%) (6).

Anemia can result in cognitive performance, immune status, work performance. An
 anemic premarital woman, if this condition is not treated will continue until she is
 married and pregnant. Anemia in pregnant women is very dangerous for both mother
 and baby. In addition to increasing perinatal risk for mother and baby, it can increase
 infant mortality (7). the condition of premarital women needs attention. because if the
 health of premarital women has been achieved, pregnancy outcomes are expected to
 be good. Based on Table 2, more than half anemia women in this study (52.7%) have
 medium knowledge about anemia.

We did the Crosstabulation test of knowledge and income, the result show that 70%
 subject who have medium knowl- edge, have income under regional minimum salary
 (result were not shown). From Table 2, there were many subjects who have medium and
 low knowledge about anemia, but they were not anemic. In theory, someone with good
 knowl- edge tends to avoid the disease, and people with low and middle knowledge will
 be more at risk for disease (8, 9). Finding of this study were different with theory.

Subject with medium and low knowledge but they were not anemia. It can be due to
 subject's age and education level (2). Most of subjects from this study was college and
 aged more than 20 y. Knowledge and attitude correlated with education level of the
 subjects (10). Most of the subjects have been in university. People with high education
 tends to have good attitude about eating behavior. Although they have not good
 knowledge about anemia, they known about food which contain iron and folate. Iron
 deficiency is the most common cause of anemia. Women in reproductive age have a

great risk for losing iron.

They lose blood every month because of menstruation, lifestyle changes, diet, and infection (11). Iron is an important component of hemoglobin and have a special role in biological process. Hemoglobin consists of iron (heme) and protein globulin. They can binding with oxygen and distributed into all parts of body (11). Among subjects who anemia, we found that their iron intake was low and there was significant association. Data of iron intake was collected using SQ-FFQ and asked for last 3 mo consumption history. From the SQ-FFQ we can see that most of subject has consumed food which contain iron, such as animal food, vegetables, and legume.

Iron from animal foods has a high absorption rate. Heme was more easily to be absorbed (3). Half of the subject has low iron intake, but they were not anemia. We can assume that the subject ate iron supplement twice a month when the menstrual period. That was based on subject's perception. They feel dizzy and weak every menstrual period and consumed iron supplement. They feel much better after that. Previous study shown that there was correlation iron intake and anemia (12). Folate is a part of Vitamin B complex that soluble in water. Folic acid is one of the vitamins that can influence the formation of Hb in the blood. From this study, there was no association between folate intake and anemia.

This finding was in line with previous studies (13, 14). Among subjects who anemia, we found that their folate intake was low. Table 1 shown that 68.4% subject reported low folate intake. Previous study shown this condition too. Women in reproductive age in Probolinggo, East Java, tend to have low folate intake (15). Disclosure of state of COI No potential conflicts of interest to be declare.

INTERNET SOURCES:

2% -

https://www.researchgate.net/publication/6116316_Evaluation_of_folate_status_by_serum_and_erythrocyte_folate_levels_and_dietary_folate_intake_in_Taiwanese_schoolchildren

2% - <https://ci.nii.ac.jp/naid/130007989713>

<1% -

https://www.researchgate.net/publication/264161921_Depression_and_Diabetes_in_Jimma_University_Specialized_Hospital_Southwest_Ethiopia

2% - <https://pubmed.ncbi.nlm.nih.gov/33612628/>

<1% - <https://www.medicinenet.com/anemia/article.htm>

<1% -

https://www.researchgate.net/publication/282325721_Maternal_Iron_Deficiency_Anaemi

a_alters_Mother-Infant_Interaction_and_Infant_Development

<1% - <https://quizlet.com/516996652/cpnp-pc-questions-flash-cards/>

<1% - <http://repository.umi.ac.id/562/1/File%20Jurnal.pdf>

<1% - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8421196/>

<1% -

<https://baixardoc.com/documents/diagnosa-komunitas-penentuan-dan-pemecahan--5c5c955592201>

<1% - <https://quizlet.com/202502976/er-eor-practice-questions-flash-cards/>