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Factors related to the level of iron adequacy of adolescent girls in Indonesia

Faktor-faktor yang berhubungan dengan tingkat kecukupan zat besi remaja putri di Indonesia

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Abstract

Anemia remains a nutritional problem in Indonesia, where more than 50% of the incidence is due to iron deficiency caused by low quality and quantity of food consumed and iron intake sources. Low iron intake did not affect iron adequacy. This study aimed to analyze the factors associated with iron adequacy among adolescent girls in Indonesia. This study used a cross-sectional design and secondary data from the National Survey of Food Consumption (NSFC) in Indonesia in 2014. The number of participants was 11.766 adolescent girls aged 10-18 years. Data were collected using the NSFC 2014 questionnaire and the food consumption collection method using a food recall 24 hour. Statistical analysis was performed using the chi-squared test and Logistic Regression to identify the factors influencing iron adequacy. The results showed that the iron intake of adolescent girls in Indonesia was 10 mg/day, with an adequate iron level of 42,9%. Logistic regression showed that the most influential factors (p<0,05) were age, place of residence, economic status, and consumption of cereals, vegetables, nuts, fruits, and animal foods. In conclusion, the factors associated with the iron adequacy level of adolescent girls in Indonesia are age, region of residence, economic status, and consumption of cereals, vegetables, nuts, fruits, and animal foods.
Keywords: Adolescent girls, food consumption, iron intake

Abstrak

Anemia masih menjadi salah satu masalah gizi di Indonesia dimana lebih dari 50% kejadiannya karena defisiensi zat besi yang disebabkan oleh rendahnya kualitas dan kuantitas konsumsi pangan sumber asupan zat besi. Rendahnya asupan zat besi berdampak pada tidak tercapainya kecukupan zat besi. Penelitian bertujuan untuk menganalisis faktor-faktor yang berhubungan dengan tingkat kecukupan zat besi remaja putri di Indonesia. Metode penelitian menggunakan desain *cross sectional*, dan menggunakan data sekunder dari SKMI 2014. Jumlah subjek sebesar 11.766 remaja putri usia 10-18 tahun. Data dikumpulkan menggunakan kuesioner SKMI 2014 dan metode pengumpulan konsumsi pangan menggunakan *food recall* 1x24 jam. Analisis statistik melalui uji Chi square dan Regresi Logistik untuk menemukan faktor yang mempengaruhi tingkat kecukupan zat besi. Hasil penelitian menunjukkan asupan zat besi remaja putri di Indonesia sebesar 10 mg/hari dengan tingkat kecukupan zat besi sebesar 42,9%. Regresi logistik menunjukkan faktor yang paling mempengaruhi tingkat kecukupan zat besi (p<0,05) adalah usia, tempat tinggal, status ekonomi, konsumsi serealia, sayuran, kacang, buah, dan pangan hewani. Kesimpulan, faktor-faktor yang berhubungan dengan tingkat kecukupan zat besi remaja putri di Indonesia adalah usia, wilayah tempat tinggal, status ekonomi, konsumsi serealia, sayuran, kacang-kacangan, buah-buahan, dan pangan hewani.
Kata Kunci: Asupan zat besi, konsumsi, remaja putri

Introduction

Anemia is still a global nutritional problem, especially in developing countries where adolescent girls (10–18 years old) who experience changes in biological and physiological terms become one of the vulnerable groups experiencing anemia. The consequences are that they can affect performance in school, such as developmental delays and behavioral disorders, decreased social interaction, and difficulty focusing on learning (WHO, 2023). Studies in Ethiopia found that anemic adolescent girls tended to show low academic scores compared to non-anemic adolescents (Teni et al., 2017). Anemia in women who are not pregnant is often associated with pregnancy outcomes. Women who experience anemia before pregnancy will be at twice the risk of giving birth to babies with low weight and prematurity when compared to women who are not anemic before pregnancy (Yi et al., 2013; Liu et al., 2022; Al Rahmad, 2023).

World Health Organization (WHO) states the prevalence of global anemia in women aged 15–49 years is 29,9% (WHO, 2021). This figure is smaller than the national anemia rate. National Health Survey data revealed that the prevalence of anemia in Indonesia at the age of 5–14 years was 26,4% and 15–24 years was 18,4%; 32% in 2013 increased for ages 5–14 years to 26,8% and 32% in 2018 (Kemenkes RI, 2013; Kemenkes RI, 2018). Several studies related to the prevalence of anemia in adolescent girls in Indonesia show that the prevalence of anemia is still above 20% (ranging from 21 to 45%) (Permatasari et al., 2020; Agustina et al., 2020; Masfiah et al., 2021; Rahfiludin et al., 2021). The prevalence of anemia is included in the moderate category of public health problems, so it requires special attention (WHO, 2011).

The biggest cause of anemia is iron deficiency (WHO, 2023). More than 50% of the incidence of anemia in developing countries is caused by the low quantity and quality of consumption of iron-source foods that have a low iron absorption rate in staple foods such as cereals and legumes (Wijayanti & Fitriani, 2019). Young women need to get enough iron from food in order to achieve the recommended iron adequacy.

The Recommended Dietary Allowances (RDA) in 2013, recommends adequate iron intake for adolescent girls aged 10–12 years of 20 mg/day and ages 13–18 years of 26 mg/day. However, there are still many young women who do not reach the recommended iron adequacy rate (Duvita et al., 2017; Putri et al., 2022). Insufficient iron intake has been reported among adolescent girls of different age groups (Briawan et al., 2012; Humayrah et al., 2019; Aji et al., 2021). Inadequate iron intake can lead to an iron deficiency.

Anemia can be prevented and treated, so designing effective strategies to prevent iron deficiency in adolescent girls requires identifying factors that influence iron intake in order to pinpoint high-risk population groups. In addition to factors related to food consumption, socioeconomic and demographic factors can also affect the selection of the type and amount of food consumed, which can affect the level of iron adequacy (Venegas-Aviles et al., 2020). Only two studies reported that a father's work and maternal education had an effect on iron intake in adolescent girls in Yogyakarta and Pandeglang (Cynara et al., 2020; Aji et al., 2021). Research by Sembiring (2018) reported that the age, education level of the father, economic status, and region of residence affect the level of iron adequacy in adolescent boys.

This study is the latest compared to other studies because it uses national-scale data that will look at factors related to the iron adequacy levels of adolescent girls in Indonesia in terms of economic, social, and demographic characteristics, as well as the type of food consumption, that can be used as a reference in developing more effective intervention strategies to overcome the problem of anemia. This study also provides actual information on the intake and level of iron adequacy of adolescent girls. The data used, namely the National Survey of Food Consumption (NSFC) in Indonesia in 2014, is a national-scale survey that provides nationally representative dietary data for all age groups, especially adolescent girls aged 10–18 years. Therefore, the purpose of this study is to analyze factors related to the level of iron adequacy of adolescent girls in Indonesia.

Methods

This study used a cross-sectional study design, using secondary data from the National Survey of Food Consumption (NSFC) in Indonesia in

2014, which was part of a subset of the Study Diet Total (SDT) data in 2014. NSFC is a national-scale survey in Indonesia that collects complete individual consumption data. This survey is conducted by the Health Research and Development Institute, and data can be obtained with certain requirements and procedures through www.litbang.kemkes.go.id. NSFC is implemented in 34 provinces and 497 districts in Indonesia with ethics number LB.02.01/5.2/KE.189/2014 by the health research ethics commission of the health research and development agency.

NSFC 2014 sampling was carried out by two-stage stratified sampling. The total sample in NSFC 2014 was 145.360 individuals. The total sample of adolescent girls aged 10–18 years was 11.973 individuals. Subjects were taken in this study using purposive sampling techniques based on inclusion and exclusion criteria. The inclusion criteria of this study are complete data (including age, economic status, number of members in the household, area of residence, food consumption information), and respondents in healthy conditions. The exclusion criteria in this study were respondents aged under 10 years and over 18 years, male and female, who were pregnant, breastfeeding, sick, and taking drugs and supplements. The total subjects analyzed 11.766 subjects (Figure 1).

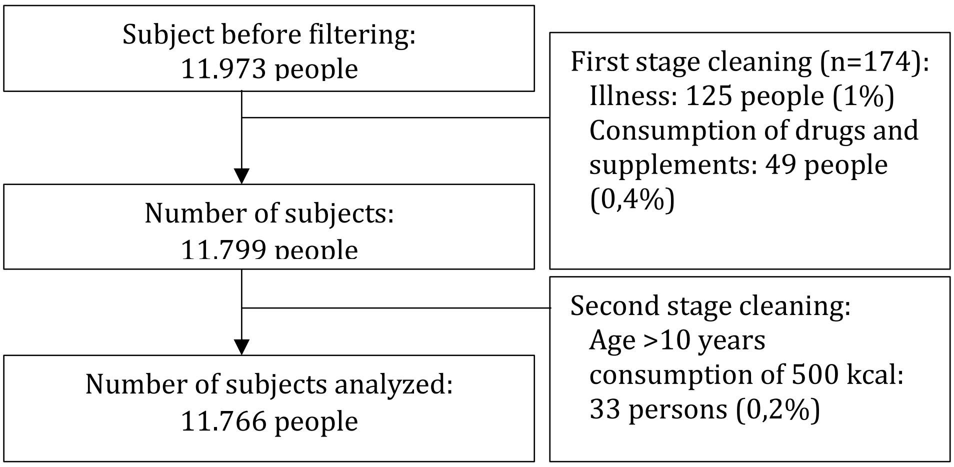

Figure 1. The cleaning process of the research subject

Data collection in NSFC 2014 was done using a questionnaire tool. Data collection activities have been carried out by Balitbangkes. The data used in this study consisted of food group consumption, socio-demographic characteristics, and household economics. Data on socio-demographic and economic characteristics consist of the subject's age, area of residence (rural and urban), parents' employment level (not working and working), parents' education level (low: never schooled, elementary, junior high school or equivalent; high: high school or equivalent, academic, college), number of household members (large: >4 people; small: ≤ 4 people), and economic status (low: bottom, lower intermediate; high: middle, upper intermediate, top).

The collection of food consumption data was carried out using the interview method by enumerators to obtain information on the type and weight of food consumed by each subject. Food consumption data collection instrument using food recall 1x24 hours using probing technique Food consumption is grouped by type, namely vegetable food groups: 1) cereals and processed products; 2) tubers and their processed products; 3) nuts and seeds; 4) vegetables and their processed products; 5) fruits and their processing products. As well as animal food, namely: 1) meat and processed products; 2) offal and its processed products; 3) fish and marine animals; 4) eggs; and 5) milk and its processed products. Food consumption is categorized based on Guidelines for Balanced Nutrition related to the recommendation for the number of servings for adolescent girls, namely consumption of 5 servings of cereals (equivalent to rice = 200g), 3 servings of vegetables (equivalent to raw vegetables = 240 g), 4 servings of fruit (200 g), 3 servings of nuts (150 g), and 3 servings of animals (180 g) to achieve daily balanced nutrition (Kemenkes, 2014b).

Food consumption data has been converted from household units of measure to raw weight in g (grams). Food consumption data is presented in raw weight. Calculation of iron intake using the raw weight of food Conversion of food consumption weight into iron intake using the 2017 Indonesian Food Composition Table (https://www.panganku.org/), food ingredients that are not contained in the 2017 Indonesian Food Composition Table borrowed from Infoods (https://www.fao.org/infoods). The iron content of the manufacturer's food is taken from the nutritional label on the package and then changed to 100 g. The level of iron adequacy based on RDA 2013 is calculated from the total iron intake divided by the iron needs of adolescent girls aged 10–12 years of 20 mg/day and 13–18 years of 26 mg/day based on the value of iron bioavailability of 10%. If <77% is categorized as less and ≥77% is categorized as sufficient.

Data processing using MS Excel 2016 and analysis using SPSS 23 for macOS include univariate analysis, descriptive tests, and cross-tabulations for subject characteristics. Then, a bivariate analysis of comparative tests using the chi square test If in the bivariate test there are variables showing significant values (p<0,05), it will proceed to multivariate analysis using binary logistic regression analysis to determine the factors related to the level of iron adequacy.

Result and Discussion

The total number of young female subjects in this study was 11.766. The characteristics of the subjects presented in Table 1 show that most of the subjects in the study were aged 10–12 years (38,9%), with more than half of the subject population residing in rural areas (55,2%).

Most subjects had a high economic status (60,1%). Almost all subjects had working fathers (97,5%), and half had non-working or stay-at-home mothers (53%), More parents are less educated, both at the father's education level (70,7%) and at the mother's education level (73,6%). More than half of the subjects had family members of more than 4 people or a family size in the large category (61,9%) (Table 1).

The consumption of the subject food group consisted of food groups consumed by adolescent girls aged 10–18 years. The weight of the subjects' food consumption is presented in the form of mean, standard deviation, and median in g/day measures, and iron intake is also obtained from each food consumption presented in Table 2.

Table 1. Characteristics of the subject

Characteristic	n	%
Age		
10-12 years	4.577	38,9
13-18 years	7.189	61,1
Region of residence		
Rural	4.689	55,2
Urban	7.077	44,8
Economic status		
Low	4.689	39,9
High	7.077	60,1
Father's employment status		
Does not work	298	2,5
Work	11.468	97,5
Mother's employment status		
Does not work	6.232	53,0
Work	5.534	47,0
Father's education level	8.324	70,7
Low	3.442	29,3
High		
Mother's education level	8.665	73,6
Low	3.101	26,4
High		
Family size		
Big	7.285	61,9
Small	4.481	38,1
Total subjects	11.766	100,0

Based on Table 2, the highest average consumption of food groups is the cereal and processed group (241,2 g/day), which is one of the vegetable foods with the highest consumption participation rate among other food groups (99,3%). While the group of fish and other marine products is the most consumed (84,9 g/day), which is one of the animal foods with a consumption participation rate of 58,1%, some food groups, such as nuts and processed, fruit and processed, meat and processed, eggs and processed, dairy and processed, and offal and processed, have a median value of zero, meaning that more than half of the subjects in this study did not consume these food groups.

Table 2. Food group weight and iron per food

Food groups	Participation rate n= 11.766	Food weight (g/days)	Iron per food (mg/days)
	%	Mean±SD (median)	Mean±SD (median)
Plant-based foods	100,0	376,1 ± 189,4 (346,0)	6,7 ± 3,9 (5,9)
Cereals and preparations	99,3	241,2 ± 47,6 (220,1)	4,5 ± 1,1 (3,9)
Vegetable and processed	77,3	46,9 ± 21,9 (33,0)	0,6 ± 0,3 (0,4)
Nuts and preparations	41,1	34,4 ± 38,1 (0,0)	1,1 ± 1,3 (1,9)
Fruits and preparations	26,0	28,6 ± 65,0 (0,0)	0,2 ± 0,8 (0,4)
Animal food	86,7	151,4 ± 139,4 (120,1)	2,6 ± 3,3 (1,8)
Fish and other seafood	58,1	84,9 ± 65,9 (32,4)	1,6 ± 1,5 (1,6)
Meat and preparations	30,8	40,0 ± 57,9 (0,0)	0,6 ± 1,7 (1,3)
Eggs and preparations	36,0	18,7 ± 23,8 (0,0)	0,07 ± 0,4 (0,1)
Dairy and processed	12,6	6,4 ± 26,0 (0,0)	0,07 ± 1,4 (0,1)
Offal and preparations	2,4	1,2 ± 8,5 (0,0)	0,05 ± 3,1 (0,5)

When compared with the recommended consumption based on Guidelines for Balanced Nutrition 2014, more than half of the subjects have reached the recommendation of cereal consumption (59,7%), but most subjects have not reached the recommendation of several other food groups such as vegetable consumption (99%), fruit consumption (95,6%), consumption of nuts (93,4%), and consumption of animal foods (93,1%) of the total subjects. The weight of food consumption is less because women tend to reduce portions of food and pay attention to body image to always look attractive (Sukamto et al., 2019).

The top three food groups that contributed the most to the subjects' total daily iron intake were the cereals and processed groups that contributed the most iron (4,5 mg/day), followed by the consumption of fish and other seafood groups (1,6 mg/day), and nuts and preparations (1,1 mg/day). Even though the legume and processed groups are sources of iron in vegetable foods with an average iron content of 4,7 mg/100 g of food, meat and processed foods are also sources of iron in animal foods with an average of 3,1 mg/100 g food.

Offal was the least consumed by subjects (2,4%) in animal food, even though chicken liver contained the highest iron content at 15,8 mg/100 g. A food-based approach will help increase iron intake, depending on the composition of iron contained in the food (Schönfeldt & Hall, 2011).

The average daily iron intake of subjects in this study was 10,0±6,5 mg/day. Results of this study are not much different from the results of research on the total iron intake of adolescent girls from various regions in Indonesia, such as Pandeglang (8,1 mg/day) and Bogor District (10,7 mg/day) (Aji et al., 2021; Briawan et al., 2012).

The average iron intake in this study is also almost the same as the study (Humayrah et al., 2019), which found the average total daily iron intake of women of childbearing age (19–49 years) of 8,6 mg/day with consumption of cereal and processed foods from vegetable foods and fish and other seafood from animal foods, which are daily sources of iron in women of childbearing age.

The average level of iron adequacy was 42,9±28,4%. Based on Table 3, almost all subjects had a lower iron adequacy level, which was 10,981 subjects (93,3%), Only 785 subjects (6,7%) could meet daily iron adequacy. The results of this study are also in line with research (Khoirunnisa et al., 2021), which found that almost all subjects (98,6%) of adolescent girls in Depok still did not achieve daily iron adequacy.

The level of iron adequacy of adolescent girls in this study is not much different from the level of iron adequacy of adolescent girls in Malaysia, who have iron adequacy classified as less (<66% RDA) with an average daily iron intake of 10mg (Foo et al., 2004). Cereals are a contributor to total iron intake because they are the most consumed compared to animal foods. One way to achieve iron adequacy is to increase iron intake from animal foods, which are the main source of iron and are more easily absorbed by the body (Khoirunnisa et al., 2021).

Table 3. Characteristics and food groups of iron adequacy levels

Characteristics and food groups of the subject	Less		Enough		p-value
	n	%	n	%	
Age (years)					
10-12	4,118	35,0	459	3,9	0,000*
13-18	6,863	58,3	326	2,8	
Region of residence					
Rural	6,116	52,0	384	3,3	0,000*
Urban	4,865	41,3	401	3,4	
Economic status					
Low	4,122	35,0	246	2,1	0,001*
High	6,859	58,3	539	4,6	
Father's employment status					
Does not work	286	2,4	12	0,1	0,064
Work	10,695	90,9	773	6,6	
Mother's employment status					
Does not work	5,797	49,3	435	3,7	0,155
Work	5,184	44,1	350	3,0	
Father's education level					
Low	7,811	66,4	513	4,4	0,001*
High	3,170	26,9	272	2,3	
Mother's education level					
Low	8,133	69,1	532	4,5	0,000*
High	2,848	24,2	253	2,2	
Family size					
Big	6,823	58,0	462	3,9	0,067
Small	4,158	35,3	323	2,7	
Cereal consumption					
Did not reach the recommendation	10,716	91,1	665	5,7	0,000*
Achieving recommendations	265	2,3	120	1,0	
Vegetable consumption					
Did not reach the recommendation	10,939	93,0	776	6,6	0,002*
Achieving recommendations	42	0,4	9	0,1	
Peanut consumption					
Did not reach the recommendation	10,930	92,9	719	6,1	0,000*
Achieving recommendations	51	0,4	66	0,6	
Fruit consumption					
Did not reach the recommendation	10,533	89,5	720	6,1	0,000*
Achieving recommendations	448	3,8	665	0,6	
Consumption of animal food					
Did not reach the recommendation	6,821	58,0	343	2,9	0,000*
Achieving recommendations	4,160	35,4	442	3,8	
Total subjects	10,981	93,3	785	6,7	

Insufficient levels of iron adequacy can also be caused by insufficient consumption of both quantity and quality foods. In addition, socioeconomic and demographic factors of the subject can affect the selection of the type and amount of food consumed so that it can affect iron intake, which has an impact on achieving daily iron adequacy (Telisa & Eliza, 2020; Venegas-Aviles et al., 2020).

The characteristics of the subjects, consisting of age, region of residence, economic status, and education level of parents, as well as the subject's food consumption group, were related to the level of iron adequacy. However, age, region of residence, economic status, and food consumption consisting of cereals, nuts, vegetables, fruits, and animal foods are variables in the level of iron adequacy of adolescent girls in Indonesia.

Table 4 shows that food characteristics and consumption together have an effect of 17,1% on iron adequacy levels by showing a Nagelkerke value of 0,171. There are still other variables (82,9%) outside the study that can be predictors in influencing the level of iron adequacy of adolescent girls in Indonesia.

Table 4. Factors related to iron adequacy levels

Modifiers	p-value	Exp(B)	95% CI (Lower-Upper)	
			Lower	Upper
Age (1 = 13-18 years)	<0,001	-0,350	0,299	0,410
Residence (1 = urban)	0,014	1,215	1,040	1,419
Economic Status (1 = high)	<0,001	1,438	1,217	1,698
Cereals (1= achieving recommendations)	<0,001	9,533	7,455	12,192
Vegetables (1= achieving recommendations)	0,001	4,000	1,823	8,778
Peanuts (1= reach recommendation)	<0,001	41,301	27,600	61,804
Fruit (1= achieving recommendation)	<0,001	2,406	1,805	3,208
Animal food (1= achieving recommendations)	<0,001	2,421	2,066	2,838

The younger age variable has a chance (OR= 0,350) of reaching iron adequacy levels, meaning that the younger the age, the younger the adolescent girls can reach iron adequacy levels. It is assumed that the 2013 RDA recommendation for 10–12-year-olds of 20 mg/day is lower than that for 13–18-year-olds of 26 mg/day, so that the iron intake of younger subjects is closer to the 2013 RDA for iron. Greater daily iron needs in late-age adolescent girls (13–18 years) because at that age there is a growth spurt and menstruation (13–18 years).

Young women in Indonesia menstruate on average, starting at the age of 13 (Sudikno & Sandjaja, 2020). Insufficient iron intake and increased iron demand will have an impact on the incidence of iron deficiency anemia (IDA) (Coad & Conlon, 2011). The study did not look at the association of age with the incidence of anemia. However, some studies have found that the average late-age adolescent girl is more at risk of anemia (Djogo et al., 2021; Yuwono et al., 2019; Chandrakumar et al., 2019; and Engidaw et al., 2018).

The region of residence was associated with iron adequacy levels, where subjects living in urban areas had a chance (OR= 1,215) of achieving sufficient iron compared to subjects living in rural areas. This is thought to be because subjects living in rural areas have low consumption of iron sources derived from beans and meat but higher consumption of tubers and vegetables, as well as fish and seafood, because basically these food groups can be cultivated and obtained easily, and the price is more affordable in rural areas than in urban areas.

The results of this study are in line with research (Kim et al., 2014; Sjöberg & Hulthén, 2015; Horiuchi et al., 2018), where adolescents living in rural areas tend to have lower iron intake than adolescents living in urban areas. Research (Akalu et al., 2021) states that people who live in urban areas have 1,14 times better iron intake than those living in rural areas.

Economic status was related to the level of iron adequacy of subjects, in which subjects with high economic status had the opportunity (OR= 1,438) to achieve iron adequacy compared to subjects with low economic status. This illustrates that the higher the economic status, the greater the chance of achieving adequate iron intake for the body. The results of this study are in line with several studies conducted by Yang et al. (2017), Venegas-Aviles et al. (2020), and Akalu et al. (2021), which prove that the better the economic status of the household, the more likely it will be to meet iron intake because it can obtain food consumption from iron sources.

Economic status is one of the factors related to the selection of iron-rich pang consumption that will affect a person's iron intake. This is because people with high economic status will have easier access to financial resources and information when buying iron-rich foods. Therefore, subjects with low economic status need special attention when feeding foods rich in iron and can recommend foods that are cheaper and affordable but rich in iron (Akalu et al., 2021).

The results of this study also showed that if subjects achieved the Guidelines for Balanced Nutrition 2014 recommendations for the cereal group (OR= 9,533), legumes (OR= 41,301), vegetables (OR= 4,000), fruits (OR= 2,406), and animal food (OR= 2,421), they had a relationship and had the opportunity to get adequate iron intake so as to achieve the level of iron adequacy recommended by the RDA 2013.

The results of this study are in line with research Fitri et al. (2016), which found that consumption of rice, animal side dishes, and nuts was positively related to iron adequacy levels. The results of this study are also in line with research Knez et al. (2017), who found that in a healthy female population in Serbia, the total iron intake was 9,4 mg/day, with the largest contribution being cereals, processed foods, and meat. Economic factors can be a problem in choosing animal food consumption, which tends to be more expensive when compared to plant foods, so recommendations are needed in choosing an appropriate and cheaper food menu so that iron needs can be fulfilled.

The advantage of this study is that it uses national data held in 34 provinces in Indonesia with a large number of subjects so that the consumption of adolescent girls' food groups can be identified at the national level. This study uses a cross-sectional design, so it does not describe the food consumption habits of adolescent girls in Indonesia. In addition, only a few factors studied in this study affect the level of iron adequacy of adolescent girls, so there are still unstudied factors that affect the level of iron adequacy of adolescent girls in Indonesia. On the other hand, this study did not further analyze the level of iron adequacy and iron status in adolescent girls.

Conclusion

The total iron intake of adolescent girls is 10,0 mg/day. The cereal food group contributed the most to the subjects' total iron intake. Only 6,7% of adolescent girls were able to achieve the level of iron adequacy set by the RDA. Factors that affect the level of iron adequacy of subjects are age, region of residence, economic status, consumption of cereal food groups, vegetables, nuts, fruits, vegetables, and animal foods.

Suggestions, for the public include the need to increase the consumption of animal foods such as fish and eggs, which are most consumed according to the level of participation in this study, and the consumption of plant foods such as nuts such as tofu and tempeh, which are easily obtained and relatively cheap, and increase vitamin C intake from fruits and vegetables in order to help iron absorption in the body so as to increase the total daily iron intake and achieve iron adequacy levels in adolescent girls. For future research, it is necessary to investigate other more specific factors, such as the frequency of taking blood-added tablets, menstrual conditions, and the frequency of eating consumption, that can be related to the level of iron adequacy in Indonesia.

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