RESEARCH ARTICLE

The correlation between knowledge, family income and peer support with anaemia prevention behaviour among adolescent girls

Mira Triharini[1], Enis Tanfidiah[2], Erna Dwi Wahyuni[3], Yulis Setiya Dewi[4], Amel Dawod Kamel Gouda[5]

Abstract

Objective: To analyse the correlation of knowledge, family income and peer support with anaemia preventive behaviour among adolescent girls.

Method: The correlational, cross-sectional study was conducted at the Junior High School 3, Sampang, Indonesia, from April to June 2021, and comprised adolescent girls who had gone through menarche and were living with their families. Data was collected using knowledge, peer support and anaemia preventive behaviour questionnaires that were designed based on literature. Data was analysed using Spearman's Rho test.

Results: Of the 156 subjects with mean age 14.0±0.98 years, 60(38.5%) were studying in the 8th grade. The mean age of menarche was 11.91±1.03 years. Anaemia preventive behaviour was significantly associated with knowledge (p=0.000, r=0.277) and peer support (p=0.000, r=0.403), but not with family income (p=0.166, r=0.111).

Conclusion: knowledge level and better peer support were found to improve anaemia preventive behaviour among adolescent girls.

Keywords: Anaemia, Iron, Adolescent, Incidence**.** (JPMA 73: S-67 [Suppl. 2]; 2023)

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Introduction

Anaemia is a nutritional problem that is often found in the community[1] which in the developing countries is still quite high compared to the developed countries.[2] It is a nutritional problem for women that can occur during adolescence and pregnancy.[3] Anaemia often occurs in adolescent girls compared to boys because they experience menstruation every month.[4] Adolescent girls are 10 times more likely to suffer from anaemia than young boys.[5] Anaemia in adolescents may interfere with health and increase the risk of harm in the future. It affects physical fitness because to do something the girls need enough haemoglobin (Hb) to bind oxygen.[6] Adolescent girls often pay attention to conventionally preferable body shape which emphasises a thin and small body for which they opt for a wrong diet.[7] They go on a diet by limiting animal protein which needed for formation, have irregular eating habits and pay less attention to food quality.[8] Most of the young women choose food on the basis of taste not on nutritional considerations, contains lots of fat and carbohydrates and lacks iron.[9,10]

The Indonesian government has made some efforts to prevent anaemia in adolescent girls, like providing iron supplement school health unit in collaboration with nutritionists at the primary healthcare centre. However, many young women do not take iron tablets because they perceive themselves as not having a serious enough complaint[11]. incidence in adolescent girls.

Anaemia prevalence ranges 40-88% globally.[1] Bangladesh, rural women suffer from anaemia because of poverty and inadequate food supply[12]. In Indonesia, 22.7% women aged 14-18 years have anaemia. In 2013 that incidence in adolescent girls had increased to 37.1% and to 48.9% in 2018. Many young women experienc abnormal menstruation and lack of knowledge about preventing and dealing with anaemia.[13] Based on a preliminary study on January 30, 2021 at SMPN 3 Sampang on 10 young women, the results of knowledge, family income and peer support was low. Young women's knowledge about anaemia and its prevention was low in 30%, sufficient in 40%, and good in 30%. The family income in all cases was below the minimum wage The food consumed included tofu, tempeh, meat, fish and sometimes eggs or chicken, depending on the family income. Peer support 70%, 20% sufficient and 10% good.

Adolescent girls usually lack knowledge about anaemia.[14] In addition, low parental income doubles the risk of anaemia. It is not a direct causative factor, but affects the purchasing power of the family, which affects the nutritional intake of adolescent girls.[15]

According to the Precede-Proceed model theory, preventive behaviour is influenced by predisposing factors, supporting factors and driving factors.[16] Therefore, in the prevention of anaemia, knowledge and awareness are

[1-4]Department of Nursing, Airlangga University, Surabaya, Indonesia;

[5]Department of Nursing, Cairo University, Egypt.

Correspondence: Mira Triharini. email: mira-t@fkp.nnair.ac.id

needed about the benefits of preventing anaemia. Knowledge about anaemia and its prevention is an important aspect in triggering positive actions in adolescent girls.[17] Thus, young women who have good knowledge may choose iron-rich food.[18,19] Social or peer support may also affect food choices[20] and promote a mindset and behaviour.

Young women have lack of knowledge because they do not understand or receive incomplete information[21]. Besides, there are several other factors, like family income and peer support.[22]

The current study was planned to analyse the correlation of knowledge, family income and peer support with anaemia preventive behaviour among adolescent girls.

Subjects and Methods

The correlational, cross-sectional study was conducted at the Junior High School 3, Sampang, Indonesia, from April to June 2021, and comprised adolescent girls who had gone through menarche and were living with their families. After approval from the ethics review committee of the Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia, the sample size was calculated using the Slovin's formula.[23] The sample was raised using non-probability sampling technique. Those included were adolescent girls who had gone through menarche and were living with their elders in a family setting. Those under anaemia treatment were excluded.

The prospective subjects were approached after permission from the principal. The girls were given parental consent forms which were to be returned the next day. Those who furnished parental consent were handed the data-collection questionnaires. Only completed questionnaires were processed. The knowledge questionnaire had 10 multiple choice questions (MCQs), the peer support questionnaire had 7 questions that were scored on a Likert scale, and the anaemia prevention questionnaire had 6 questions that were on a Likert scale. All the questionnaires were self-designed in the light of literature and were found to be valid and reliable.[21]

Data was analysed using descriptive statistics and bivariate analysis. The independent variables were knowledge level, family income peer support, while prevention of anaemia was the dependent variable. Spearman correlation analysis was used to explore the association between the two sets of variables. P<0.05 was considered statistically significant.

Results

Of the 156 subjects with mean age 14.02±0.98 years, 60(38.5%) were studying in the 8th grade. The mean age of menarche was 11.91±1.03 years (Table 1).

Anaemia preventive behaviour was significantly associated with knowledge (p=0.000, r=0.277) and peer support (p=0.000, r=0.403), but not with family income (p=0.166, r=0.111) (Table 2).

Tabl- 1: Characteristics of the study subjects (n=156)

Characteristic	Criteria	n (%)	Mean±SD
Age	12 years	6 (3.8)	14.02±0.98
	13 years	42 (26.9)	
	14 years	63 (40.4)	
	15 years	32 (20.5)	
	16 years	13 (8.3)	
Grade	7th	52 (33.3)	NA±NA
	8th	60 (38.5)	
	9th	44 (28.2)	
Ethnic group	Madurese	150 (96.2)	NA±NA
	Java	5 (3.2)	
	Banjar	1 (0,6)	
Age of menarche	10 years	18 (11.5)	1.91±1.03
	11 years	30 (19.2)	
	12 years	62 (39.7)	
	13 years	40 (25.6)	
	14 years	6 (3.8)	
	1		
Total	156 (100)		

Table-2: Factors influencing anaemia prevention behaviour.

Variable	Anaemia prevention behaviour				Spearman Rho-Test
	Good n (%)	Moderate n (%)	Poor n (%)	Total n (%)	*p*-value *r*-value
Knowledge					
Good	4 (2.6)	22 (14.1)	11 (7.1)	37 (23.7)	0.000
Moderate	5 (3.2)	34 (21.5)	23 (14.7)	62 (39.7)	0.277
Poor	4 (2.6)	21 (13.5)	32 (20.5)	57 (36.5)	
Total	13 (8.3)	77 (49.4)	66 (42.3)	156 (100.0)	
Family income					
< the minimum wage	8 (5.1)	54(34.6)	37 (23.7)	99 (63.5)	0.166
> the minimum wage	5 (3.2)	23 (14.7)	29 (18.6)	57 (36.5)	0.111
Total	13 (8.3)	77 (49.4)	66 (42.3)	156 (100.0)	
Peer support					
Good	5 (3.2)	6 (3.8)	4 (2.6)	15 (9.6)	0.000
Moderate	3 (1.9)	18 (11.5)	1 (0.6)	22 (14.1)	0.403
Poor	5 (3.2)	53 (34.0)	61 (39.1)	119 (76.3)	
Total	13 (8.3)	77 (49.4)	66 (42.3)	156 (100.0)	

Discussion

The majority of adolescent girls in the current study had moderate level of knowledge and anaemia prevention behaviour. Since the subjects were still part of a junior high school, it might have influenced the finding because of lower education may lack ability to receive information from health workers or through mass media. Adolescent

girls who lack knowledge about anaemia should increase awareness regarding anaemia prevention, especially during menstruation, and the type of food consumed.[24]

The Lawrence Green theory states that knowledge is one of the factors that influence adolescent girls' anaemia prevention behaviour.[16] Increasing information sources is likely to positively increase young women's knowledge.[17]

The current study found no significant relationship between family income and anaemia prevention behaviour in adolescents, which has been reported earlier as well.[25] However, an indirect impact cannot be denied.[26]

The current study showed a relationship between peer support and anaemia preventive behaviour, which is in line with literature.[21,27]

Social support can also increase knowledge about anaemia and its prevention. Social support from peers is a mutual understanding of shared problems built from a feeling of having the same fate. This leads to giving each other advice and sympathy, which is not obtained from parents. The health education provided is very important to improve anaemia prevention behaviour.[28]

Conclusion

Anaemia preventive behaviour was significantly associated with knowledge and peer support, but not with family income.

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