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Eating Behaviors Related to Anemia Prevention in Young Women in Jayapura City

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Abstract

Based on previous interviews with health workers at the City Health Office, health services for adolescent girls were carried out by the school by activating the UKS (School Health Business) assisted by the puskesmas, and cadres, but with the closure of schools during the coronavirus pandemic, so health services were limited and This is not optimal and this can have an impact on health, especially young women in receiving services such as giving Fe tablets, monitoring nutritional status and education about health problems for young women. The risk of anemia can be experienced in young women who are vulnerable if they are not supervised in terms of health services and eating behavior of young women.This type of research is descriptive using a cross-sectional study design. The aim of the study was to obtain an overview of the eating behavior of adolescent girls in Jayapura City. The research will be conducted in the work area of the Jayapura City Health Office. Research time for 8 months. The sample is 100 respondents from a population of 26,084 young women. The eating behavior interview of adolescent girls was conducted by assessing the level of knowledge, attitudes and actions. Data analysis was carried out in this study using a computer software system, namely SPSS 16. Statistical test to see the frequency distribution of eating behavior of adolescent girls. The results of the study showed that most of the young women had good knowledge as many as 62 respondents (82.7%), the attitude towards preventing anemia was mostly good, namely 51 (68.0%) but most of the young women had inadequate actions in preventing anemia, namely 69 (92.0%).

Keywords
Behaviors; anemia; young women

I. Introduction

Adolescent girls are one of the age groups at risk for anemia. Anemia will have a final impact on maternal mortality and increase the risk of babies to be born having low birth weight. (Arisman, 2004.). Anemia is characterized by hemoglobin levels below 12 g/dl. Adolescent girls have a great risk because they are future mothers so that it will have an impact on the fetus. In 2011, WHO reported the prevalence of anemia in the world in all women of reproductive age of 29.4% of which 38.2% in pregnant women and 29.0% in women who have not experienced pregnancy (Wu, et al. 2020). The challenge of anemia in women of reproductive age occurs in the 15-24 year age group and also in the 25-34 year age group. The prevalence of anemia in Indonesia is still relatively high. Based on the Basic Health Research Report (Riskesdas), anemia in adolescent girls from 37.1% in Riskesdas 2013 increased to 48.9% in Riskesdas 2018. The proportion of anemia in women (23.9%)

was higher than in men (18.4%). The proportion of anemia in the 15-24 year age group was 18.4% in 2013. Based on the 2018 Riskesdas data, the proportion of anemia in women (27.2%) was higher than in men (20.3%). The proportion of anemia in the 15-24 year age group was 32% in 2018 (Riskesdas, 2018). Longitudinal study conducted by Wu, et al. in China (2020) found that out of 640,672 respondents, 121,254 women were found to be anemic, with a prevalence of 18.9% (95% CI: 18.8–19.0%). From 2014 to 2018, the prevalence of anemia ranged from 23.0–16.4%. The prevalence of pregnant women in the first trimester is 21.6% higher than the group of women who have not been pregnant at 17.4%. This shows that there is still a relationship between nutritional problems from adolescence to the impact of pregnancy.

One of the causes of adolescent girls who experience anemia due to eating behavior. Young women are usually very concerned about body shape. The desire of young women to be slim makes them limit their intake of nutritionally balanced foods. In Notoatmodjo 2003, nutritional behavior such as eating behavior is one part of health maintenance behavior. It is known that young women are still in their infancy and experience menstruation every month. In a day, humans lose 0.6 mg of iron through feces (feces) and during menstruation, adolescent girls will lose twice as much iron compared to young men so that iron will be lost 1.3 mg per day (Setyowati, et al, 2017). Therefore, proper and correct eating behavior is very influential on the state of health and nutrition of adolescent girls. Good intake of nutrients related to the prevention of anemia is supported by eating behavior factors which consist of 3 aspects, namely knowledge, attitudes and actions (Budiharto 2013). Research conducted by Mursiti (2016) in Kendal on 91 high school girls found that 25.6% had anemia, 44.4% poor eating behavior, 65.6% poor knowledge. Adolescent girls who have a good attitude towards nutritional needs are 55.6%. The eating behavior of adolescent girls who are not anemic is better than the eating behavior of adolescent girls who are not anemic ($p = 0.035$). Adolescent attitudes towards nutritional needs (OR 2.692) affect the eating behavior of adolescent girls. Research conducted by Irmanto, et al (2017) in Jayapura Regency found that out of 97 Adventist Vegetarian Junior and Senior High School students there were 48 (49.5%) who had anemia. This continues to be a health problem in Jayapura City as well.

Based on previous interviews with health workers at the City Health Office, health services for adolescent girls were carried out by the school by activating the UKS (School Health Business) assisted by the puskesmas, and cadres, but with the closure of schools during the coronavirus pandemic, so health services were limited and This is not optimal and this can have a negative impact on health, especially young women in receiving services such as giving Fe tablets, monitoring nutritional status and education about health problems for young women. Reports from the Jayapura City Health Office in 2018 the number of WUS who received services for giving blood tablets or Fe tablets was still 83%. In 2020, for young women who received Fe tablets, 19,106 teenagers from 26,084 young women in the City. Referring to interviews and previous data, the risk of anemia can be experienced in young women in Jayapura City if there is no supervision in terms of health services and eating behavior of young women.

II. Review of Literature

2.1 Teenage Girl

Etiologically, adolescence comes from the Latin "adolescere" or "to grow up" which means growing into an adult. Adolescence is a period of rapid growth spurt after children. Adolescence is marked by accelerated physical growth, sexual maturity, psychological, and behavioral changes that bring about the transformation from children to adults. (kliegman and nelson 2007; Mehhdiratta, 2011 in Patimah, 2017). Based on the WHO 2005, adolescents are grouped into 3 stages: 1). Early adolescence 10-15 years b). middle teens 14-17 years, c). late teens 18-21 years.

Puberty is largely determined by adolescent somatic growth and development. Girls go through puberty earlier than boys. (Neinstein and Klaufman, 2002 in Patimah, 2017). Adolescent girls are a crucial period in a woman's life. Health and nutritional status during the adolescent phase are important for physical maturity which in turn affects the health of their offspring (Sharma, et al. 2005 in Patimah 2017).

Adolescence is a period of transition from children accompanied by changes in eating patterns and lifestyles because they are able to make decisions for themselves even though adolescents' decisions regarding their lifestyle are influenced by their peers which will have an impact on eating patterns and nutritional status and adolescent reproductive health. .

During adolescence, nutritional needs need to be reviewed from a biological, psychological and social point of view. This needs attention because: a) the need for increased nutrition due to increased physical growth and development, b). Changes in lifestyle and eating habits at this time have an impact on nutritional needs and intake, c). Special needs for nutrients need to be considered in groups of adolescents who have sports activities, experience pregnancy, eating behavior disorders, intake restrictions, alcohol consumption, drugs.

Rapid growth, psychological changes and increased activity cause an increase in nutritional needs and whether or not these needs are met will affect nutritional status. Adolescent girls who enter their menstrual period every month need certain nutrients higher than normal consumption. When reaching a growth spurt, teenagers will eat more and after that period will usually pay more attention to their appearance so that the habit of regulating their diet is often done. Increased activity, social life and busy teenagers will affect eating habits. Irregular food consumption patterns, frequent snacks, no breakfast, and no lunch will affect nutritional status and cause nutritional problems in adolescents such as chronic energy deficiency, anemia, anorexia nervosa, and obesity. (Adriani and Wirjatmadi, 2012)

2.2 Anemia Problem

One of the nutritional problems experienced, especially adolescent girls, is anemia. Anemia in adolescents is still a high incidence of cases. The percentage of young women who receive blood supplement tablets is still very low, only 10.3%, this shows that there are still many young women who experience anemia and will result in the next generation experiencing nutritional problems if it is not prevented from adolescence (Kemenkes, RI,

2017). Anemia is a condition in which the hemoglobin (Hb) level in the blood is low. Most anemia is caused by a deficiency of one or more essential nutrients such as Fe, Folic acid, Vitamin B12. Anemia can also be caused by conditions such as malaria, bleeding and infectious diseases (Masrizal, 2007).

Hemoglobin is the main component of erythrocytes which functions to carry oxygen and carbon dioxide. The red color of blood is caused by the content of hemoglobin (Hb) which is a complex protein composition consisting of protein, globin and heme. Heme is composed of porphyrin compounds whose center is occupied by iron metal (Fe). According to WHO, the limit value of hemoglobin (Hb) which is said to be iron nutritional anemia for adolescent women is < 12 g/dl with serum iron values < 50 mg/ml and ferritin values < 12 mg/ml. ferritin value is a reflection of the body's iron reserves so that it can provide an overview of a person's iron status. To determine blood Hb levels, one of the methods used is the Cyanmethemoglobin method. This method is quite thorough and is recommended by the International Committee for Standardization in Hematology (ICSH). The method of determining Hb that is widely used in Indonesia is Sahli. in the field it is quite simple but the accuracy needs to be compared with the standard method recommended by WHO.

Types of anemia include: megaloblastic anemia, non megaloblastic anemia, microcytic anemia, normocytic anemia. Microcytic anemia due to iron deficiency. Anemia due to Iron deficiency is anemia that occurs due to lack of iron in the blood, meaning that the concentration of hemoglobin in the blood is reduced due to disruption of the formation of red blood cells due to lack of iron levels in the blood. Very low iron stores over time will not be enough to form red blood cells in the bone marrow so that hemoglobin levels continue to decrease below normal limits, this condition is called iron nutritional anemia.

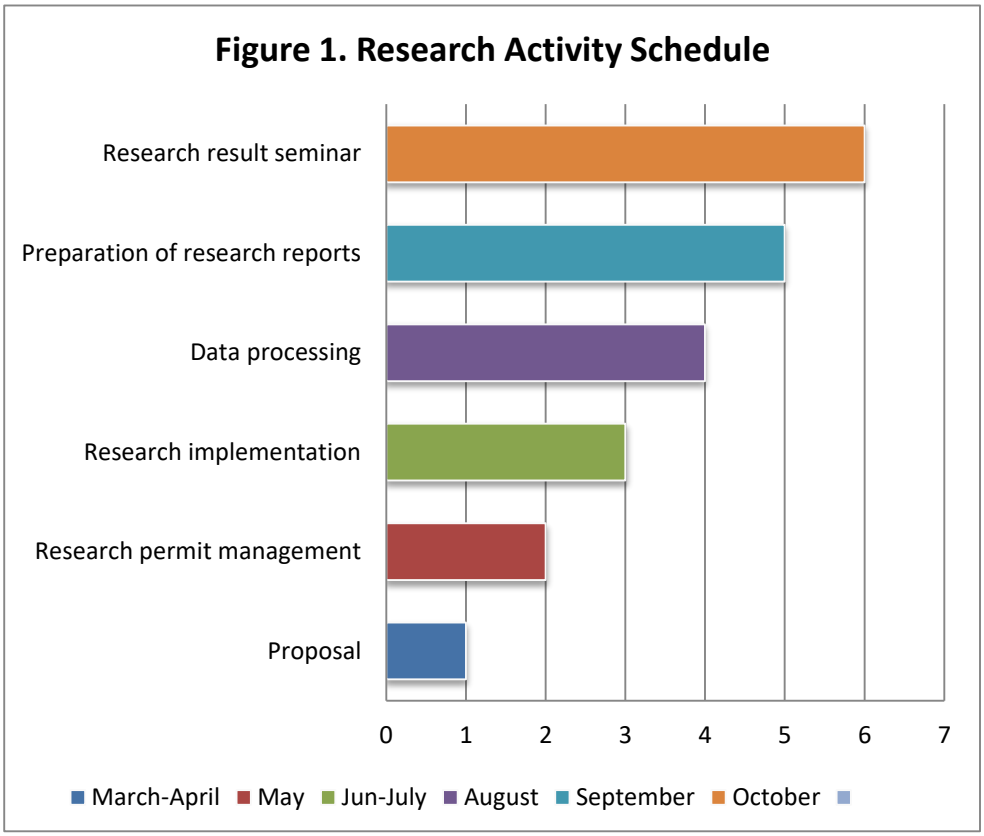
The causes of iron deficiency anemia are low intake of iron (Fe), the presence of factors inhibiting the absorption of iron, increased demand due to during growth (infants, children, adolescents), pregnancy, breastfeeding, chronic bleeding due to parasitic infections in the intestines (worms).), and iron loss through the digestive tract, skin and urine (basal iron loss). Loss of iron in women and adolescents occurs also due to entering the menstrual period. As a result of anemia in general, lack of ability to study and work, easily tired, impaired motor development and coordination in children, and in pregnant women the risk of death and illness to the mother and fetus and the risk of the fetus being born with low weight

2.3 Eating Behavior

Behavior is all forms of response to the environment. (Budioro, 2007). Health behavior is a response of a person (organism) to stimuli related to illness and disease, the food health service system and the environment in accordance with the level of disease prevention. Health prevention behavior is a response to disease prevention, such as eating nutritious foods, drinking Fe tablets to prevent anemia (Notoatmodjo, 2007). Knowledge of young women about anemia is a factor that can influence attitudes and actions towards anemia prevention, such as eating a balanced nutritious diet, consuming beverages that can help iron absorption, consuming Fe tablets if necessary, and avoiding things that can interfere with iron absorption such as consuming food. By drinking tea, coffee and milk (Saifudin, 2007).

III. Research Methods

The type of research used is descriptive observational research using a cross-sectional study design. The purpose of this study was to determine the description of eating behavior related to the prevention of anemia in adolescent girls in one measurement at the same time in Jayapura City.



IV. Result and Discussion

This research was conducted in Jayapura City with a sample of 75 young women scattered in Jayapura City. 25 young women lost to follow-up in the middle of the study due to the corona pandemic situation, so they finally decided not to be a research respondent. This study wanted to see an overview of nutritional status and eating behavior related to the prevention of anemia in adolescent girls. The results of the study can be seen in the table below:

Table 1. Characteristics of the Sample of Young Women in Jayapura City

Characteristics	N	%
Age		
- 14-15	20	26.7
- 16-17	48	64.0
- 18-19	7	9.3
Father's occupation		
- Does not work	16	21.3
- work	59	78.7
Mother's work		
- Does not work	56	74.67
- work	19	25.33
Father's education		
- Low	21	28.0
- High	54	72.0

Mother's education		
- Low	31	41.3
- High	44	58.7
Total	75	100

Data source: primary data, 2021

Table 1 shows the characteristics of young women consisting of mostly ages 16 and 17 years, as many as 48 respondents, most of the respondents have fathers who work as civil servants, namely 59 respondents, and 56 respondents have mothers who do not work or as housewives. Respondents with fathers with higher education above junior high school had the highest frequency, namely 54 respondents, and most mothers with higher education, namely above junior high school as many as 44 respondents.

Table 2. Frequency Distribution of Nutritional Status of Young Women in Jayapura City

Nutritional status	N	%
Not enough	19	25.3
Normal	44	58.7
More	12	16.0
Total	75	100

Source: primary data, 2021

The results showed that most of the young women had normal nutritional status or in good condition, as many as 44 respondents or 58.7%.

Table 3. Distribution of Knowledge Frequency of Young Women related to Anemia Prevention in Jayapura City

Knowledge	N	%
Not enough	13	17.3
Well	62	82.7
Total	75	100

Data source: Primary, 2021

The results showed that most of the young women had good knowledge in preventing anemia, as many as 62 respondents or 82.7%.

Table 4. Frequency Distribution of Young Women Attitudes regarding Anemia Prevention in Jayapura City

Attitude	N	%
Not enough	24	32.0
Well	51	68.0
Total	75	100

Data source: primary data, 2021

Table 4 shows the results of research on the attitudes of young women towards anemia prevention, most of who have a good or positive attitude, as many as 51 respondents or 68.0%

Table 5. Distribution of the Frequency of Adolescent Girls Actions related to Anemia Prevention in Jayapura City

Action	N	%
Not enough	69	92,0
Well	6	8.0
Total	75	100

Data source: primary data, 2021

The results of the study in table 5 show that most of the young women have anemia prevention measures that are still low or lacking, as many as 69 respondents or 92.0%.

The way a person thinks and perceives something about the food consumed and carried out in the act of eating daily and how to choose these foods continuously will form eating patterns or eating habits. (Soetjiningsih. Growing up

Child Flower. EGC: Jakarta, 1995.) Adolescents are a group that is vulnerable to physical changes. Teenagers often have unhealthy eating behavior patterns. This can be seen in the behavior of teenagers who are always considered right by the teenagers themselves, such as following a strict diet, reducing food intake by skipping breakfast, and holding back hunger. This is done so that teenagers still have a slim body, and are afraid to become fat (Brasi, 2007). Eating behavior will depend on a person's knowledge, attitudes and actions. One of the factors that cause the problem of anemia is the lack of knowledge from young women regarding the problem of anemia. Adolescent girls are very at risk of experiencing anemia because they enter the stage of puberty which is marked by the presence of menstruation every month and are also faced with adolescent social relationships that affect mental and psychological conditions as well as lifestyles that affect food choices.

Nutritional status is a measure of the condition of a person's body which can be seen from the food consumed and the use of nutrients in the body. (Almatsier, 2010). Nutritional problems in adolescents that occur due to wrong eating habits include obesity, chronic malnutrition, and micronutrient deficiencies such as nutritional anemia. If the consumption of nutrients is less than adequate, adolescents will experience malnutrition and vice versa if consumption exceeds the adequacy rate, adolescents will suffer from overnutrition and obesity, thin and very thin are also the most common nutritional problems encountered in adolescent girls. The results of this study indicate that most young women have normal nutritional status, which means that the fulfillment of macronutrient intake is still sufficient according to the needs of young women. However, it is still found that young women who have poor nutritional status so that eating behavior need to be studied. Diet is closely related to body weight, nutritional status and health status. Optimal nutritional status will form healthy and productive adolescents. The state of anemia experienced by young women is generally caused by a lack of iron intake or micronutrients in the body. This causes a reduction in the red blood cell-forming material, so that red blood cells cannot perform their function in supplying oxygen which can lead to anemia (Aramico, et al, 2017). According to Masdewi et al (2011), eating behavior has a significant effect on the nutritional status of adolescent girls, this shows that good eating behavior means that the intake of nutrients needed by the body will be fulfilled so that the nutritional status of adolescent girls will be better.

4.1. Knowledge and Prevention of Anemia

The results showed that most of the young women had good knowledge of the prevention of anemia problems. Adolescent girls are prone to anemia because they experience menstruation and catch up with their growth period. Adolescent girls who are menstruating experience iron loss twice as much as adolescent boys. In addition, young women are usually very concerned about body shape, so many limit food consumption such as on a vegetarian diet (Soedtama, 2006). Most of the respondents have good knowledge because they have heard previous information submitted by the school health and health centers that carry out the TTD program in schools and from the mass media and electronics so that most teenagers already understand information about anemia based on the questions given. Knowledge is the result of knowing, and occurs after people sense a certain object. Knowledge or cognition is a very important domain for the formation of one's actions (Notoatmodjo, 2003). According to Wawan and Dewi (2010) the factors that can influence knowledge are education, work, age, environment, and socio-cultural factors. Research in other areas related to knowledge and problems of anemia in adolescent girls conducted by Mularsih (2017) found that most of the young women at SMK Nusa Bhakti Semarang City had less knowledge about anemia because they had not received education about anemia and its prevention.

4.2. Attitude and Prevention of Anemia

The results showed that most of the young women's attitudes about anemia prevention were good. Attitude is defined as a person's closed response to a stimulus or object, both internal and external. Attitude is a person's closed response to a stimulus or object, both internal and external. The manifestation of the attitude cannot be directly seen, but can only be interpreted beforehand from the closed attitude. Most of the respondents have a good attitude or in accordance with the prevention of anemia because it is supported by good knowledge so that they respond to this knowledge with an attitude view that they think is correct according to the knowledge and information they get. Research conducted by Sulistyorini and Maesaroh (2019) showed that most of the young women in RW 12 Geneng Mojosongo Jebres Surakarta had a sufficient attitude about anemia.

4.3. Actions and Prevention of Anemia

The older enough, a person will be more mature in thinking and working. However, attitude is mental readiness, which is a process that takes place within a person along with each individual's experience, which directs and determines the response to various objects and situations. (Sarwono, 2011). Education can influence a person, including influencing a person's attitudes and actions to participate in health development. In addition, attitudes are also influenced by other factors, including personal experience, the influence of other people who are considered important, cultural influences, mass media, educational institutions and emotional factors. (Wawan, 2011). The results of the study show that most of the respondents have actions that are still lacking. In theory, good knowledge will affect a person's actions, but knowledge is not the only factor that can influence a person's behavior or actions. The factors that influence the formation of behavior are divided into two, namely: internal factors and external factors. Knowledge is one of the internal factors that influence one's actions, besides there are other factors, namely intelligence, perception, emotion, and motivation. While external factors include the surrounding environment, both physical and non-physical, such as climate, humans, socio-economics, and culture. (Wawan, 2011).

V. Conclusion

Anemia is characterized by hemoglobin levels below 12 g/dl. Adolescent girls have a great risk because they are future mothers so that it will have an impact on the fetus. The proportion of anemia in the 15-24 year age group was 32% in 2018. One of the causes of young women experiencing anemia is due to eating behavior. Young women are usually very concerned about body shape, the desire of young women to slim makes them limit their intake of nutritionally balanced foods. Good intake of nutrients related to the prevention of anemia is supported by the presence of eating behavior factors which consist of 3 aspects, namely knowledge, attitudes and actions. Knowledge of young women about anemia is a factor that can influence attitudes and actions towards anemia prevention. Based on previous interviews with health workers at the City Health Office, health services for adolescent girls were carried out by the school by activating the UKS (School Health Business) assisted by the puskesmas, and cadres, but with the closure of schools during the coronavirus pandemic, so health services were limited and This is not optimal and this can have an impact on health, especially young women in receiving services such as giving Fe tablets, monitoring nutritional status and education about health problems for young women. The risk of anemia can be experienced in young women who are vulnerable if they are not supervised in terms of health services and eating behavior of young women.This type of research is descriptive using a cross-sectional study design. The aim of the study was to obtain an overview of the eating behavior of adolescent girls in Jayapura City. The research will be conducted in the work area of the Jayapura City Health Office. Research time for 8 months. The sample is 100 respondents from a population of 26,084 young women. The eating behavior interview of adolescent girls was conducted by assessing the level of knowledge, attitudes and actions. Data analysis was carried out in this study using a computer software system, namely SPSS 16. Statistical test to see the frequency distribution of eating behavior of adolescent girls. The results of the study showed that most of the young women had good knowledge as many as 62 respondents (82.7%), the attitude towards preventing anemia was mostly good, namely 51 (68.0%) but most of the young women had inadequate actions in preventing anemia, namely 69 (92.0%).

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