

Original Research

Adolescent Girls' Knowledge About Iron Tablets: A Descriptive Study

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ABSTRACT

Background: Adolescent girls are a group that is vulnerable to anemia due to increased iron requirements during growth and menstruation. Lack of knowledge about the importance of iron tablet consumption is one of the factors causing low compliance in anemia prevention. This study aims to determine the knowledge of adolescent girls about iron tablets at MTs Muhammadiyah Special Program Bayat, Klaten.

Methods: A quantitative descriptive design with total sampling technique was used. The sample consisted of 50 respondents who met the inclusion criteria. The research instrument used a structured questionnaire that had been tested for validity and reliability. Data analysis was performed univariately with frequency distribution using statistical data processing software.

Results: The results showed that most adolescent girls had a good level of knowledge about iron tablets, with 34 respondents (68%). Based on age characteristics, good knowledge was more prevalent among early adolescents, with 26 respondents (68%), while based on grade level, the majority were in grade VII, with 15 respondents (64%). The most common source of information was teachers, with 18 respondents (82%).

Conclusion: Most female adolescents at MTs Muhammadiyah Program Khusus Bayat have good knowledge about iron tablets. The recommendation from this study is the need to improve health education through UKS activities and regular counseling by health workers and teachers so that adolescents better understand the importance of regular iron tablet consumption to prevent anemia.

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INTRODUCTION

Adolescents are individuals in the transition period between childhood and adulthood, aged 10–19 years, characterized by physical, psychological, and social changes (Sulistyaningsih, 2017). Adolescence is an important period in the formation of healthy lifestyle habits, including meeting nutritional needs that increase with the acceleration of growth and development (Marmi, 2018). Inadequate intake of nutrients, especially iron, can cause health problems that have a long-term impact on the quality of life of adolescents (Adriani & Wiratmaja, 2018).

Iron deficiency anemia is one of the most common nutritional problems in the world and poses a major challenge in developing countries, including Indonesia. Data from the World Health Organization (WHO, 2018) shows that around 51% of the world's population suffers from anemia, with a high prevalence among adolescent girls. In Indonesia, the prevalence of anemia reaches 48.9%, with the 15–24 age group having the highest rate at 84.6% (Indonesian Ministry of Health, 2019). In Central Java, the prevalence of anemia among adolescent girls is recorded at 57.1%, indicating that anemia remains a public health issue that requires serious attention (Central Java Health Office, 2018).

The impact of anemia on adolescent girls not only causes fatigue and decreased concentration in learning but also reduces fitness and productivity. If this condition continues into adulthood and pregnancy, it can increase the risk of pregnancy complications and give birth to babies with low birth weight (Arisman, 2018; Dubey, 2018). Lack of awareness and knowledge about the importance of consuming iron tablets is one of the causes of low compliance in preventing anemia (Sugiartini & Wikayanti, 2019).

The government has made efforts to combat anemia in adolescent girls through a program of providing iron tablets (TTD) implemented in schools every week in accordance with the Circular Letter of the Director General of Public Health Number HK.03.03/V/0595/2016. This program aims to improve the nutritional status of adolescent girls and prevent anemia through UKS/M (School/Madrasah Health Efforts) activities (Indonesian Ministry of Health, 2018). However, previous studies have shown that the implementation of this program has not been optimal due to the low level of knowledge and awareness among adolescent girls in consuming iron tablets (Dewi, 2019; Leni, 2019).

Based on the results of a preliminary study at MTs Muhammadiyah Special Program Bayat Klaten, it was found that most adolescents did not understand the importance of iron tablets and were not consistent in consuming them. This condition indicates the need for a study to determine the extent of adolescent girls' knowledge about iron tablets. This study is novel in that it describes the level of knowledge of adolescent girls in religious-based education, which has not been widely studied. The purpose of this study was to determine the level of knowledge of adolescent girls about iron tablets at MTs Muhammadiyah Special Program Bayat Klaten.

MATERIALS AND METHODS

This study used a quantitative descriptive design with a cross-sectional approach. This design was chosen because it could provide an overview of adolescent girls' knowledge about iron tablets at a single point in time without any intervention from the researcher. This approach allowed the researcher to collect numerical data to describe the phenomenon objectively in accordance with the actual conditions in the field. This design was considered relevant to the research objective, which was to determine the level of knowledge of adolescent girls about iron tablets at MTs Muhammadiyah Special Program Bayat.

The research was conducted at MTs Muhammadiyah Special Program Bayat, Klaten Regency, because this school is one of the educational institutions that implements a program of providing iron tablets to adolescent girls in collaboration with the local health center. The research was conducted from July to December 2022 (), covering the preparation stage, validity and reliability testing of the instruments, data collection, and

analysis of the research results. The selection of the location and time was made by considering ease of access and school conditions so that the research activities would not interfere with the teaching and learning process.

The population of this study consisted of all 50 female students in grades VII, VIII, and IX at MTs Muhammadiyah Special Program Bayat. Because the population size was less than 100, total sampling was used, meaning that the entire population was used as the research sample, resulting in a sample size of 50 respondents. The inclusion criteria included female students who actively participated in learning activities and were willing to be respondents, while the exclusion criteria were female students who were absent at the time of data collection or refused to participate in the study.

The variable studied was adolescent girls' knowledge about iron tablets, which was measured using a closed-ended questionnaire. The questionnaire was compiled based on knowledge indicators that included understanding, time of consumption, benefits, side effects, impacts, and methods of consuming iron tablets. Each question had answer options with a score of 1 for correct answers and 0 for incorrect answers. The level of knowledge was categorized as good (76–100%), adequate (56–75%), and poor (<56%) based on the total score obtained by the respondents.

The research instrument was tested using the Pearson Product Moment validity test and Cronbach's Alpha reliability test. The validity test was conducted on 20 respondents at MTsN 5 Cawas, with most items declared valid. The reliability value obtained was 0.894, indicating that the instrument has a high and consistent level of reliability. The test results prove that the questionnaire is suitable for use as a tool to measure adolescent girls' knowledge about iron tablets.

The data collection procedure was carried out in three stages, namely preparation, implementation, and reporting. The preparation stage included the preparation of a research proposal, obtaining permits, and testing the instrument. In the implementation stage, the researcher provided informed consent forms to the respondents, explained the purpose of the study, and distributed the questionnaires to be filled out independently under the researcher's supervision. The data were collected and processed through editing, coding, scoring, and tabulation, then analyzed univariately using the SPSS program and presented in the form of frequency and percentage distributions. This study has obtained ethical approval from the Dr. Moewardi Hospital Research Ethics Committee with number: 892/XI/HREC/2022 dated November 24, 2022, and complies with research ethics principles including informed consent, anonymity, and confidentiality.

RESULTS

Table 1. Characteristics of Respondents and Knowledge about Iron Tablets (n = 50)

Characteristics	Category	Frequency (n)	Percentage	Good Knowledge (n, %)	Adequate Knowledge (n, %)	Poor Knowledge (n, %)
Age (Years)	Early Adolescence (11–13)	38	76	26 (68)	12 (32)	0
	Middle Adolescents (14–16)	12	24	8 (67)	3 (25)	1 (8)
Class	VII	22	44	15 (68)	6 (32)	1 (4)
	VIII	19	38	14 (74)	5 (26)	0 (0)
	IX	9	18	5 (56)	4 (44)	0

Characteristics	Category	Frequency (n)	Percentage	Good Knowledge (n, %)	Adequate Knowledge (n, %)	Poor Knowledge (n, %)
Experience with iron tablets	Already obtained	50	100	34 (68)	15 (30)	1 (2)
	Not yet received	0	0	0	0	0
Information Source	Teacher	22	44	18 (82)	4 (18)	0
	Health Workers	15	30	10 (67)	4 (27)	1 (6)
	Social Media	1	2	0	1 (100)	0
	Friends	1	2	0	1 (100)	0
	Others	11	22	6 (55)	5 (45)	0

Table 1 shows that the majority of respondents were early adolescents (11–13 years old), totaling 38 people (76%), and the fewest were middle adolescents (14–16 years old), totaling 12 people (24%). Most were in grade VII, totaling 22 people (44%), followed by grade VIII with 19 people (38%) and grade IX with 9 people (18%). All respondents (100%) had experience receiving iron tablets, with the majority of information coming from teachers, totaling 22 people (44%). The level of knowledge of adolescent girls about iron tablets showed that the majority had good knowledge (34 people, 68%), sufficient knowledge (15 people, 30%), and poor knowledge (1 person, 2%).

Knowledge based on age was mostly good among early adolescents (26 people, 68%), while most middle adolescents had good knowledge (8 people, 67%) with 1 person (8%) having poor knowledge. Based on grade, the highest level of good knowledge was found in grade VIII with 14 people (74%), while grade IX had the least good knowledge with 5 people (56%). Information sources influenced the level of knowledge; information from teachers was mostly good (18 people, 82%), while information from social media and friends tended to be adequate. These results indicate that adolescent girls' knowledge about iron tablets is influenced by age, grade, experience receiving tablets, and sources of information obtained.

DISCUSSION

The results of this study indicate that the majority of adolescent girls have good knowledge about iron tablets, namely 34 respondents. This finding is in line with previous studies by Dieniyah (2019) and Putri (2019), which showed that adolescent girls' knowledge was in the good category. This good knowledge is important because it influences adolescents' attitudes and behaviors in consuming iron tablets and choosing nutritious foods to prevent anemia (Angrainy et al., 2019; Notoatmodjo, 2012).

Based on age characteristics, the majority of respondents were early adolescents (11–13 years old). This age group is included in the target group for iron tablet administration, so the reception of information is more effective. Other studies show that age affects the ability to understand information and the level of knowledge, although middle adolescents sometimes have less knowledge due to different experiences and exposure to information (Ajeng Risna, 2018; Sarwono, 2018).

Class characteristics also influence adolescents' knowledge. The majority of respondents were in seventh grade, who tend to have a high curiosity and are more receptive to new information. Good knowledge in this class supports the findings of

previous research that learning motivation and adaptability influence adolescents' level of knowledge about reproductive health and nutrition (Hidayah & Almira, 2018).

The experience obtaining information about iron tablets proved to play an important role in knowledge. All respondents had obtained information, which shaped their positive attitudes toward iron tablets. Previous studies have stated that personal experience is a source of knowledge and encourages behavioral change, so that adolescents who obtain information from teachers or health workers better understand the benefits of iron tablets (Sariyati, 2014; Wahyuningsih, 2018).

The source of information has a significant effect on the level of knowledge. The majority of information is obtained from teachers, so adolescents' knowledge tends to be good. This is in line with the theory that formal and non-formal education can effectively increase knowledge. However, there are still respondents with insufficient knowledge due to different levels of understanding and limited information received (Notoatmodjo, 2018; Irianti & Sahiroh, 2019).

The limitations of this study lie in the data collection methods, which were based solely on questionnaires and interviews, so that respondents' understanding may differ. The implications of this study show the importance of continuous counseling and methods of delivering information that are appropriate to the characteristics of adolescent girls to increase their knowledge and compliance with iron tablet consumption. This study recommends involving teachers, health workers, and educational media to provide more effective and targeted information for adolescent girls (Sediaoetama, 2020; Almatsier, 2018).

CONCLUSION

Based on the research results, it can be concluded that the majority of adolescent girls at MTs Muhammadiyah Program Khusus Bayat have good knowledge about iron tablets, especially among early adolescents and seventh graders, and good knowledge is also obtained from the experience of obtaining information and information sources from teachers. This good knowledge has the potential to influence positive adolescent behavior in consuming iron tablets to prevent anemia, meet iron needs, and support reproductive health in the future. The implications of this study show the importance of continuous education through schools and health centers, as well as the use of media and educational methods that are attractive to adolescent girls. The recommendations of this study are to actively involve teachers and health workers in providing accurate and regular information, encouraging positive attitude changes, and conducting further research to explore the relationship between knowledge, attitudes, and compliance with iron tablet consumption in more depth.

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