

Effectiveness Of The Educational Intervention Program On The Level Of Knowledge About Anemia Among Teenage Females

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Article Information

Received: 25 May 2023
 Revised: 28 July 2023
 Available online: 29 July 2023

Keywords

Health education; anemia; knowledge

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ABSTRACT

Anemia is a medical condition in which the number of red blood cells or hemoglobin is less than 12 grams/100 ml. One of the efforts to increase one's knowledge about anemia is through health education which is one of the efforts to prevent anemia in adolescent girls. The aim is to determine the effect of health education about anemia on the level of knowledge of adolescent girls at SMA Negeri 1 Cisaga. This study used the Pre-Experimental method, the design used was One Group Pre-Test and Post-Test. Sampling using Non Random Sampling as many as 69 respondents. The results show that Knowledge of adolescent girls before the pre-test was on average 46.91. While after the posttest it increased to 78.61. Based on the Paired Sample T-test test, it shows that H_a is accepted with a Sig (2-tailed) value = 0.000 < 0.05. In conclusion, there is an influence between the level of knowledge of adolescent girls at SMA Negeri 1 Cisaga with health about anemia.

INTRODUCTION

The prevalence of anemia in young women is still quite high, according to WHO, the prevalence of anemia is almost evenly distributed in various regions of the world, which ranges from 40-88%. About 25-40% of young women in Southeast Asia suffer from anemia. The prevalence of anemia in adolescents is 27% in developing countries and 6% in developed countries. The incidence of anemia in young women in developing countries is around 33.7% of all young women.

Meanwhile, all adolescent boys range from 18-20% (Hermiaty et al., 2021).

According to data from basic health research (RISKESDAS) in 2013 female adolescents who experienced anemia, namely 37.1%, increased to 48.9% in 2018, with the proportion of anemia in the age group 15-24 years and 25-34 years. The government has undertaken several measures to prevent and manage anaemia among adolescent girls through several short-term measures such as iron supplementation among adolescent girls and nutrition education among adolescents to increase the amount of iron supplementation

and iron bioavailability. Therefore, one of the government's anaemia prevention programs is the provision of iron supplementation (Junita & Wulansari, 2021; Permatasari & Soviana, 2022).

Anaemia is one of the most common health problems experienced by Indonesians, ranging from toddlers to the elderly (Utami et al., 2022). Anaemia is a medical condition in which the number of red blood cells, and haemoglobin is less than normal (Indrawatiningsih et al., 2021). The normal haemoglobin balance generally differs between men and women. For men, anaemia is defined as a haemoglobin level of less than 13.5 grams/100ml and a haemoglobin level of less than 12 grams/100ml (Handayani & Sugiarsih, 2022).

Anemia in adolescents can have an impact on stunted growth, the body will be easily infected. As a result, reduced body fitness, decreased enthusiasm for learning or achievement. The impact of low iron (Fe) status can cause anemia with symptoms of paleness, lethargy, fatigue, shortness of breath, lack of appetite and growth disorders (Apriyanti, 2019).

Health education is one of the efforts that can help individuals and groups in improving behavioral abilities in achieving optimal health through three factors, namely predisposing factors, enabling factors, and reinforcing factors. Health education aims to increase knowledge, awareness, willingness, ability to live healthy and play an active role in health efforts (Ernawati et al., 2021). The role of health education regarding iron deficiency and its knowledge is very important. Because health education can be an effort to intervene in knowledge and attitudes and can prevent anemia. There are two ways of prevention, namely primary and secondary. Primary prevention is through health education so

that adolescents get iron input through food that meets their needs. Secondary prevention consists of screening, diagnosis, and treatment of iron deficiency (Hapsari et al., 2019).

Lack of knowledge in identifying anemia can cause remittance to have little iron so that the iron deficiency needed by remittance is not fulfilled. Increasing one's knowledge about anemia through health education is one of the efforts to prevent anemia in rheumatism (Elsharkawy et al., 2022).

METHOD

This research method uses pre-experiment with one group pretest and posttest design. The population in this research is all adolescent female students at SMA Negeri 1 Cisaga, which is 222 students. The sampling technique used non-random sampling with the type of quota sampling and 69 respondents were sample. This research was carried out in March 2022. the intervention was carried out by students of STIKes Muhammadiyah Ciamis under the guidance of a lecturer.

The research was conducted with informed consent after agreement was obtained through the signing of a letter of consent. Then the researcher gave the respondents a pretest questionnaire with a 15-minute walk to fill out the pretest, Then the researcher took the pretest results that had been filled in by the respondents and checked the completeness of the pretest. After that, the researcher distributed the pamphlet sheet to each respondent and distributed the power point (PPT) and video animated as the health education media and after the health education, the researcher then gave the posttest sheet of the health education. The contents of the animated video are as follows

explain the meaning of anemia, explain why women are more prone to anemia than men, explain the signs and symptoms of anemia, factors that cause anemia in adolescents, and the impact of anemia on adolescents, explain how to prevent and treat anemia.

The instrument used in this research is a questionnaire that has been made in accordance with the researcher's data needs. Data analysis in this research uses univalent and bivalent analyses. Univariate analysis was used to describe the variables by using frequency distribution through present values, while bivariate analysis was used to determine the effect and the difference between the variables of free variables and tertiary variables. Data were analysed using the simple t-test to determine the difference in the level of knowledge before and after the health education programme.

The questionnaire in this study was tested on 10 respondents on March 16 2022. The validity of the questionnaire was carried out on young female students in class XI MIPA at SMA Negeri 1 Baregbeg who had already conducted a validity test and were not allowed research samples. The results of the validity test calculation have been calculated using the Statistical Product Service Solution (SPSS) version 16.0 for windows. Questions from a valid questionnaire, namely r-count must be greater than r-table. The r-count value of the questionnaire on the level of knowledge of young women about anemia is 0.675-0.910 with r-table (0.05) = 0.632.

The test criteria use a significance level (α) = 0.05. The reliability limit of the product moment r-table for 10 respondents with degrees of freedom (α = 0.05) is 0.632. If the r-count value is greater than 0.632, the question is considered reliable or worthy of being used as a research measurement tool. Based on the results of the reliability

calculation, the Cronbach Alpha value of 0.983 was greater than 0.632 indicating that this questionnaire was reliable because the r-count was greater than the r-table.

RESULTS

Based on the research conducted, the following research results were obtained:

Univariate Analysis

Table 1: Frequency Distribution of Knowledge Level Before (Pre-Test) and After (Post-Test) Health Education

Variable	Mean	Std. Deviation	Mean	T hitung	T tabel	Sig (2-tailed)
Knowledge						
Pretest	46.91	17.698	31.696	13.793	1.997	0.000
Posttest	78.61	5.852				

Table 1 shows that the average level of knowledge before the pre-test was 46.91 and after the post-test the average knowledge was 78.61, which increased the average level of knowledge by 31.7 with a confidence level of 0.000.

Table 2: Frequency Distribution of Average Learning Outcomes

No	Knowledge	Pre Test		Post Test	
		F	%	F	%
1.	Good	7	10.1	57	82.6
2.	Enough	13	18.8	12	17.4
3.	Less	49	71.0	0	0
	Total	69	100	69	100

Table 2 shows the average frequency of knowledge level about anemia has increased in the pretest and posttest by 72.5% at the good knowledge level.

Bivariate Analysis

Table 3. Paired Sample T-test Results of the Effect of Health Education on Anaemia on the Level of Knowledge

		Mean	N
Pair 1	Pre Test	46.91	69
	Post Test	78.61	69

Table 3 shows the results of the paired sample t-test of the effect of health education on anemia on the level of knowledge increased by 31.7.

DISCUSSION

Based on the research conducted at SMA Negeri 1 Cisaga with 69 respondents, the following research results were obtained:

Univariate Analysis

1. Knowledge of adolescent girls before (pre-test) given health education about anaemia at SMA Negeri 1 Cisaga

Based on the results of the research before (pre-test) health education was given, it was found that out of 69 respondents, 49 female students (71.0%) had a low calorie category. With an average value of knowledge of 46.91. Therefore, it can be concluded that the level of knowledge of adolescent girls before being given health education on immune system has a low level of knowledge.

This lack of knowledge is due to the fact that the health education activities in the school have not been organised in a comprehensive manner. The distribution of the frequency of ever receiving anaemia information showed that 63.8% of respondents had never received information about anaemia. This indicates that the respondents never knew about anaemia.

Therefore, the information received is also limited, which is the limitation that causes the knowledge of adolescent girls about anaemia

to be limited. The lack of informality causes most adolescent girls not to know about anaemia, either through health education or other informal media. In addition to the lack of information, this is also due to the unwillingness of female students to read articles or books about anaemia that are available in school libraries or in the mass media (Maharani, 2020;Nurinayah et al., 2022).

One of the ways to increase a person's knowledge of anaemia is through health education. Education is one of the factors that influence a person's level of cognition. Education influences a person's behaviour including the behaviour of a person's life (Fitriani Dwiana et al., 2019).

2. Knowledge of Adolescent Girls After (Post-test) Given Health Education About Anaemia at SMA Negeri 1 Cisaga.

Based on the results of the research after (post-test) health education was given, it was found that respondents had a good knowledge category of 57 female teenagers (82.6%), with an average knowledge score of 78.61. So it can be concluded that after being given health education about anaemia, most respondents had an increased retention rate.

The increase in the respondents' knowledge and understanding was due to the fact that the respondents had received training in the form of health education so that there was a process of learning in which what was not understood changed to understood. This is in line with the theory of Notoatmodjo (2018) which says that learning is an effort to acquire new things in your behaviour, including knowledge, skills, abilities, and values by means of your own intelligence. In this statement, it is clear that the distinctive nature of the learning process is to acquire something new, which was not previously known, is now known, which was

not understood, is now understood. This knowledge is expected to affect my behaviour (Sari, Bestari, Pertiwi, & Judistiani, 2019; Marliany et al., 2022).

3. Effect of Health Education on Anaemia on the Knowledge Level of Adolescent Girls at SMA Negeri 1 Cisaga.

The results showed that before the health education (Pre-test) a total of 71.0% of respondents were found to have a low level of knowledge. After receiving the health education (Post-test), 82.6% of respondents were found to have a reversed level of knowledge. The mean difference in the level of knowledge before the health education was given was 46.91. While the mean value of the level of knowledge after the health education was given was 78.61.

The results of the statistical test using the Paired Sample T-test obtained a p-value of $0.000 < 0.05$ using a confidence level of 95%. Alrtiny if the significant value of the T test < 0.05 , then H_0 is rejected and H_a is accepted. Therefore, it can be concluded that there is a significant effect of health education about anaemia on the level of knowledge of the immune system of remaljal girls in SMA Negeri 1 Cisaga.

This research result is in line with the research conducted by (Ester & Ratih Kurniasari, 2021), in a study entitled the influence of health education through video media on the level of knowledge about anaemia in adolescent girls. The results showed an increase before the provision of health education and after the provision of health education, from 48% to 64.5%. The results of the statistical test using the paired salmples T-test calculates a p-value of $0.000 < 0.05$, which means that there is an effect of health education before and after.

Based on the results of the research, it can be seen that health education is one of the factors that affect the the formation of knowledge in adolescent girls, especially about anaemia. This is indicated by an increase in the knowledge of adolescent girls about anaemia from before being given health education and after being given health education. Therefore, it can be concluded that the effect of health education on the knowledge of adolescent girls about anaemia is indicated by the difference in knowledge before and after health education (Junita & Wulansari, 2021).

CONCLUSION AND RECOMMENDATION

CONCLUSION

Based on the results of the research that has been carried out, as well as the analysis of the data to identify the effect of health education on anaemia on the level of knowledge of adolescent girls, the conclusion can be obtained: The knowledge of adolescent girls before being given health education about anaemia, the majority of adolescent girls scored less than 49 adolescent girls (71.0%), with an average pretest score of 46.91. The knowledge of adolescent girls after being given health education about alnemiials, most of the adolescent girls got the reverse score of 57 girls (82.6%), with an average post-test score of 78.61. There is an effect of health education on the level of knowledge about anaemia in adolescent girls with the results of the simple t-test showing the value of t count = 13.793 in the table = 1.997 with a sig level (2-tailed) $0.000 < 0.05$.

RECOMMENDATION

This study can be used as information to increase the level of knowledge, especially about anaemia so that the prevalence of

anaemia in adolescents can decrease. Development of other variables such as attitude and behaviour of adolescents in handling anaemia is needed for further research.

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