The Effect of Knowledge of "Nutritional Action Materials" and Physical Activity as Efforts to Improve Nutrition on Adolescents in the Working Area of the Sekongkang Public health center

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ABSTRACT

Adolescence is a transitional period in life when a person prepares himself to enter adulthood. During this period, teenagers experience changes in behavior from children to adults. Responding to these changes, teenagers experience physiological and psychological changes. Riskesdas data for 2010 shows that the percentage of irregular menstrual disorders in Indonesia was 13.7%. This study aims to determine how knowledge of balanced nutrition and physical activity influence the menstrual cycle in adolescents in the UPTD area of the Sekongkang Community Health Center. The research is a cross-sectional type of analytical observational quantitative research. The sample size used in this research was 70 samples by taking samples using a cluster random sampling technique. Collecting data on knowledge of balanced nutrition, menstrual cycles using questionnaires and physical activity using the International Physical Activity Questinnaire (IPAQ). The results of the Chi-square statistical test showed that there was no relationship between knowledge of balanced nutrition and menstrual cycle disorders (p=0.693), but there was a relationship between physical activity and menstrual cycle disorders (p=0.001). Research on knowledge of balanced nutrition has no effect on the menstrual cycle in young women who take part in the nutritional action program. Physical activity affects the menstrual cycle in young women who take part in a nutritional action program.

Keywords: action nutrition materials, knowledge, physical activity, teenagers

BACKGROUND

Indonesian teenagers still face a double burden of nutrition, namely underweight, obesity and obesity. (Salsabilla et al., 2018). According to Riskesda 2018, extreme thinness and thinness affects 8.7% of teenagers aged 13-15 years. As many as 16% of children aged 13-15 years are overweight, obesity nutritional status is 4.8%, while the prevalence of normal nutritional status is 75.3%. Based on the 2018 Riskesdas, 25.7 percent of adolescents aged 13-15 years experienced very short periods of malnutrition (Republic of Indonesia, 2020).

This data shows how the nutritional status of Indonesian teenagers needs to be improved. Adolescents' physical health can be improved through a healthy and balanced diet, because it affects nutritional status, affects the growth and development of organisms and increases concentration in learning (Ministry of Health of the Republic of Indonesia, 2019) and (Februhartanty) et al., 2019).

Nutritional problems in children can sometimes progress to nutritional problems in adolescents, such as iron deficiency (anemia) or being overweight (obesity). (Damayanti, 2016). Undernutrition and overnutrition are two nutritional problems that increase the risk of disease, especially degenerative diseases (Republic of Indonesia, 2020).

Habits related to individual nutrition begin in adolescence and continue into adulthood. Therefore, the "Bergiz Action" program offers intervention as early as possible, especially for teenagers. Nutrition is an important component and plays a role in achieving the 17 Sustainable Development Goals (SDGs). By improving nutrition, it is hoped that the new immigrant communities in Lombok and Klaten from Central Java can recover. Initial studies conducted by researchers showed that this activity was a routine collaboration with the UPTD of the Sekongkang Community Health Center. The results of interviews with several students showed that class". Anthropometric data obtained from community health centers in the Sekongkang area showed that there were around 37 cases of adolescent stunting which were seen as high. This is in line with the highest number of cases of toddlers experiencing stunting in these three sub-districts. The results of interviews with nutrition program holders at the Sekongkang community health center showed that there was still no data collection on adolescent stunting cases, usually data collection was carried out in schools and only physical examinations, sensory examinations, height and weight were carried out.

METHODS

This research uses a cross-sectional quantitative observational analytical method. This research will be carried out at one of the high schools in Sumbawa Regency which is included in the working area of the Sekongkang Health Center UPTD. The sampling technique used in this research was cluster random sampling.

The sample in this study was 40 samples with the inclusion criteria of respondents participating in all series of Aksi Bergizi programs and willing to be research subjects. Meanwhile, the exclusion criteria are that there is a physical disability, proven by a doctor's diagnosis of suffering from chronic pain, having had surgery to remove the ovaries or uterus and taking hormonal drugs.

The research results were displayed using univariate analysis to determine the characteristics of the respondents. Meanwhile, bivariate analysis uses the Chi square test, provided that the sig pvalue pvalue is <0.05, it is said that there is a significant relationship, if the sig pvalue is ≥0.05 then it is said that there is no significant relationship.

RESULTS

Univariate Analysis

Table 1. Characteristics of Respondents

Variable	Amount	%
Knowledge level		
Good	24	34,3
Enough	36	51,4
low	10	14,3
	70	100
Physical Activity		
Tall	34	48,5
Currently	30	42,8
Light	6	8,7
	70	100
Menstrual Cycle		
Regular	38	54,3
Irregular	32	45,7
	70	100

Table 1. Shows that the sample population consists of 70 female students, the sample of respondents with a good level of knowledge is 24 female students (34.3%), respondents with a sufficient level of knowledge are 36 female students (51.4%), and respondents with a low level of knowledge are 10 female students (14.3%). Meanwhile, respondents with high physical activity were 34 female students (48.5%), with moderate activity, namely 30 female students (42.8%), and with light activity, namely 6 female students (8.7%). And whereas in the sample of female students with irregular menstrual cycles, out of 70 respondents, there were 38 female students (54.3%) and 32 female students (45.7%) who had irregular menstrual cycles.

Table 2. Relationship between the menstrual cycle and the level of knowledge of balanced nutrition and physical activity

	Menstrual Cycle				P value
	Iregular		Regular		
	n	%	n	%	
Knowledge level					
Good	20	66,7	10	33,3	
Enough	15	37,5	25	62,5	0,693
Physical Activity					
Tall	17	44,7	21	55,3	0,0001
Currently	8	40	12	60	
Light	3	17,7	14	82,3	

Table 2. Shows the results of the chi-square test between menstrual cycle levels viz. p-value = 0.693, while research is said to be significant if the p-value <0.05 so it can be concluded that there is an insignificant relationship. between the menstrual cycle and menstrual knowledge. This is because the irregularity of the menstrual cycle is caused by the daily nutrition awareness of parents compared to teenagers, besides that the imbalance of the hormones estrogen and progesterone affects the regularity of the menstrual cycle and also women with irregular menstrual cycles. Nutritional status has a big impact.

DISCUSSION

Based on the provision of balanced nutrition material implemented in the Aksi Bergiz program, it can be concluded that students are aware of the impact of consuming good food, but their attitudes and behavior have not been fully implemented according to the information received by Aksi. Bergiz program. there may be bias in this study. Evaluation of the Aks Bergiz program at this pilot stage is the selection of effective methods and the important role of Aks Bergiz cadres in the implementation and implementation of the program, so that it requires cooperation from various parties to improve the health of the younger generation.

These results are in accordance with research on the relationship between physical activity levels and the menstrual cycle in Surakarta City Citizen High School teenagers (Naibaho et al., 2014) with the result p = 0.037, which means there is a relationship. the differences between the variables are significant. This research states that high activity can increase the hormone ghrelin, a hormone that can cause a decrease in luteinizing hormone (LH) which then affects the ovulation process and maturation of the corpus luteum. An increase in the hormone ghrelin can indicate that the body is experiencing an energy deficit (hypometabolic), thus inhibiting ovulation, suppressing gonadotropin-releasing hormone (GnRH), and reducing LH pulsation, which then contributes to the cessation of the menstrual cycle.

In research (Kurniawan et al., 2016) it is also in line with the results of this study that there is a significant relationship with the p-value between the variables of menstrual cycle frequency and duration in FIK UNNES students.

The results of this research are in line with the results of Nunung's research which shows that there is a relationship between nutritional status and the menstrual cycle. In this study, someone with normal nutritional status tended to experience a normal menstrual cycle and respondents with obese nutritional status tended to experience an abnormal menstrual cycle. Apart from that, research results from Puspitaningtyas also support the results of this research. According to research results, Puspitaningtyas stated that nutritional status is related to the menstrual cycle in adolescents. In the results of this study, respondents who had normal nutritional status tended to experience normal menstrual cycles. Nutritional status affects growth and function of body organs, including the reproductive organs. Nutritional intake that meets your needs can improve reproductive function and affect the menstrual cycle. Good nutritional intake will influence nutritional status to be good so that this can make the hypothalamus work well to produce the reproductive hormones needed so that the menstrual cycle can be regular.

CONCLUSION

1. The results of research conducted in the UPTD Work Area of the Sekongkang Community Health Center, precisely at SMAN 1 Sekongkang, are as follows, it is known that the number of samples used in this research was 70 respondents.
2. The results of the Chi-square statistical test showed that there was no relationship between knowledge of balanced nutrition and menstrual cycle disorders (p=0.693), but there was a relationship between physical activity and menstrual cycle disorders (p=0.001).
3. Research on knowledge of balanced nutrition has no effect on the menstrual cycle in young women who take part in the nutritional action program. Physical activity affects the menstrual cycle in young women who take part in a nutritional action program.
4. It is hoped that all teenagers, especially female students, will be able to increase their knowledge about nutrition to improve their nutritional status so that physical activity can be maintained which can affect the regular menstrual cycle.

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