

The impact of "health promotion program" on health perception and healthy life style applied to a group of adolescent students

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ABSTRACT

Purpose: This study was carried out to evaluate the effect of health education on adolescents' healthy lifestyle and health perceptions given an adolescent group.

Materials and methods: The study's universe constitutes a total of 234 students attending the 9th grade of a high school. The study was constructed according to the single-group pre-test, quasi-experimental research model, in the 9th class in a high school. Data collection form, Adolescent lifestyle scale(ALS) and health perception scale were applied to the adolescents as a pre-test during the first phase of the study. The adolescents who were below the median score of ALS were accepted as the risk group and taken to the experimental group. Adolescents in the experimental group received a 6-week "Health Promotion Program" and a final test was given to the adolescents at the end of the training sessions.

Descriptive statistics, Paired-t-test, independent-, and correlation were used in the evaluation of the data.

Results: ALS total score was 94.52±9.53 before adolescents' health promotion education and 104.05±15.4 after education. The relationship between them was statistically significant(p<0.05). It was determined that the health perception of adolescents included in the study decreased after post-training total scores compared to the pre-training scores and that this relationship was statistically significant(p<0.05).

Conclusion: Public health nurses may be recommended to develop healthy lifestyle behaviours by raising healthy adolescents by providing more adolescent education through school health services.

Keywords: Adolescents, healthy lifestyle, health education.

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INTRODUCTION

The World Health Organization (WHO) defines health as “a condition of good physical, mental, social and spiritual well-being, not merely illness and disability” and the adolescent period was considered to be a healthy group between the ages of 10 and 19 [1,2].

According to the United Nations 2012 World Population Survey report, the number of adolescents aged 12-17 in 2012 is 721 million and the population aged 18-24 is 850 million [3]. Turkey Statistical Institute, the rate of adolescents between the ages of 13-19 is 23.1% according to the 2015 census data [4]. The adolescence period is a period of autonomy developed by an independent decision-making mechanism that may affect adolescent health and health-related behaviours [5]. This is the key stage of human development. As rapid biological and psychosocial changes in this period affects every aspect of adolescents' lives, these changes are important to throw a foundation for a healthy life in adulthood [6].

Increasing health behaviours in the last 20 years are defined as all of the knowledge, practices and approaches that are taken to enhance actions towards health. These behaviours are leading to improved health if they are positive, if they are negative (like smoking), it is one of the factors that cause disease [7]. Unhealthy-nourished individuals in the first years of their life tend to be at increased risk from health problems such as diabetes, heart disease and cancer in adulthood [8].

Positive health perceptions are highly effective on individuals' healthy lifestyle behaviours, and adolescents behave as healthy as they feel health [9,10]. Health lifestyle behaviours include health responsibility, nutrition, physical activity, interpersonal support, stress management, and self-realization [11].

When the distribution of healthy lifestyle behaviours of adolescents according to countries is examined; obesity rate is 20% higher in Canada, Greece and United Nations, Finland, Sweden, and three Baltic states, Estonia, Latvia and Lithuania, each eating less than 30% of their fruit daily, the highest daily breakfast is in the Netherlands and Portugal, and more than 25% of children in Ireland and the United States exercise at least one hour a day [12].

Health responsibility is higher in girls than in boys and exercise is higher in boys than in girls [13-16]. According to the World Health Organization (2012) Report on Health Behaviour in School-age Children, the daily activity frequency in boys aged 11 years is higher than in boys aged 15 years in all regions and countries. It is stated that males have more activity to do activities at least 60 minutes per day than females. According to this report, the prevalence of daily breakfast consum-

ption in all countries and regions has fallen significantly in boys and girls.⁵ According to UNICEF's comparative report on the well-being of children in rich countries, men have breakfast more than girls [8].

In a study by Qidwai and colleagues with adolescents, watching television or listening to music was found to be the most common late night activity (61.8%) and therefore the adolescents slept less than eight hours. In addition, only 16.8% of adolescents stated that physical activity is very important for health [17]. In a study conducted with high school students, it was determined that the healthy lifestyle behaviours of senior high school students were moderate, scored lower on physical activity and health responsibility subscales of the scale. In another study, it was found that healthy lifestyle behaviours are moderate [13,18].

Geçkil and Yıldız determined that as a result of nutrition and stress coping training given to adolescents in their studies, adolescents increase their stress management and nutritional health behaviours after education [19]. Kürtüncü et al. have identified risky health behaviours of adolescents and provided training on prevention and prevention of these behaviours, reproductive health and contraception, sexually transmitted infections, harmful habits, psychosocial behaviours. As a result of the training, it has been found that adolescents are effective in protecting from risky behaviours and developing a positive health perception [20].

Theoretical Roof

The health promotion model (HPM) was developed by Nola J. Pender in 1982 and revised in 1996 [21]. Health Promotion Model; was developed to explain the relationship between factors that are believed to influence health behaviour change. The main idea of the model is to form a healthy lifestyle to improve health and therefore to change the behaviour to be healthy [22]. According to Pender, healthy lifestyle behaviours are summarization, health responsibility, exercise, nutrition, interpersonal relationships and stress management [23].

The adolescent period is an important step for healthy adulthood. In this period, it is very important for the adolescents to recognize the concept of health, to know the practices to protect and develop their health, and to make these practices behaviours healthy for the future. "Healthy Individuals" in sustainable development goals are among the topics that are strongly discussed. Especially in the early years of life, it is a matter that health professionals should take into consideration firstly to bring healthy life culture to young and children. Activities to improve the health of adolescents by nurses working in school health will have significant contributions to achieving the goal of healthy individuals, from sustainable development goals that are the end of their activities. Public

health nurses can take an active role in this process and provide healthy societies by giving trainings to raise awareness of the behaviours of adolescents to protect and develop their health.

This study was carried out to evaluate the effect of health promotion education given to a group consisting of adolescent students on healthy lifestyle and health perceptions of students.

Hypothesis

- The health promotion program affects the healthy lifestyle behaviours of the adolescent group,
- The health promotion program affects health perceptions of the adolescent group.

MATERIALS AND METHODS

Location and Time of the Study

The survey was conducted in a high school between November 2016 and May 2017.

Type of research

The study was performed according to the single-group pre-test, post-test quasi-experimental research model.

The Universe and Sampling of the Study

The study's universe constitutes a total of 234 students attending the 9th grade of a high school. In order to gain positive health behaviour change, the 9th grade was chosen as the research group because of not being able to take courses about healthy life and being at the beginning of the adolescent period. As the first step in the research, it was planned to apply 234 student's pre-test (ALS, Health perception scale) in this 9th class, but a total of 219 adolescents who accepted to participate in the study was applied.

As the Adolescent Healthy Lifestyle Behaviours (AHLBS) scale was not a distinction point, the median score was taken as the selection criterion and taken to the experimental group in the risk group in terms of 68 adolescent healthy lifestyle behaviours that were below the median score (110 points).

The study was completed with 68 adolescents, 58 students who could not be identified any mistake in the questionnaire, who agreed to participate in the study and who participated in all the trainings.

Data Collection

The data were collected by the researchers using a questionnaire consisting of 21 questions, an "Adolescent Lifestyle Scale" consisting of 40 questions and a "Health Perception" scale consisting of 15 questions.

Adolescent Lifestyle Scale (ALS)

Healthy Life Style Scale II developed by Ardiç, developed on the basis of Health Promotion Model, for adolescents [24].

The scale started to be developed by Pender in 1997 and validity and reliability were made by Hendricks et al. The scale allows to determine healthy lifestyle behaviors of early, middle and late adolescents.

The Adolescents Lifestyle Scale consists of a total of 40 items and seven sub-groups that can be used independently of each other. All the elements of the Adolescent Lifestyle Scale are positive.

The scale requires a 4-point Likert-type response for each item. Points are given 1 for "Never", 2 for "Sometimes", 3 for "Frequent" and 4 for "Always".

The maximum score obtained from the scale is 160 and the minimum score is 40. There is no cut-off point in the scale, as the score increases, the level of positive health behaviour increases.

The Cronbach's alpha for this study is 0.71.

The Perception of Health Scale (PHS)

The Health Perception Scale developed by Diamond et al. In 2007 was translated into Turkish by Kadioğlu and Yıldız in 2012 and validity and reliability were made [25].

PHS is a five-point Likert-type scale consisting of 15 items and four sub-factors. 1., 5., 9., 10., 11. and 14. items are positive attitudes, 2., 3., 4., 6., 7., 8., 12., 13. and 15. are negative statements.

Positive expressions are scored as "I agree very much = 5", "I am neutral = 4", "I don't agree = 3", "I do not agree = 2", "I definitely do not agree = 1".

Negative expressions are scored inversely. The minimum score that can be taken from the scale is 15, the maximum score is 75.

The Cronbach's alpha for this study is 0.56.

Collection of Data

The data of the research was collected by the researchers during a 20-30 min period by face-to-face interviews with all 9th grade students visiting the school. For the collection of pre-test data; Descriptive Characteristics of Students, Adolescent Lifestyle Scale and Health Perception Scale were applied to the students.

Health Promotion Program

The health promotion program was designed according to Pender's Health Promotion Model. The concepts in the Pender's Health Promotion Model has been the topics of our education.

- **Health responsibility:** the individual's attitude and behaviour change towards his or her health-related protective and healthy behaviours, the responsibilities that an individual may have for his or her health; his body and self-definition, having regular health checks, to follow health publications, to monitor health, to feel good, to take precautions when there are health related changes,

- **Physical activity:** Advantages and health benefits of behavioural behaviours made during and during adolescence
- **Nutrition:** adequate and balanced nutrition in the adolescence period and later periods, nutrients and food groups, health problems that occur in nutritional disorder,
- **Positive life view, spiritual health:** the definition of spirituality, spiritual values and beliefs,
- **Interpersonal relations:** Adolescence period and relations, adolescence period and friend relations, adolescence period and family relations,
- **Stress management:** definition of stress and stress management, stressors, ways of coping with stress, physiological and psychological reactions that occur at the moment of stress, adaptation and coping mechanisms, trainings were provided.

The trainings were given by the researchers. Three of the researchers have the specialty of Public Health Nursing and one in Curriculum Development in Education.

Before the trainings started, warming activities and games were made and the trainings were made in the form of PowerPoint presentation using question-answer, discussion, brain storm.

Each topic was explained 40-45 min. once a week in the conference room of the school within the scope of the 6-week.

After the training sessions were completed, the evaluation of the topics previously described was done by question and answer method before the post-test data was collected.

For collecting data after the end of the training (post-test), ALS and Health Perception Scale were applied to the students in the study group.

Evaluation of Data

Data obtained from the study were evaluated in the SPSS 21.0 program in computer environment. Descriptive statistics, independent t, Paired t and correlation test were used in the evaluation of the data.

Ethical Compatibility

The research was conducted by obtaining permission from OMÜ Health Sciences Ethics Committee and school administration (Code of Ethics: B.30.2.ODM.0.20.08/528-821).

In this study, no control group was used for all risky students to benefit from this program, these risky students were included in the study and initiative was applied in one group.

Limitations of the Study

This study is limited to 9th grade students in Samsun. The other limitation of studying is that students who are below the Median score are included in the study and not taken by other students.

RESULTS

The mean age of the adolescents was 53.9%, mean age was 14.6 ± 0.62 (min:14,max:17), mean BMI was 20.27 ± 2.92 (min:15.35, max:27.99); 55.2% of the adolescents in the experimental group were male, mean age was 14.5 ± 0.57 (min:14,max:16) and mean BMI was 20.27 ± 2.92 (min:15.35, max:27.99) (Table 1).

Of all the adolescents surveyed, 66.7% of their mothers and 63% of their fathers were primary education; Of the adolescents in the experimental group, 77.6% of mothers and 69% of fathers were primary education. Income 84% of all adolescents, and 89.7% of adolescents in the experimental group is equal to expense (Table 1).

9.8% of all adolescents and 5.2% of adolescents in the experiment group are using cigarettes, alcohol and foreign substances; 59.8% of all adolescents and 65.5% of the adolescents in the experimental group have individuals who are using cigarette, alcohol and foreign substance in their family. 51.1% of all adolescents regularly do sport, 58% do this sport several times a week. 41.4% of the adolescents in the experimental group do regular sports and 66.7% of them do this sport several times a week. 74% of all adolescents stated that they were fed adequate and had a balanced diet, 63.5% of them stated that they consumed fast-food and 68.3% of fast-food consumers stated that they ate once a week. 63.8% of the adolescents in the experimental group were fed adequate and had a balanced diet, 70.7% of them consumed fast-food and 68.3% of fast food consumers consumed fast-food once a week (Table 1).

70.8% of all adolescents in the study and 86.2% of the adolescents in the experimental group are evaluating their health well. 12.3% of all adolescents and 3.4% of adolescents in the experimental group were trained to protect their health (Table 1).

The Adolescent Healthy Lifestyle Total Score (AHLSTS) of the adolescents in the Experimental

Group before health promotion training was 94.52 ± 9.53 and it was determined as 104.05 ± 15.4 after the training, the relationship between them was statistically significant ($p=0.001$).

Healthy Life Style Health Responsibilities (HR) subscale before training score was 8.34 ± 2.08 , 10.52 ± 2.42 after training ($p=0.001$); Physical activity (PA) sub-dimension pre-training score was 12.83 ± 3.08 , post-training score was 15.00 ± 3.59 ($p=0.001$); positive life (PL) subscale before training score was 20.10 ± 3.44 , post-training score was 22.09 ± 4.21 ($p=0.007$); spiritual health (SH) subscale before training score was 11.41 ± 2.08 and 12.47 ± 2.32 after the training ($p=0.012$) and this relationship was found statistically significant (Fig. 2)

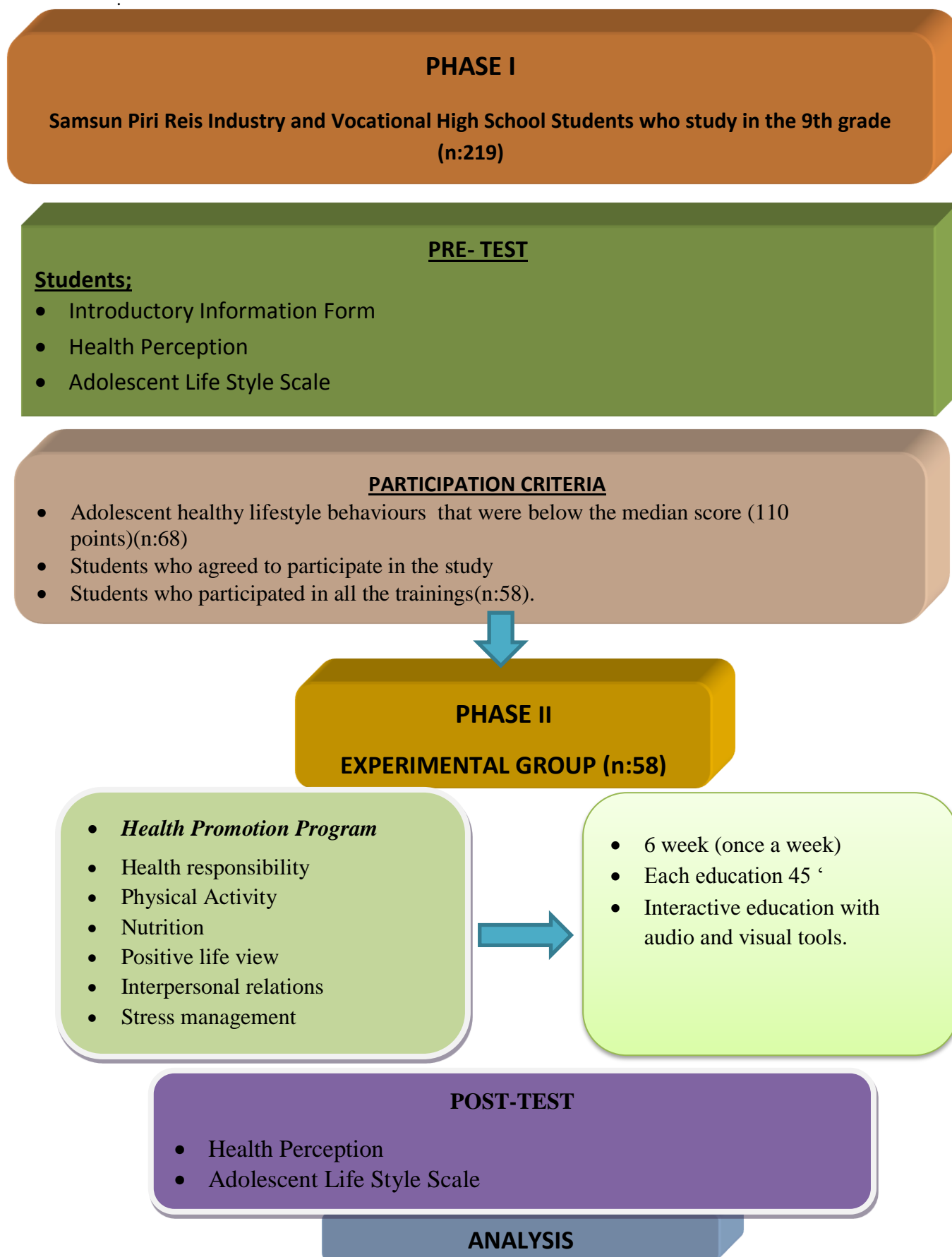


Figure 1: Research design

Table 1. Distribution of descriptive information of all adolescents and adolescents in the experimental group

	All adolescents		Adolescents in the experimental group	
	n	%	n	%
Age	14.6±0.62(14-17)		14.5±0.57(14-16)	
BMI	20.48±3.33(14.17-35.56)		20.27±2.92(15.35-27.99)	
Sex				
Female	101	46.1	26	44.8
Male	118	53.9	32	55.2
Mother education level				
Illiterate	11	5.0	2	3.4
Primary education	146	66.7	45	77.6
High School	62	28.3	11	19
Father education level				
Primary education	138	63.0	40	69
High School	72	32.9	15	25.9
University	9	4.1	3	5.2
Income status				
Bad	13	5.9	-	-
Middle	184	84	52	89.7
Good	22	10	6	10.3
Status of using cigarettes, alcohol and foreign substances				
Yes	21	9.6	3	5.2
No	198	90.4	55	94.8
Status of using cigarettes, alcohol and foreign substances in family				
Yes	131	59.8	38	65.5
No	88	40.2	20	34.5
Status of regularly doing sports				
Yes	112	51.1	24	41.4
No	107	48.9	34	58.6
The frequency of sports				
Everyday	24	21.4	2	8.3
A few days a week	65	58	16	66.7
Biweekly	23	20.5	6	25.0
Status of adequate and balanced nutrition				
Yes	162	74	37	63.8
No	57	26	21	36.2
Status of fast food consumption				
Yes	139	63.5	41	70.7
No	80	36.5	17	29.3
The frequency of consumed fast-food flour				
Once a week	94	67.6	28	68.3
Once every two weeks	25	18.0	8	19.5
Once a month	20	14.4	5	12.2
Status of health assessment				
Great	54	24.7	6	10.3
Good	155	70.8	50	86.2
Bad	10	4.6	2	3.4
Status of trained to protect their health				
Yes	27	12.3	2	3.4
No	192	87.7	56	96.6

It was determined that the adolescents' health perception in the experimental group decreased in their post-training total scores compared to their pre-training scores and that this relationship was found statistically significant ($p < 0.05$) ($p = 0.003$) (Fig. 2).

There was no statistically significant relationship between Healthy Lifestyle Nutrition (HLN), interpersonal relations (IR) and stress management (SM) subscales ($p > 0.05$) between pre- and post-training scores (Fig. 2).

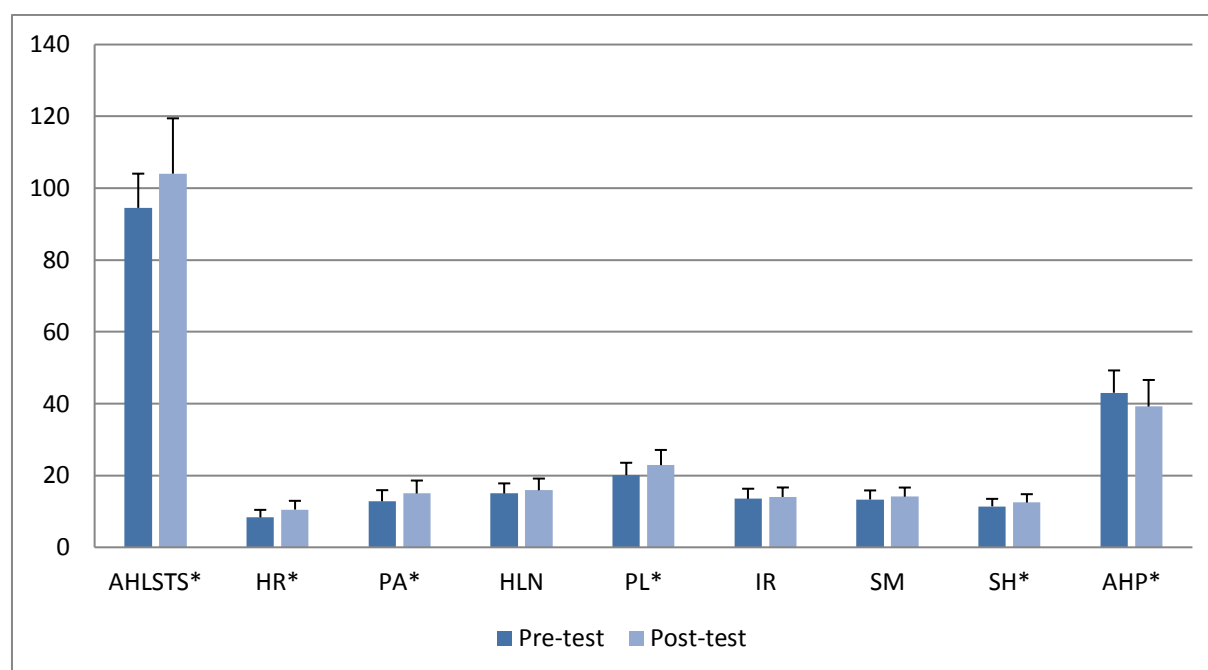


Figure 2. Changes in pre-test and post-test the healthy lifestyle and health perceptions of adolescents in the experimental group

* $p < 0.05$; paired t testi; AHLSTS: Adolescent Healthy Life Style Total Score; HR: Health Responsibilities; PA: Physical activity; HLN: Healthy Lifestyle Nutrition; PL: Positive life; IR: Interpersonal relations; SM: stress management; SH: Spiritual health; AHP: Adolescents' health perception

The healthy lifestyle of the female adolescents in the experimental group was found to be higher after training (104.73 ± 16.82) than before education (93.50 ± 9.24) and it was determined that this relationship was statistically significant ($p < 0.05$). The total score of the health perception of the adolescents in the experimental group after the

training (38.77 ± 7.20) was lower than the pre-training score (42.38 ± 5.31) and this relationship was statistically significant ($p < 0.05$) (Table 2).

Table 2. Comparison of pre-test and post-test point averages of adolescents in the experiment group with adolescent healthy lifestyle and health perception scales to some variables

	Pre-test	Post-test		Pre-test	Post-test	
	Adolescent healthy lifestyle		Statistic	Health perception		Statistic
Age						
r	-0.303	0.145		0.306	0.000	
p	0.023	0.286		0.022	0.997	
Sex						
Female	93.50± 9.24	104.73±16.82	t:-2.810 p: 0.009	42.38±5.31	38.77±7.20	t: 2.107 p: 0.045
Male	95.34±9.83	103.50±14.40	t:-2.595 p:0.014	43.56±6.90	39.56±7.63	t:2.317 p:0.027
Status of trained to protect their health before						
Yes	102.50±0.70	111.00±2.83	t:-5.677 p:0.111	49.50±0.70	36.50±4.95	t:3.250 p:0.190
No	94.23±9.58	103.80±15.62	t:-3.727 p:0.001	42.80±6.20	39.30±7.47	t:2.844 p:0.006

The healthy lifestyle of the male adolescents in the experimental group was higher after education (103.50 ± 14.40) than before education (95.34 ± 9.83) and it was determined that this relationship was statistically significant ($p < 0.05$). The health perception of male adolescents in the experimental group was lower after training (39.56 ± 7.63) than before education (43.56 ± 6.90) and it was found statistically significant ($p < 0.05$) (Table 2).

Healthy lifestyle post-test scores of adolescents who had previously attended health education (111.00 ± 2.83) was higher than pre-test score (102.50 ± 0.70) and this relationship was statistically significant ($p < 0.05$) (Table 2).

DISCUSSION

As a result of a group of adolescents Pender's Health Promotion Model, the adolescents in the experimental group showed an increase in post-training healthy lifestyle total score compared to the pre-education level ($p < 0.05$). A study in which Beydağ et al. (2013) examined the effect of health and life lesson on healthy lifestyle behaviours in university students has changed significantly after the training compared to the pre-training [26]. Geçkil and Yıldız (2006) provided adolescents nutrition and coping with educations in their studies and it was determined that adolescents' stress management and nutritional health behaviours were increased [19]. We can say that the education given to the adolescents under the "Health Promotion Program" is generally positive.

Score of the adolescents after the sub-dimension of ASYB health responsibility education in the experimental group showed a significant change according to post-training score, pre-training score. In the study of Bebiş et al. [15], they determined that the health responsibilities of students were moderate and that girls had more health responsibilities than boys. In the study of Firincı [27], the students with high health responsibility stated that they learned these subjects from their teachers. It may be important for adolescents, who will be adults in the future, to learn that they can do their own health care at this time. At the end of the training given to the students in the experiment group, it can be said that the adolescents brought awareness about the health responsibility taking.

Nearly half (41.4%) of the adolescents included in the study are regularly exercising. In the study of Qidwai et al. [17], more than half of the adolescents, in the study of Özmen et al. [28], 39.4% of the students regularly exercise. The healthy lifestyle behaviours of the students and the physical activity sub-dimension of the students have changed significantly after the education before the education. It may be important to exercise in terms

of adolescent health. It can be said that the changes in the physical activities of the adolescents with the given trainings.

Most of the adolescents included in the study (70.7%) consume fast food. Erdogan and Akin (2017) reported that 92.5% of the students consumed ready-made food, in the study of Tanrıverdi et al (2011), they reported 81.4 of the adolescents consume fast food [29,30]. It is important to be well fed to be healthy. Particularly in the adolescence period, consumption of high nutritional value foods can be important for adolescent health.

There was a decrease in health perceptions of adolescents after the training in the study and this relationship was statistically significant ($p < 0.05$). In the study of Açiksöz et al (2013), 74.2% of the students stated that they perceive their health as good [10]. In a study conducted by Şimşek et al. [31] students of the Faculty of Medicine, 40% of the students stated that they perceive their health as good and 20.5% as good [31]. Health is perceived objectively and subjectively. In this study, adolescents may be perceived to be healthily well-perceived, but when they learn the concept of health after education, their health awareness may increase and negative changes in health perceptions may have occurred.

In this study, it was determined that the adolescents who received education to protect their health had a higher score on healthy lifestyle behaviours and this relationship was statistically significant ($p < 0.05$). After the trainings within the scope of the health promotion program that we gave in the scope of the research, it was found that the scores of those who did not and those who did not have a previous health education increased, but this relationship was not statistically significant ($P > 0.05$). It can be said that better healthy lifestyle behaviours of adolescents receiving training in protecting their health are expected results

CONCLUSIONS

- At the end of the trainings based on the Health Promotion Model, adolescents in the experimental group increased on the total score of health lifestyle scale, health responsibility, physical activity, positive life and spiritual health subscales.
- A decrease in the total score of health perceptions of adolescents in the experimental group was determined after the training.
- Previous adolescents in the experimental group receiving health-preserving education have more pre-test scores on the healthy lifestyle scale.
- The total score of the healthy lifestyle scale of male and female adolescents in the experimental group increased after the training compared to the pre-test.

Conflicts of interest

There was no commercial, financial or other associations that could pose a conflict of interest.

This study was presented as a oral presentation at International Congress of Black Sea Nursing Education.

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