



The Relationship Between Adolescents' Healthy Lifestyle Beliefs and Nutritional Literacy

Adölesanların Sağlıklı Yaşam Tarzı İnançları ile
Beslenme Okuryazarlığı Arasındaki İlişki

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THE RELATIONSHIP BETWEEN ADOLESCENTS' HEALTHY LIFESTYLE BELIEFS AND NUTRITIONAL LITERACY

ABSTRACT

Aim: The research was conducted to determine the relationship between adolescents' healthy lifestyle beliefs and nutritional literacy.

Method: The descriptive and correlational research was conducted using the online questionnaire method with 516 adolescents studying at high school in different center (science high school, anatolian high school, vocational high school, imam-hatip high school) in Atakum/Samsun between and Semptember 2021- October 2021. Sociodemographic Characteristics Form, Nutritional Properties Form and Adolescent Nutrition Literacy Scale (ANLS) and Healthy Lifestyle Belief Scale for Adolescents (HLBSA) were used to collect the data. Parametric Independent groups t test, ANOVA test, Pearson correlation were used for the evaluation of the data and the reliability analysis of the data in the SPSS 26 statistical program.

Results: The average age of the adolescents participating in the study is 15.48 ± 1.12 . 61.8% of the adolescents participating in the research were girls. 64.1% of the adolescents stated that they had previously received education about adequate and balanced nutrition. The total score average of the Adolescent Nutrition Literacy Scale was found to be 61.61 ± 12.47 . A statistically significant difference was found between the adolescents' family type characteristics and the Adolescent Nutrition Literacy Scale (ANLS) averages ($p < 0.05$). The total score average of the Adolescents' Healthy Lifestyle Belief Scale was found to be 60.63 ± 12.35 . The total score average of the Adolescents' Healthy Lifestyle Belief Scale was found to be 60.63 ± 12.35 . A positive, very weakly significant relationship was found between the Adolescents' Healthy Lifestyle Belief Scale and Nutrition Literacy levels.

Conclusion and Recommendations: As a result of the research, it was determined that the healthy lifestyle beliefs and nutritional literacy of most of the adolescents participating in the study were above the medium level. Nurses should monitor the growth and development of adolescents and provide instructive, behaviour-changing trainings to gain positive attitudes and behaviours towards both healthy eating behaviours and healthy lifestyles.

Keywords: Adolescent; Healthy Lifestyle; Belief; Nutrition; Literacy.



ADÖLESANLARIN SAĞLIKLI YAŞAM TARZI İNANÇLARI İLE BESLENME OKURYAZARLIĞI ARASINDAKİ İLİŞKİ

ÖZ

Amaç: Araştırma adölesanların sağlıklı yaşam tarzı inancı ile beslenme okuryazarlığı arasındaki ilişkiyi belirlemek amacıyla yapılmıştır.

Yöntem: Araştırma tanımlayıcı ve ilişki arayıcı nitelikte olup Kasım- Aralık 2021 tarihleri arasında gerçekleştirilmiştir. Araştırmanın örneklemini ankete katılmayı kabul eden 14-17 yaş arası 516 adölesan oluşturmuştur. Araştırma çevrimiçi veri toplama aracı kullanılarak gerçekleştirilmiştir. Verilerin toplanmasında adölesanların tanıtıcı özelliklerini kapsayan 'Bilgi Formu', 'Adölesanlar İçin Sağlıklı Yaşam Tarzı İnanç Ölçeği' ve 'Adölesanlar Beslenme Okuryazarlığı Ölçeği' kullanılmıştır. Verilerin değerlendirilmesi, SPSS 26 istatistik programında sayı, ortalama, yüzdelik dağılımlar, t testi ve Anova testi kullanılmıştır.

Bulgular: Araştırmaya katılan adölesanların yaş ortalaması $15,48 \pm 1,12$ 'dır. Araştırmaya katılan adölesanların %61,8'i kızlardan oluşmaktadır. Adölesanların %64.1'i yeterli ve dengeli beslenme hakkında daha önce eğitim aldıklarını belirtmişlerdir. Adölesanların Sağlıklı Yaşam Tarzı İnanç Ölçeği toplam puan ortalaması $60,63 \pm 12,35$ ve Beslenme Okuryazarlığı Ölçeği toplam puan ortalaması $61,61 \pm 12,47$ olarak bulunmuştur. Adölesanların Sağlıklı Yaşam Tarzı İnanç Ölçeği ile Beslenme Okuryazarlığı düzeyleri arasında pozitif yönlü, çok zayıf anlamlı ilişki saptanmıştır ($r=0,245$; $p<0,05$).

Sonuçlar ve Öneriler: Araştırmaya katılan adölesanların sağlıklı yaşam tarzı inançları ve beslenme okuryazarlıklarının orta düzeyin üstünde olduğu tespit edilmiştir. Hemşireler, ergenlerin büyüme ve gelişimini izlemeli ve hem sağlıklı beslenme davranışlarına hem de sağlıklı yaşam biçimlerine yönelik olumlu tutum ve davranışlar kazanmak için öğretici, davranış değiştirici eğitimler vermelidir.

Anahtar Sözcükler: Adölesan; Sağlıklı Yaşam Tarzı; İnanç; Beslenme; Okuryazarlık.



INTRODUCTION

The behaviours of the person regarding his/her own health are influenced by the value he/she attaches to his/her health and his/her beliefs about the disease and its consequences (Gözüm & Çapık, 2014). Healthy lifestyle beliefs are built on understanding whether to perform useful behaviours related to one's health.

Healthy lifestyle belief is the belief in one's own lifestyle (Melnik et al., 2021; Özendi & Tural Büyük, 2022). Healthy lifestyle belief explains how the behaviours that a person does or does not do to prevent diseases are shaped and influenced. In order to develop healthy life behaviours in individuals, their beliefs in that area should be determined first. The advancement of technology has led to less active physical activity and less interaction with the environment and nature. This situation has increased health problems such as obesity, various eating disorders, physical and postural disorders (Muslu & Gökçay, 2019; Uncu et al, 2023). According to the results of the Turkey Childhood Obesity 2016 Survey conducted with the support of the World Health Organisation, obesity was found to be 9% and overweight was 18.3% in individuals between the ages of 10-18 (Ministry of Health, 2017). While the obesity rate in people over the age of 15 in Turkey was 19.6% in 2016, it is seen that it reached 21.1% in 2019 (OECD, 2020). In addition, healthy lifestyle behaviours are acquired during adolescence and affect the whole life (Çiçek & Çetinkaya, 2017; Arıkan, 2020). Therefore, it is important to form healthy lifestyle beliefs positively in adolescents. In addition, since this period is a physically, psychologically and socially complex developmental period covering the transition from childhood to adulthood, unhealthy life behaviour problems are also seen (Kudubeş Akdeniz et al, 2022; Uncu et al, 2023). Looking at the literature, studies on health also include the nutrition factor (Çölgeçen Tutar, 2020; Carrara & Schulz, 2018).

Nutrition is the most important factor affecting health, and nutrition is one of the most important components of healthy lifestyle behaviours. When the literature is examined, healthy nutrition is one of the essential factors to protect and promote health (Carrara & Schulz, 2018; Li et al, 2022). Unhealthy nutrition and malnutrition is among the biggest factors affecting public health. Countries can increase their level of development only through healthy citizens. Therefore, the point that countries should focus on should be to increase the nutritional knowledge level of individuals in the society (Çölgeçen Tutar, 2020). Nutritional literacy is the ability of individuals to learn essential information about food and nutrition and to make the right decisions and practices for their personal nutrition (Li et al, 2022; Taleb & İtani, 2021). It is necessary to increase nutritional literacy in order to make eating habits correct and healthy.

In addition, nutritional literacy is important to prevent chronic diseases (Carrara & Schulz, 2018; Çölgeçen Tutar, 2020). Adolescents, who will play a major role in the future of both the world and the geography in which they live; proportional intake of healthy foods plays an important role in their growth and development. Since adolescent nutrition literacy contributes to the development of healthy eating behaviours, it is important in preventing many chronic diseases such as obesity, diabetes, and cardiovascular system diseases (Can & Şahin Kaya, 2022; Uncu et al, 2023). In addition, unhealthy eating habits can cause academic failure and psychological diseases in adolescents (Partida et al., 2018; Ayer & Ergin, 2021). For

this reason, obtaining good nutritional behaviour in adolescence contributes to maintaining a healthy later life (Çiçek & Çetinkaya, 2017; Winpenny et al., 2017).

It is stated that adolescents with a high belief in leading a healthy life are more successful in exhibiting healthy lifestyle behaviours (Naveed et al, 2020; Bektaş et al, 2021; Kudubeş Akdeniz et al, 2022). It has been stated that nutritional literacy is affected by personal characteristics and other health behaviours such as exercise (Yilmazel & Bozdogan, 2021). In studies conducted with adults, a positive relationship was found between healthy lifestyle and nutritional behaviour (Marques, et al, 2020; Daly et al, 2022). In the study of Kudubeş Akdeniz et al (2022), it was observed that healthy lifestyle beliefs of adolescents also affect their attitudes towards healthy eating and exercise. It has been observed that more research has been conducted in the field of health lifestyle and nutritional literacy in the adolescent group. In existing studies, the effect of adolescents' health beliefs on nutrition literacy has not been measured. Studies examining the effect of nutritional literacy on the healthy lifestyle beliefs of adolescents who build the future of society are limited in number. For these reasons, the need for research arose.

Purpose of the Study

The study was conducted to determine the relationship between adolescents' healthy lifestyle beliefs and nutritional literacy.

Research Questions

1. What are the healthy lifestyle beliefs and nutrition literacy levels of adolescents?
2. Do personal and nutritional characteristics of adolescents affect the level of healthy lifestyle beliefs?
3. Do personal and nutritional characteristics of adolescents affect the level of nutritional literacy?
4. Is there a relationship between adolescents' healthy lifestyle beliefs and nutritional literacy?

METHOD

Study Type: The study was carried out in a descriptive and cross-sectional design.

Study Group: The study was conducted between November and December 2021. The population of the study consisted of 3050 adolescents between the ages

of 14-17 studying in four schools with different education levels in a city centre. High schools with the specified characteristics include schools representing the education level according to different score types. The sample of the study was calculated as 340 adolescents with a 95% confidence interval by using the formula of sample size with the known population (Esin, 2014). The study was conducted with 516 adolescents who agreed to participate in the study and completed the online form by non-probability random method.

Inclusion Criteria: Being between the ages of 14-17, using an online communication device, being a student in schools affiliated to National Education.

Exclusion Criteria: Except for those between the ages of 14-17, not using online communication devices, not completing the necessary forms completely, studying in private institutions or boarding schools, interrupting education for any reason and/or being absent.

Data Collection Tools: The data in the study were obtained by using the Personal Information Form, Healthy Lifestyle Belief Scale for Adolescents Form and Adolescent Nutrition Literacy Scale Form, which cover the descriptive characteristics of adolescents.

Personal Information Form: This form consists of sociodemographic characteristics of adolescents (age, gender, family type, income status, educational characteristics of parents) and 8 questions (body mass index, fast-food consumption and reason, nutrition education status, number of meals, meal skipping status and reason) (Kudubeş Akdeniz & Bektaş, 2020; Türkmen et al. 2017; Tural Büyük & Duman, 2014).

Healthy Lifestyle Belief Scale for Adolescents (HLBSA): There are 16 items on the scale. The scale has three sub-dimensions as health belief (items 4, 5, 6, 11, 12, 13 and 16), physical activity (items 2, 7, 9, 14 and 15) and nutrition (items 1, 3, 8 and 10). A minimum of 16 and a maximum of 80 points can be obtained from the scale. The increase in the score obtained from the scale indicates that the healthy life belief of adolescents increases (Kudubeş Akdeniz & Bektaş, 2020).

Adolescent Nutrition Literacy Scale (ANLS): According to the analyses, ABOS consists of 22 items and three sub-dimensions. The minimum score that can be obtained from the scale is 22 and the maximum score is 110 (Türkmen et al. 2017). Among the 22 items included in the scale, 7 of them formed the Functional Nutrition Literacy, 6 of them formed the Interactive Nutrition Literacy and 9 of them formed the Critical Nutrition Literacy sub-fields.

Data Collection Process: The subject, content and purpose of the study were explained to the adolescents through an online form and participation in the survey was voluntary. Due to the COVID-19 measures of school administrations, the study data were collected online for hygiene reasons. The online survey tool Google Form, which is the data collection tool, is designed to be distributed over the internet and can be answered not only from a computer but also from any electronic device with internet access. The researcher informed the adolescents via e-mail about the purpose and scope of the research through the teachers and invited them to participate in the research. The data collection tool was sent as an online link and completed by the volunteer adolescents. Since some of the students did not want to participate, the entire population was not reached.

Statistical Analysis: The data obtained from the study were evaluated in the SPSS V26 programme (SPSS Inc, Chicago, IL, USA). Firstly, the Kolmogorov-Smirnov test was used to determine whether the data were normally distributed. Number, percentage, mean, standard deviation and median were used as descriptive statistics and independent groups t-test (Student's t-test) and one-way analysis of variance (ANOVA) test were used to compare normally distributed data. The relationship between ANLS and AFHCC scores was analysed using Pearson correlation analysis. For all analyses, $p < 0.05$ was considered statistically significant.

Validity and Reliability:

Healthy Lifestyle Belief Scale for Adolescents (HLBSA): It is a 5-point Likert-type measurement tool developed by Kudubeş and Bektaş in 2020 to measure the healthy lifestyle beliefs of adolescents and a Turkish validity and reliability study was conducted. There are 16 items on the scale (Kudubeş Akdeniz & Bektaş, 2020). The Cronbach's alpha value for the whole scale is 0.90, and the Cronbach's alpha value was found to be 0.80 in the current study.

Adolescent Nutrition Literacy Scale (ANLS): The scale was adapted into Turkish by Türkmen et al. (2017). Cronbach's alpha coefficient of the scale was found to be $\alpha = 0.80$ (Türkmen et al. 2017). The Cronbach alpha value of the subscales was found between 0.66-0.84. In the present study, Cronbach's alpha value was found to be 0.90.

Ethical considerations: Prior to the research, written permission was obtained from the Social and Human Sciences Research Ethics Committee of a university (number 2021/587 and dated 09/07/2021). Adolescents were informed in writing about the subject of the study through the online questionnaire delivered to the adolescents and their permission to participate in the study was obtained.

RESULTS

The mean age of the adolescents was 15.48 ± 1.12 (min:14 -max:17) and 61.8% of them were girls. 84.5% of the adolescents had a nuclear family structure and 50% of them stated that their income was equal to their expenses. While 43.6% of the mothers of the adolescents were graduated from primary and secondary school, 30.2% of the fathers were graduated from primary and secondary school (Table 1).

Table 1. Distribution of Sociodemographic Characteristics of Adolescents (N=516)

Variables	n	%
Age (Mean±SD)	15.48±1.12(min:14 -max:17)	
Gender	Girl	319 61.8
	Male	197 38.2
Age	14-15 Years Old	259 50.2
	16-17 Years Old	257 49.8
School Type	Anatolian High School	138 26.7
	Vocational and Technical Anatolian High School	103 20.0
	Science High School	125 24.2
	Anatolian Imam Hatip High School	150 29.1
Class Level	Grade 9	138 26.7
	Grade 10	180 34.9
	Grade 11	133 25.8
	Grade 12	65 12.6
Mother's Education Status	Primary-Secondary School	225 43.6
	High School	132 25.6
	Undergraduate-Graduate	159 30.8
Father's Education Status	Primary-Secondary School I	156 30.2
	High School	145 28.1
	Undergraduate-Graduate	215 41.7
Income Status of the Family	Income More than Expenditure	118 22.9
	Income Equals Expenditure	258 50.0
	Income Less than Expenditure	140 27.1
Family Type	Nuclear Family	436 84.5
	Traditional Family	58 11.2
	Fragmented Family	22 4.3

61.4% of the adolescents had a normal body mass index. It was determined that 64.1% of the adolescents participating the study received education on adequ-

ate and balanced nutrition. It was found that 38.2% of the adolescents consumed fast-food 2-3 times a week, 76.6% skipped meals, 57% skipped the morning meal and 56.7% skipped meals because of 'no appetite/no craving' (Table 2).

Table 2. Distribution of Nutritional Characteristics of Adolescents (N=516)

Variables	N	%
Body Mass Index	Weak (0-18.4)	116 22.5
	Normal (18.5-24.9)	317 61.4
	Overweight (25.0-29.9)+Overweight (30.0-+)	83 16.1
Receiving Education on Nutrition	Trained	331 64.1
	No Training	185 35.9
Frequency of Consumption of Fast-Food	Nothing.	6 1.2
	Every Day	103 20.0
	2-3 Days a Week	197 38.2
	1 Per Week	128 24.8
	1 Per Month	82 15.8
Reason for Consumption of Fast-Food	Because He Loves	293 56.8
	Because He's at School.	134 26.0
	Because He Feels Like It	38 7.4
	To be Together with Friends	27 5.3
	Since We Don't Have Ready Meals at Home	23 4.5
Skipping Meals During the Day	Yes	395 76.6
	No.	121 23.4
Most Skipped Meal Status (N=395)	Morning	225 57.0
	Noon	132 33.4
	Evening	38 9.6
Reason for Skipping Meals (N=395)	Lack of Appetite	224 56.7
	Lack of Time	91 23.0
	Other (for weight loss, lack of meal pattern, etc.)	41 10.4
	Inability to Wake up in the Morning	39 9.9

The mean total score of the healthy lifestyle belief scale of the adolescents was found to be 60.63 ± 12.35 . Among the sub-dimensions of the scale, the mean total score of the Healthy Belief sub-dimension was calculated as 26.28 ± 6.14 , the mean score of the Physical sub-dimension was calculated as 20.12 ± 4.38 , and the mean score of the Nutrition sub-dimension was calculated as 14.21 ± 3.78 . The mean total score of the nutrition literacy scale of adolescents was found to be 61.61 ± 12.47 . Among the sub-dimensions of the scale, the mean total score of the Functional Nutrition Literacy sub-dimension was 17.31 ± 5.92 , the mean score of the Interactive Nutrition Literacy sub-dimension was 15.88 ± 5.32 , and the mean score of the Critical Nutrition Literacy sub-dimension was 28.40 ± 7.44 (Table 3).

Table 3. Healthy Lifestyle Belief Scale For Adolescents (HLBSA) And Nutrition Literacy Scale For Adolescents (ANLS) and Mean Scores Of Subscales (N=329)

Scale and Subscales	X±SS	Min-Max.
HLBSA Total	60.63±12.35	30-80
Health Belief	26.28±6.14	7-35
Physical Activity	20.12±4.38	5-25
Nutrition	14.21± 3.78	4-20
ANLS Total	61.61±12.47	25-110
Functional Nutrition Literacy Subdimension	17.31±5.92	7-35
Interactive Nutrition Literacy Subdimension	15.88±5.32	6-30
Critical Nutrition Literacy Subdimension	28.40±7.44	9-45

When the relationship between the nutritional characteristics of adolescents and healthy lifestyle beliefs for adolescents was analysed, it was found that there was a statistically significant difference between the frequency of consumption of fast-food and the mean scores of HLBSA ($p<0.05$). Accordingly, the mean score of those who consume fast- food every day is the lowest, while the mean score of those who consume it once a week is the lowest. It was found that there was a statistically significant difference ($p<0.05$) between the mean scores of HLBSA and the most skipped meal during the day, and it was determined that the mean scores of those who stated that they skipped meals and skipped the morning meal were the lowest. Again, it was found that there was a statistically significant difference between the reason for skipping meals and the mean scores of HLBSA ($p<0.05$), and it was found that the mean scores of HLBSA were lower in adolescents who stated that they had 'no appetite/no desire'. When the relationship between the socio-demographic characteristics of adolescents and nutritional literacy was examined; it was found that there was a statistically significant difference between the family type of the adolescents and the mean scores of ANLS ($p<0.05$), and it was seen that the mean scores were lower in the broken family type. In the study, it was found that there was a statistically significant difference between the reason for consumption of fast-food and the mean scores of the ANLS ($p<0.05$), and it was determined that the mean scores of those who stated the reason for fast-food consumption as 'because there is no ready-to-eat food at home' were higher (Table 4).

Table 4. Comparison Of The Mean Total Scores Of The Healthy Lifestyle Belief Scale For Adolescents (HLBSA) And The Nutrition Literacy Scale For Adolescents (ANLS) With Some Characteristics Of Adolescents

		HLBSA (X±SS)	Test (p)	ANLS (X±SS)	Test (p)
Family Type	Nuclear Family (b)	60.63±12.00	F: 0.03 0.97	61.27±12.16	F: 3.43 0.03
	Traditional Family (a)	60.81±14.18		65.34±14.43	
	Fragmented Family (b)	60.63±12.35		58.59±11.74	
Frequency of Consumption of Fast-Food Style Foods	None (ab)	59.67±12.45	F: 4.6 0.01	664.83±12.07	F:0.76 0.54
	Every Day (a)	58.51±11.53		60.92±14.23	
	2-3 Days a Week (ab)	58.87±13.05		60.77±11.54	
	1 Per Week (b)	64.04±11.49		62.70±12.77	
	1 Per Month (ab)	62.23±11.83		62.59±11.88	
Reason for Food Consumption	Because He Loves (b)	59.71±13.16	F: 1.220.29	61.01±12.67	F: 2.63 0.03
	Because He is at School (b)	61.81±11.18		62.16±12.03	
	Because there is no Ready Meals at Home (a)	63.43±11.40		69.26±12.74	
	Because he Wants to (b)	62.42±10.83		59.76±12.80	
	To be with Friends (b)	59.93±11.53		61.85±10.20	
Food Consumption at Home (a)	No	63.61±11.85		61.15±11.69	
	Yes	59.71±12.38	F:9.37 0.00	61.76±12.71	t:0.98 0.32
Most Skipped Meal (N=395)	Morning (a)	58.50±12.10	F: 4.86 0.01	60.70±12.58	F: 1.47 0.22
	Noon (b)	61.37±12.58		62.81±13.52	
	Evening (b)	61.13±12.80		64.34±9.96	
Reason for Skipping Meals (N=395)	Inability to Wake up in the Morning (b)	58.85±15.10	F: 4.422 0.01	63.85±17.20	F: 1.16 0.32
	Lack of Time (a)	61.95±11.64		63.21±12.30	
	Lack of Appetite (b)	58.47±12.33		60.62±11.95	
	Other (a)	62.34±10.55		62.76±12.52	

X: Mean, SD: Standard deviation, F: ANOVA a-b: No difference between groups with the same letter (Tukey test), *p<0.05

A significant positive and very weak relationship was found between the Adolescent Nutrition Literacy Scale and the Adolescent Healthy Lifestyle Belief Scale ($r=0.245$; $p<0.05$). According to the regression analysis result of the study, it is seen that the Nutritional Literacy of Adolescents has a positive and weakly significant effect on Healthy Lifestyle Belief. The R^2 value expressed as the explanatory power of Nutrition Literacy was calculated as .075 ($R: .274$; $R^2: .075$; $p<0.05$). This value shows that 7.5% of the healthy lifestyle belief variable is explained by nutrition literacy. According to the regression analysis, the β coefficient of Nutrition Literacy included: .274. ($p<0.05$). According to this, nutritional literacy has a significant effect on healthy lifestyle beliefs since $p<0.05$ (Table 5).

Table 5. Regression Analysis of Nutritional Literacy Predicting Healthy Lifestyle Beliefs

Variables	Dependent Variable			Independent Variable				
	HLBSA			ANLS				
B	Std. Error	(β)	T	p	R	R ²	F	p
43.90	2.64	.274	16.62	.00	0.0274	0.075	41.716	.00

HLBSA, Healthy Lifestyle Belief Scale for Adolescents; ANLS, Adolescent Nutrition Literacy Scale; F, ANOVA value; R, correlation coefficient

DISCUSSION

Since adolescence is a period in which a person's behaviours change and develop, the belief in healthy lifestyle behaviours acquired in this period manifests itself throughout life (Çiçek & Çetinkaya, 2017; Uncu et al, 2023). It is very important for adolescents to make a healthy lifestyle a part of their daily lives and to be aware of their responsibility for this (Koca & Arkan, 2021; Ayer & Ergin, 2021). Adolescents' paying attention to the intake of healthy foods in their diets and showing healthy behaviours related to nutrition will contribute to the increase in the level of nutritional literacy and thus the development of a healthy lifestyle (Chung, 2017; Can & Şahin Kaya, 2022; Carroll et al, 2022).

The total score of the adolescents participating in the study was 61.61 ± 12.47 and it was determined that their nutritional literacy level was at a moderate level. Similarly, when the studies conducted with the adolescent group are examined; 60.88 ± 18.53 in the study of Kırşan and Özcan (2021), 70.31 ± 8.66 in the study of Fasel and Bozdoğan (2021), and 90.56 ± 10.46 in the study of Türkmen et al. (2017), and it is seen that the nutritional literacy levels of adolescents are at medium level and above. Besides, the studies above reveal that many factors affect the nutritional literacy level of adolescents. It is thought that adolescents' education in high schools at different levels, income status, nutritional education and nutritional habits have effects.

In the study, it was observed that the nutritional literacy levels of adolescents living with traditional families were higher. In the study conducted by Bozdoğan (2020), it was determined that nutritional literacy was significantly higher in individuals with nuclear families. When the data obtained in this study are examined, it is necessary to pay attention to the choice of food due to the elderly people in the homes of the families of adolescents living with traditional families. Since chronic diseases are more common in the elderly, the family's nutritional preferences (low-fat, low-salt, etc.) also regulate the choice of food. These reasons enable adolescents

with extended family structures to do more research on nutrition, and as a result, it is thought that they are more conscious than adolescents in other family structures.

In this study, it was determined that the nutritional literacy levels of adolescents who consumed fast-food because there was no ready-to-eat food at home were higher. In the study conducted by Yilmazel and Bozdogan (2021) with adolescents, it was observed that fast-food consumption affected nutritional literacy, and those who did not consume at all had higher levels of nutritional literacy. It is seen that those who have insufficient knowledge about healthy nutrition do not engage in healthy eating behaviour and thus have a low level of nutritional literacy.

When the studies conducted with the adolescent group using the same measurement tool were examined; 61.79 in the study of Özendi and Tural Büyük (2022), 61.62 ± 11.70 in the study of Kudubes and Bektaş (2020), 61.62 ± 11.70 in the study of Kudubes and Bektaş (2020) and 59.13 ± 0.50 in the study of Durak and Muslu (2023), and it was found to be similar to other studies. In line with the results obtained in this context, it shows that adolescents have positive behaviours and attitudes towards their own health.

In this study, it was found that the healthy lifestyle belief levels of adolescents who consumed fast-food very day, skipped meals, skipped the morning meal and stated the reason for skipping meals as 'No appetite/no desire' were low. In the literature, it has been determined that adolescents who do not exhibit healthy eating behavior do not exhibit healthy lifestyle behavior at the same time, and are especially negative in health behaviors such as exercise, sleep and hygiene (Marques, et al, 2020; Wickham et al, 2020; Duarte et al, 2021; Daly et al. 2022). Since adolescents go to school early in the morning, it can be thought that situations such as not having breakfast ready when they wake up and not wanting to have breakfast in the early hours of the morning prevent them from having breakfast.

A very weak positive relationship was found between adolescents' nutritional literacy and healthy lifestyle beliefs. When we examine the literature, Al Tell et al. (2021) found that nutritional literacy was associated with healthy life and healthy eating behaviour. In Kalkan's (2019) study with university students, it was observed that healthy living habits were affected by nutritional literacy. In the study of Kudubeş Akdeniz et al (2022), it was observed that the increase in healthy lifestyle beliefs of adolescents increased their nutrition and exercise attitudes positively and was an important predictor of their self-efficacy regarding their own weight. It was concluded that having information about healthy lifestyle, learning basic information about nutrition from reliable sources, analysing the information learned and organising life according to a healthy lifestyle will contribute to the formation of healthy lifestyle beliefs.

CONCLUSION AND RECOMMENDATION

In the study, it was found that the nutritional literacy and healthy lifestyle beliefs of adolescents were above the middle level and there was a weak relationship between them. It was determined that the nutritional literacy levels of adolescents who had a traditional family type and consumed fast-food because they did not have ready meals at home were higher. In addition, it was observed that the healthy lifestyle belief levels of adolescents who consumed fast-food every day, skipped the morning meal and stated the reason for skipping meals as 'No appetite/no desire' were low.

Nurses working in the field of school health have great duties to reach adolescents who benefit less from health institutions. In this context, nurses should monitor the growth and development of adolescents and provide instructive, behaviour-changing trainings (seminars, conferences, etc.) to gain positive attitudes and behaviours towards both healthy eating behaviours and healthy lifestyles. It is also important to identify unhealthy nutrition and negative health behaviours and attitudes and beliefs towards their health when planning education for adolescents to lead healthy lives. Thus, the education to be given and the measures to be taken will be effective in terms of both the health of the adolescent and public health. In addition, the family, which has an important role in the formation of nutritional habits, should not be ignored, and families should be informed about nutrition and healthy life through seminars organised by nurses at school and in various places.

LIMITATIONS

Although the inclusion of adolescents studying in four different high schools in Turkey is the strength of the study, the use of random sampling and the participation of only volunteer students may have affected the generalization of the research results. Moreover, the measurements obtained in the study are limited to adolescents' self-reports on the digital platform and cannot be generalised. One of the limitations of the study is that adolescents spend a long time at home during the Covid period and their daily life activities decrease due to curfews and consequently their eating habits change.

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