Sağlık ve Yaşam Bilimleri Dergisi, Yıl 2023, Cilt 5, Sayı 1, s.26-35
DOI: 10.33308/2687248X.202351286

Makale Türü Özgün Araştırma

Health behaviors of adults living in Turkey during the covid-19 pandemic: A cross-sectional study

Merve ÇAYIR YILMAZ

ABSTRACT

Objective: It is thought that the restrictions that significantly disrupt the routine life of individuals during the Covid-19 pandemic process pose a potential threat to their health behaviors. This research was conducted to identify adults' health behaviors during the process of the Covid-19 pandemic. **Method:** The descriptive and cross-sectional study was conducted with 508 adults residing in Turkey, who were not diagnosed with Covid-19, between October and December 2020. Data were collected using the Personal Information Form and the Health Promoting Lifestyle Profile-II. **Results:** The mean of adults' Health-Promoting Lifestyle Profile-II scores was found as 123.96±23.75 points, and adults obtained the lowest and highest mean scores successively from the Physical Activity Sub-scale and the Spiritual Growth Sub-scale of the Health Promoting Lifestyle Profile-II. Besides, it was identified that, first, adults with incomes below expenses obtained a lower mean Health-Promoting Lifestyle Profile-II score than those with incomes equaling expenses and those with incomes above expenses, second, adults residing in the district obtained a lower mean Health-Promoting Lifestyle Profile-II score than those residing in the province center, and third, adults perceiving their health as good obtained a lower mean Health-Promoting Lifestyle Profile-II score than those perceiving their health as satisfactory were statistically significant. **Conclusion:** It was discerned that adults performed health behaviors inadequately during the process of the Covid-19 pandemic, and income level, place of residence, and health perception affected adults' health behaviors.

Keywords: Adult, Covid-19, health, behaviors, pandemic

Türkiye'de yaşayan yetişkin bireylerin Covid-19 salgını sürecinde sağlık davranışları: Kesitsel bir çalışma

ÖZET

Amaç: Covid-19 pandemi sürecinde bireylerin rutin yaşamlarını önemli ölçüde bozan kısıtlamaların sağlık davranışları üzerinde potansiyel bir tehdit oluşturduğu düşünülmektedir. Bu araştırma, Covid-19 pandemi sürecinde yetişkinlerin sağlık davranışlarını belirlemek amacıyla yapılmıştır. **Yöntem:** Tanımlayıcı ve kesitsel tipteki araştırma, Ekim-Aralık 2020 tarihinde Türkiye'de ikamet eden ve Covid-19 tanısı almamış olan 508 yetişkin birey ile gerçekleştirilmiştir. Veriler, Kişisel Bilgi Formu ve Sağlığı Geliştiren Yaşam Tarzı Profil-II kullanılarak toplanmıştır. **Bulgular:** Yetişkinlerin Sağlığı Geliştiren Yaşam Tarzı Profili-II puan ortalaması 123.96±23.75 olarak bulunmuş olup, ölçek alt boyutlarından en düşük puan Fiziksel Aktivite'den, en yüksek puan ise Manevi Gelişim'den alınmıştır. Sağlığı geliştiren yaşam tarzının; geliri giderinden az olanların geliri giderine eşit ve fazla olanlara göre, ilçede yaşayanların göre ilde yaşayanlara göre, sağlık algısı orta olanların iyi olanlarda göre istatistiksel olarak anlamlı düzeyde daha düşük olduğu bulunmuştur. **Sonuç:** Covid-19 pandemi sürecinde yetişkinlerin sağlık davranışlarını yetersiz olarak gerçekleştirdikleri, gelir düzeyi, yaşanılan yer ve sağlık algısının sağlık davranışlarını etkilediği görülmüştür.

Anahtar Kelimeler: Yetişkin, Covid-19, sağlık, davranışlar, pandemi

Geliş Tarihi: 05.12.2022 Kabul Tarihi: 09.04.2023

[a]Amasya Üniversitesi, Sağlık Bilimleri Fakültesi, Amasya, Türkiye, e-posta: mervehemsiiire@hotmail.com ORCID: 0000-0002-8576-4127

Sorumlu Yazar/Correspondence: Merve Çayır Yılmaz e-posta: mervehemsiiire@hotmail.com

The summary of this study was presented orally at the 4th International Conference on Covid-19 Studies held in Istanbul on 17-19 April 2021.

Atıf/Citation: Çayır Yılmaz M. Health behaviors of adults living in turkey during the covid-19 pandemic: A cross-sectional study. Sağlık ve Yaşam Bilimleri Dergisi 2023;5(1):26-35.

INTRODUCTION

The Covid-19 infection emerged first in Wuhan city of China in December 2019. Rapidly spreading from human to human, the disease affected other countries as well as China. In March 2020, the Covid-19 outbreak spreading rapidly across the world was declared by the World Health Organization (WHO) as a pandemic due to the fast-paced increase in the number of cases outside China. Despite global efforts, the rapid spread of the Covid-19 infection strongly influenced all countries of the world, and every country managed the situation by implementing similar strategies.[1]

Today, public health recommendations and government measures made it compulsory to implement certain restrictions in the fight with the Covid-19 pandemic. Besides helping to reduce the rate of infection, public health measures such as quarantining and social distancing restricted individuals' routine daily activities (going to work, attending the school, participating in group meetings, using the gymnasium, traveling, and so on). These restrictions were accompanied by the disruption of the economic situation and order of life and the rise in the stress level.[2-4]

Understanding the physical and psychosocial consequences of the Covid-19 pandemic and the restrictions accompanying the pandemic will be possible if changes likely to occur in health behaviors at the population level are clearly defined. In this period during which a large segment of the population is exposed to self-isolation conditions, changes will inevitably occur in individuals' healthy lifestyle behaviors.[5] It was asserted that restrictions disrupting the order of individuals' routine lives significantly during the process of the Covid-19 pandemic posed a potential threat to health behaviors and, as a consequence, they increased unhealthy behaviors.[2,6] It was also stated that increasing unhealthy behaviors, in return, constituted threats in terms of the development and management of chronic diseases and, at the same time, Covid-19-related clinical outcomes.[7] In this respect, finding out individuals' health behaviors during the process of the Covid-19 pandemic is quite important to the identification of the effect of restrictions on individual and societal consequences.[8,9] In the relevant literature, there were research studies that analyzed individuals' health behaviors during the process of the Covid-19 pandemic,[2-4,6,10-13] however, it was discerned that a limited number of research studies addressed this topic in Turkey.

METHODS

Aim and Research Questions

This research aimed to identify adults' health behaviors during the process of the Covid-19 pandemic and the factors affecting these behaviors, and with this aim, the research sought answers to the questions below:

1. How are adults' health behaviors during the process of the Covid-19 pandemic?
2. What are the factors affecting adults' health behaviors during the process of the Covid-19 pandemic?

Research Design

This study was designed as descriptive and cross-sectional research.

Population and Sample

The population of the research consisted of adults (between 18-65 years old) residing in Turkey, who were not diagnosed with Covid-19, did not have a psychiatric disorder, and agreed to participate in the research. In the calculation of the research sample, the study of Mertoğlu et al[14] was taken as a basis. In this study, as a result of the power analysis based on the total score averages of the "Health-Promoting Lifestyle Profile-II (HPLP-II)", 95% power, Type 1 error 0.05, effect level d= 0.30 and sample size 484 as G*Power 3.1.9.4. calculated with the program. It was planned to take 500 adult individuals for the sample and approximately 600 adult individuals were invited to participate. The study was terminated with a total of 508 adults who provided data for the study.

Data Collection

The research data were collected via an online questionnaire sent to adults in October-December 2020. Adults filled in the online questionnaire form via a computer or smartphone that could open website links. The Personal Information Form and the Health-Promoting Lifestyle Profile-II were used as data collection tools.

Personal Information Form

This form was created by researchers based on studies[2,5,11,15] related to the subject. The form has 12 questions that explore participant adults' demographic characteristics and the effect of the Covid-19 pandemic on their lives.

Health-Promoting Lifestyle Profile-II (HPLP-II)

Adapted to Turkish by Bahar et al,[15] the scale has 52 items and its items are rated as per a four-point likert scale (1: Never, 2: Sometimes, 3: Often, 4: Routinely). The scale has six sub-scales, Health Responsibility, Physical Activity, Nutrition, Spiritual Growth, Interpersonal Relations, and Stress Management. A high score obtained by a respondent from the scale and its sub-scales shows that the respondent performs health-promoting lifestyle behaviors.[15] The Cronbach's alpha internal consistency coefficient of the scale was

found to be 0.92 in the Turkish validity and reliability study,[15] and 0.94 in this study.

Ethical Considerations

Prior to the study, written permission was obtained from the Ministry of Health of Turkey (Approval Code: T14_42_00) and the Clinical Research Ethics Committee of Amasya University of Turkey (Date: 8 October 2020, No: 111). In addition, scale permission was obtained via e-mail. Before adults had access to the online questionnaire form, they were required to fill out an informed consent form to state that they agreed to participate in the research. The research was conducted in compliance with research and publication ethics and principles outlined in the Declaration of Helsinki of the World Medical Association.

Data Analysis

The Statistical Package for Social Science (SPSS) 21.0 was used in the analysis of research data. The Shapiro-Wilk test was utilized to find whether research data were normally distributed. In addition to number, percentage, standard deviation, median, minimum and maximum values, the Whitney U test was used to compare quantitative data for the difference between two independent groups, and the Kruskal-Wallis H test was used to compare more than two independent groups. Cronbach's alpha coefficient was calculated for the analysis of internal consistency. Differences were considered significant if the corresponding p-value was <.05.

RESULTS

Participant adults had a mean age of 30.01±9.30 years, and 52.40% of them were aged 18-29 years. Of all participant adults, 68.70% were female, 51.40% were single, 61.80% held a bachelor's degree, 38.10% were civil servants, 53.70% had incomes equaling their expenses, and 62.20% resided in the province center (Table 1).

Besides, upon the assessment of adults' health status during the process of the Covid-19 pandemic and the factors affecting their health, it was discerned that 87.80% had no chronic disease, 59.00% perceived their health as good, 75.00% did not smoke, 89.80% did not consume alcohol, 44.50% had no change in the body weight whereas 41.50% had an increase in the body weight (Table 2).

Moreover, mean scores obtained by participant adults from HPLP-II and its Health Responsibility Sub-scale, Physical Activity Sub-scale, Nutrition Sub-scale, Spiritual Growth Sub-scale, Interpersonal Relations Sub-scale, and Stress Management Sub-scale were identified successively as 123.96±23.75, 20.39±4.90, 15.42±5.11, 20.11±4.14, 25.16±5.26, 24.27±4.79, and 18.61±4.39 points in the research (Table 3).

Table 1. Distribution of adults by descriptive characteristics (n=508)

Variables	n (%)
Age	
18-29 years	266 (52.40)
30-39 years	166 (32.60)
40 years and older	76 (15.00)
Gender	
Female	349 (68.70)
Male	159 (31.30)
Marital status	
Married	247 (48.60)
Single	261 (51.40)
Education level	
Primary school-secondary school	38 (7.50)
High school	39 (7.70)
University	314 (61.80)
Postgraduate	85 (16.70)
Other	32 (6.30)
Profession	
Workless	81 (15.90)
Workers	29 (5.70)
Civil servants	193 (38.10)
Self-employed	18 (3.50)
Other	187 (36.80)
Income level	
Incomes below expenses	138 (27.20)
Incomes equals expenses	273 (53.70)
Incomes above expenses	97 (19.10)
Place of residence	
Village	61 (12.00)
District	131 (25.80)
Province center	316 (62.20)

Table 2. Distribution of adults' health status during the process of the Covid-19 pandemic and the factors affecting their health

Variables	n (%)
Having any chronic disease	
There is	62 (12.20)
None	446 (87.80)
Health perception	
Good	300 (59.00)
Satisfactory	204 (40.20)
Bad	4 (0.80)
Cigarette smoking	
Uses	127 (25.00)
Does not use	381 (75.00)
Alcohol consumption	
Uses	52 (10.20)
Does not use	456 (89.80)
Change in body weight	
Hasn't changed	226 (44.50)
Increased	211 (41.50)
Decreased	71 (14.00)

Next, Table 4 displayed the comparison of participant adults' mean HPLP-II scores as per their descriptive characteristics, and firstly, it was discerned that, as per the variable of age, there was a statistically significant difference in adults' mean HLPL-II Nutrition Sub-scale scores (p<.01) whereas there was no statistically significant difference in mean scores obtained by

adults from the HPLP-II and its other sub-scales (p>.05). According to the post hoc analysis (Tamhane's T2 test) conducted to indicate which group had the statistically significant difference from the other group(s), it was found that adults aged 30-39 years obtained a higher mean Nutrition Sub-scale score than those aged 18-29 years.

Secondly, it was identified that, as per the variable of gender, there was a statistically significant difference in adults' mean HLPL-II Physical Activity Sub-scale scores, and in this sense, male adults obtained a higher mean Physical Activity Sub-scale score than female adults (p<.05) whilst there was no statistically significant difference in mean scores obtained by adults from the HPLP-II and its other sub-scales (p>0.05).

Thirdly, it was discerned that, as per the variable of marital status, there were statistically significant differences in adults' mean HLPL-II Physical Activity Sub-scale and Nutrition Sub-scale scores, and in this context, single adults obtained a higher mean Physical Activity score than married adults (p<.05), and married adults obtained a higher mean Nutrition Sub-scale score than single adults (p>.01) while there was no statistically significant difference in mean scores obtained by adults from the overall HPLP-II and its other sub-scales (p>.05)

Table 3. Adults' HPLP-II sub- scale and total scores (n=508)

		Min	Max	X̄	SD
HPLP-II Sub-Scale	Health Responsibility	9.00	36.00	20.39	4.90
	Physical Activity	8.00	32.00	15.42	5.11
	Nutrition	9.00	36.00	20.11	4.14
	Spiritual Growth	9.00	36.00	25.16	5.26
	Interpersonal Relations	9.00	36.00	24.27	4.79
	Stress Management	8.00	32.00	18.61	4.39
HPLP-II **Total Scores**		52.00	208.00	123.96	23.75

HPLP-II: Health-Promoting Lifestyle Profile-II; Min: Minimum; Max: Maximum; X̄: Mean; SD: Standard Deviation

Table 4. Comparison of adults' descriptive characteristics and HPLP-II scores (n=508)

Variables	HPLP-II						
	Health Responsibility	Physical Activity	Nutrition	Spiritual Growth	Interpersonal Relations	Stress Management	HPLP-II Total Score
	Median (Min-Max)	**Median (Min-Max)**	**Median (Min-Max)**	**Median (Min-Max)**	**Median (Min-Max)**	**Median (Min-Max)**	**Median (Min-Max)**
Age							
18-29 years[a]	20.00 (9.00-33.00)	15.00 (8.00-32.00)	19.00 (9.00-33.00)	25.00 (9.00-36.00)	24.00 (9.00-35.00)	18.00 (8.00-32.00)	122.50 (52.00-185.00)
30-39 years[b]	20.00 (9.00-36.00)	15.00 (8.00-32.00)	20.50 (9.00-36.00)	25.00 (12.00-36.00)	25.00 (14.00-36.00)	18.00 (11.00-32.00)	123.00 (80.00-208.00)
40 years and older[c]	20.00 (9.00-33.00)	13.50 (8.00-32.00)	21.00 (9.00-31.00)	25.00 (9.00-35.00)	24.00 (9.00-36.00)	18.00 (8.00-29.00)	123.00 (52.00-191.00)
p	0.891	0.305	**0.008 a-b p= 0.035**	0.276	0.192	0.960	0.557
Gender							
Female	20.00 (9.00-36.00)	15.00 (8.00-32.00)	20.00 (11.00-36.00)	25.00 (9.00-36.00)	24.00 (13.00-36.00)	18.00 (9.00-32.00)	122.00 (67.00-208.00)
Male	19.00 (9.00-33.00)	16.00 (8.00-31.00)	20.00 (9.00-33.00)	25.00 (9.00-35.00)	23.00 (9.00-36.00)	18.00 (8.00-32.00)	121.00 (52.00-191.00)
p	0.095	**0.049**	0.124	0.687	0.126	0.567	0.429
Marital status							
Married	20.00 (9.00-33.00)	15.00 (8.00-32.00)	21.00 (9.00-33.00)	25.00 (9.00-35.00)	24.00 (9.00-36.00)	18.00 (8.00-29.00)	121.00 (52.00-191.00)
Single	20.00 (9.00-36.00)	16.00 (8.00-32.00)	19.00 (9.00-36.00)	25.00 (9.00-36.00)	24.00 (9.00-36.00)	18.00 (8.00-32.00)	123.00 (52.00-208.00)
p	0.414	**0.010**	**0.009**	0.791	0.193	0.224	0.894
Education level							
Primary school-secondary school	19.00 (9.00-32.00)	13.50 (8.00-31.00)	21.00 (9.00-29.00)	24.50 (9.00-35.00)	23.00 (9.00-33.00)	17.00 (8.00-29.00)	114.00 (52.00-181.00)
High school	19.00 (12.00-29.00)	14.00 (8.00-24.00)	18.00 (11.00-27.00)	25.00 (9.00-30.00)	23.00 (13.00-30.00)	16.00 (9.00-26.00)	115.00 (67.00-155.00)
University	20.00 (9.00-36.00)	15.00 (8.00-32.00)	20.00 (9.00-36.00)	25.00 (9.00-36.00)	24.00 (9.00-36.00)	18.00 (8.00-32.00)	123.00 (52.00-208.00)
Postgraduate	19.00 (10.00-35.00)	15.00 (8.00-32.00)	21.00 (13.00-30.00)	25.00 (12.00-35.00)	25.00 (12.00-36.00)	18.00 (10.00-28.00)	122.00 (67.00-185.00)
Other	20.00 (9.00-31.00)	14.00 (8.00-30.00)	19.00 (10.00-29.00)	25.00 (9.00-34.00)	23.50 (10.00-34.00)	17.00 (8.00-30.00)	121.00 (54.00-181.00)
p	0.368	0.299	0.188	0.551	0.329	0.151	0.262
Profession							
Workless[a]	20.00 (9.00-33.00)	14.00 (8.00-32.00)	19.00 (9.00-30.00)	24.00 (9.00-36.00)	23.00 (9.00-35.00)	17.00 (8.00-29.00)	117.00 (52.00-182.00)
Workers[b]	18.00 (11.00-30.00)	14.00 (8.00-22.00)	18.00 (11.00-26.00)	26.00 (14.00-34.00)	24.00 (16.00-36.00)	18.00 (11.00-26.00)	113.00 (77.00-162.00)

Tablo 4. Continue

Civil servants [c]	20.00 (9.00-36.00)	15.00 (8.00-32.00)	20.00 (9.00-36.00)	25.00 (9.00-36.00)	24.00 (9.00-36.00)	18.00 (8.00-32.00)	122.00 (52.00-208.00)
Self-employed[d]	19.50 (14.00-32.00)	17.50 (8.00-29.00)	21.00 (17.00-27.00)	27.00 (16.00-34.00)	26.00 (17.00-32.00)	22.00 (13.00-29.00)	136.00 (104.00-181.00)
Other[e]	20.00 (9.00-34.00)	15.00 (8.00-32.00)	20.00 (11.00-30.00)	25.00 (9.00-35.00)	24.00 (13.00-34.00)	18.00 (9.00-30.00)	123.00 (67.00-185.00)
p	0.309	**0.034** **b-d p=0.045**	**0.003** **b-c p=0.025** **b-d p=0.002**	0.494	0.668	0.244	0.174
Income level							
Incomes below expenses[a]	19.00 (9.00-33.00)	13.00 (8.00-29.00)	19.00 (9.00-30.00)	24.00 (9.00-36.00)	23.00 (9.00-36.00)	16.50 (8.00-30.00)	115.00 (52.00-181.00)
Incomes equals expenses[b]	20.00 (9.00-36.00)	15.00 (8.00-32.00)	20.00 (9.00-36.00)	25.00 (9.00-36.00)	25.00 (10.00-36.00)	18.00 (8.00-32.00)	123.00 (54.00-208.00)
Incomes above expenses[c]	21.00 (9.00-35.00)	15.00 (8.00-32.00)	21.00 (9.00-31.00)	26.00 (9.00-35.00)	26.00 (9.00-34.00)	19.00 (8.00-32.00)	128.00 (52.00-185.00)
p	0.046	**0.001** **a-b p=0.002**	0.216	**0.031** **a-c p= 0.039**	**0.019** **a-b p=0.020** **a-c p=0.010**	**0.001** **a-b p=0.004** **a-c p=0.006**	**0.002** **a-b p=0.014** **a-c p=0.028**
Place of residence							
Village[a]	18.00 (9.00-32.00)	14.00 (8.00-29.00)	20.00 (10.00-29.00)	25.00 (9.00-34.00)	23.00 (10.00-33.00)	19.00 (8.00-30.00)	123.00 (52.00-182.00)
District[b]	19.00 (9.00-32.00)	14.00 (8.00-32.00)	20.00 (9.00-29.00)	24.00 (9.00-36.00)	23.00 (9.00-34.00)	17.00 (8.00-30.00)	117.00 (54.00-208.00)
Province center[c]	20.00 (9.00-36.00)	16.00 (8.00-32.00)	20.00 (9.00-36.00)	25.00 (9.00-36.00)	25.00 (9.00-36.00)	18.00 (8.00-32.00)	123.00 (52.00-208.00)
p	**0.003** **b-c p=0.014**	**0.003** **b-c p=0.005**	0.441	0.217	0.076	0.163	**0.029** **b-c p=0.021**

HPLP-II: Health-Promoting Lifestyle Profile-II; Min: Minimum; Max: Maximum

Fourthly, it was found that, as per the variable of education level, there was no statistically significant difference in mean scores obtained by adults from the overall HPLP-II and its sub-scales (p>.05).

Fifthly, it was discerned that, as per the variable of the profession, there were statistically significant differences in adults' mean HLPL-II Physical Activity Sub-scale and Nutrition Sub-scale scores (p<.05, p<.01) whereas there was no statistically significant difference in mean scores obtained by adults from the HPLP-II and its other sub-scales (p>.05). As per the post hoc analysis (Tamhane's T2 test) conducted to indicate which group had the statistically significant difference from the other group(s), it was found that adults who were self-employed obtained a higher mean Physical Activity Sub-scale score than those who were workers, and adults who were workers obtained a lower mean Nutrition Sub-scale score than those who were civil servants and those who were self-employed.

Sixthly, it was identified that, as per the variable of income level, there was no statistically significant difference in adults' mean HLPL-II Health
difference in adults' mean HLPL-II Nutrition Sub-scale, Spiritual Growth Sub-scale, Interpersonal Relations Sub-scale, and Stress Management Sub-scale scores (p>.05), on the other hand, it was identified that there were statistically significant differences in adults' mean HPLP-II, Health Responsibility Sub-scale, and Physical Activity Sub-scale scores (p<.01). In the context of the post hoc analysis (Tamhane's T2 test) Responsibility Sub-scale and Nutrition Sub-scale scores (p>.05), however, there were statistically significant differences in adults' mean HPLP-II, Physical Activity Sub-scale, Spiritual Growth Sub-scale, Interpersonal Relations Sub-scale, and Stress Management Sub-scale scores (p<.05). In the framework of the post hoc analysis (Tamhane's T2 test) conducted to indicate which group had the statistically significant difference from the other group(s), it was found that adults with incomes equaling expenses obtained a higher mean Physical Activity Sub-scale score than those with incomes below expenses, adults with incomes above expenses obtained a higher mean Spiritual Growth Sub-scale score than those with incomes below expenses, and adults with incomes below expenses obtained a lower mean HPLP-II score, Interpersonal Relations Sub-scale score, and Stress Management Sub-scale score than those with incomes equaling expenses and those with incomes above expenses.

Seventhly, it was discerned that, as per the variable of the place of residence, there was not statistically significant
conducted to indicate which group had the statistically significant difference from the other group(s), it was found that adults who resided in the province center obtained a higher mean HPLP-II score, Health Responsibility Sub-scale score, and Physical Activity Sub-scale score than those residing in the district.

Table 5. Comparison of adults' health status during the process of the Covid-19 pandemic and the factors affecting their health and HPLP-II scores

Variables	HPLP-II						
	Health Responsibility	Physical Activity	Nutrition	Spiritual Growth	Interpersonal Relations	Stress Management	HPLP-II Total Score
	Median (Min-Max)	**Median (Min-Max)**	**Median (Min-Max)**	**Median (Min-Max)**	**Median (Min-Max)**	**Median (Min-Max)**	**Median (Min-Max)**
Having any chronic disease							
There is	20.00 (9.00-35.00)	15.00 (8.00-31.00)	20.00 (9.00-30.00)	24.00 (9.00-35.00)	23.00 (9.00-34.00)	17.00 (8.00-30.00)	117.50 (52.00-185.00)
None	20.00 (9.00-36.00)	15.00 (8.00-32.00)	20.00 (9.00-36.00)	25.00 (9.00-36.00)	24.00 (10.00-36.00)	18.00 (8.00-32.00)	122.00 (54.00-208.00)
p	0.380	0.624	0.823	0.224	0.570	0.473	0.741
Health perception							
Good[a]	21.00 (9.00-36.00)	16.00 (8.00-32.00)	21.00 (9.00-36.00)	26.00 (9.00-36.00)	25.00 (10.00-36.00)	19.00 (8.00-32.00)	127.00 (54.00-208.00)
Satisfactory[b]	19.00 (9.00-33.00)	14.00 (8.00-32.00)	19.00 (9.00-30.00)	24.00 (9.00-35.00)	22.50 (9.00-35.00)	17.00 (8.00-29.00)	115.00 (52.00-182.00)
Bad[c]	17.50 (9.00-27.00)	13.00 (8.00-24.00)	20.50 (9.00-27.00)	21.50 (9.00-27.00)	22.00 (9.00-26.00)	16.00 (8.00-24.00)	110.00 (52.00-155.00)
p	**0.002** **a-b p=0.003**	**0.001** **a-b p=0.000**	**0.001** **a-b p=0.001**	**0.000** **a-b p=0.000**	**0.000** **a-b p=0.000**	**0.000** **a-b p=0.000**	**0.000** **a-b p=0.000**
Cigarette smoking							
Uses	19.00 (9.00-34.00)	15.00 (8.00-31.00)	19.00 (9.00-33.00)	25.00 (9.00-35.00)	23.00 (9.00-35.00)	18.00 (8.00-29.00)	117.00 (52.00-185.00)
Does not use	20.00 (9.00-36.00)	15.00 (8.00-32.00)	20.00 (9.00-36.00)	25.00 (9.00-36.00)	24.00 (10.00-36.00)	18.00 (8.00-32.00)	123.00 (54.00-208.00)
p	0.198	0.543	0.118	0.157	0.068	0.420	0.134
Alcohol consumption							
Uses	19.00 (9.00-30.00)	17.00 (8.00-27.00)	19.00 (9.00-33.00)	25.00 (14.00-34.00)	25.00 (13.00-34.00)	17.50 (10.00-29.00)	122.00 (72.00-180.00)
Does not use	20.00 (9.00-36.00)	15.00 (8.00-32.00)	20.00 (9.00-36.00)	25.00 (9.00-36.00)	24.00 (9.00-36.00)	18.00 (8.00-32.00)	122.00 (52.00-208.00)
p	0.284	0.159	0.587	0.627	0.796	0.527	0.701
Change in body weight							
Hasn't changed	20.00 (9.00-36.00)	15.00 (8.00-32.00)	21.00 (9.00-36.00)	26.00 (9.00-36.00)	24.00 (10.00-36.00)	18.00 (8.00-32.00)	124.00 (54.00-208.00)
Increased	20.00 (9.00-32.00)	15.00 (8.00-32.00)	20.00 (9.00-28.00)	24.00 (9.00-35.00)	24.00 (9.00-34.00)	18.00 (8.00-29.00)	120.00 (52.00-182.00)
Decreased	20.00 (11.00-32.00)	15.00 (8.00-31.00)	19.00 (11.00-29.00)	25.00 (16.00-34.00)	23.00 (15.00-32.00)	18.00 (11.00-30.00)	124.00 (77.00-179.00)
p	0.864	0.831	0.127	0.050	0.362	0.748	0.486

HPLP-II: Health-Promoting Lifestyle Profile-II; Min: Minimum; Max: Maximum

Furthermore, Table 5 showed the comparison of adults' mean HPLP-II scores as per their health status-related characteristics and the factors affecting their health, and firstly, it was discerned that, as per variables of having any chronic disease, cigarette smoking, alcohol consumption, and the change in body weight, there was no statistically significant difference in mean scores obtained by adults from the HPLP-II and its sub-scales (p>.05).

Secondly, it was identified that, as per the variable of the health perception, there were statistically significant differences in mean scores obtained by adults from the HPLP-II and all its sub-scales (p<.01), and in this respect, adults who perceived their health as good obtained higher mean scores from the HPLP-II and its sub-scales than those perceiving their health as satisfactory.

DISCUSSION

Adults' Healthy Lifestyle Behaviors

In the research, it was found that adults obtained low mean scores from the HPLP-II and its Health Responsibility Sub-scale, Physical Activity Sub-scale, Nutrition Sub-scale, and Stress Management Sub-scale while they obtained mean scores above the medium level from the HPLP-II Spiritual Growth Sub-scale and Interpersonal Relations Sub-scale. Besides, adults obtained the lowest mean score from the HPLP-II Physical Activity sub-scale and the highest mean score from the HPLP-II Spiritual Growth Sub-scale. Similarly, in the relevant literature, there are research studies showing that HPLP-II scores were in general at a low level during the Covid-19 pandemic.[6,12] In the research study conducted by van der Werf et al[15] with Dutch adults, it was put forward that the number of adults adopting a healthy lifestyle was higher than that of adults adopting an unhealthy lifestyle during the Covid-19 pandemic. On the other hand, numerous research studies found that the process of the Covid-19 pandemic led to falls in levels of physical activity and healthy nutrition.[2,4,13,17-19] In the research study by Martínez-de-Quel et al,[9] it was identified that the fall in physical activity during the Covid-19 pandemic was more visible in participants who used to be physically active. In a research study carried out in China with adults, it was stated that participants had low levels of physical activity and more than half of them experienced medium-level stress during the Covid-19 pandemic.[20] The research study by Galali[21] found that

most participants' lifestyles were disrupted and there was a significant decline, particularly, in physical activity, and the research study by Kolokotroni et al[7] identified that there was no significant decrease in adults' physical activity levels, nevertheless, the time spent sitting increased during the Covid-19 pandemic. In the research study by Flanagan et al,[22] it was put forward that there was an increase in adults' healthy eating and anxiety scores whereas there was a decrease in their physical activity levels during the Covid-19 pandemic. In a study performed with Spanish adults, it was found that healthy nutrition levels increased during the Covid-19 pandemic.[23] In the research study by Enriquez-Martinez et al,[3] it was stated that there was no change in the majority of participants' dietary patterns whilst participants whose dietary patterns changed had healthier diets during the Covid-19 pandemic.

Continuing healthy lifestyle behaviors during the Covid-19 pandemic is quite important to the preservation and improvement of health. In the current study, the finding that adults obtained the lowest mean score from the HPLP-II Physical Activity Sub-scale captures attention. Across the world, physical inactivity is evaluated as a significant public health issue because inactive life is viewed as a key risk factor for obesity, osteoporosis, hypertension, coronary artery disease, and chronic diseases such as type 2 diabetes.[24] In research studies performed during the process of the Covid-19 pandemic, it was indicated that physical inactivity led to increases in body weight,[18,25] and likewise, it was discerned that adults participating in the current research had an increase in the body weight. Research studies highlight that the increase in body weight was visible particularly in obese individuals during the Covid-19 pandemic.[19,22,26] On the other hand, physical inactivity has negative effects not only on physical health but also on mental and psychological health.[5,10,27] Previous studies demonstrate that changes occurring in health behaviors due to Covid-19 restrictions led to a negative mental state and stress.[1,27,28] Therefore, it is important that physical activity/exercise programs be created for all age groups including adults by taking individual differences into consideration, and also, by promoting individuals' adaptation to these programs, it should be ensured that individuals would continue to remain healthy.[24]

Adults participating in the current research obtained the highest mean score from the HPLP-II Spiritual Growth Sub-scale. Spiritual development considerably helps individuals question health and disease behaviors, adapt to changes, acquire the skill to overcome challenges, and regain the strength and hope for recovery. In this sense, individuals' needs to feel strong and look to the future with hope during the process of the Covid-19 pandemic, which is replete with uncertainties, may have urged them to turn more toward spirituality.

Besides, another aspect of health behaviors is interpersonal relations. The continuity of interpersonal relations lays the foundation for psychological well-being,[29] and it is known that weak social relations affected mental health negatively.[5] Adults participating in the current research obtained a medium-level mean score from the HPLP-II Interpersonal Relations Sub-scale. The research study by Kolokotroni et al[7] stated that adults had low-level social support during the Covid-19 pandemic, and the research study by Azizi et al[30] asserted that participants spent more time with family members in daily activities during the Covid-19 pandemic. Distancing human beings from each other, physical isolation and quarantine practices can be in conflict with basic psychological needs. Thus, increasing interpersonal relations during the process of the Covid-19 pandemic is necessary for the enhancement of psychological well-being.[29]

Lifestyle changes during the process of the Covid-19 pandemic negatively affect also stress management. In the current research, it was discerned that participant adults obtained a low mean score from the HPLP-II Stress Management Sub-scale. In the relevant literature, there are research studies demonstrating that adults' stress levels increased due to the Covid-19 pandemic.[7,20,31] A research study in the United Arab Emirates found that approximately half of the participants felt angry and highly stressed during the Covid-19 pandemic,[18] and another research study showed that a significant part of the participants constantly felt physical fatigue, emotional exhaustion, nervousness, and tension during the Covid-19 pandemic.[17] A research study performed in India put forward that there was an increase in stress and anxiety levels in nearly one-fourth of participants during the Covid-19 pandemic,[32] and another research study indicated that psychosocial and mental stress was prevalent among participants during the Covid-19 pandemic.[28]

Factors affecting adults' healthy lifestyle behaviors

It has been determined that the health behaviors of adults differ according to age, gender, marital status, profession, income level, place of residence and health perception. In the current research, upon the evaluation of participant adults' healthy lifestyle behaviors as per age, it was found that adults who were aged 30-39 years obtained a higher mean HPLP-II Nutrition Sub-scale score than those aged 18-29 years. In the research study by Enriquez-Martinez et al,[3] it was identified that the young population (<30 years) had a healthier diet during the Covid-19 pandemic, and in the research study by Chopra et al,[32] it was discerned that the young population (<30 years) reduced the unhealthy food consumption during the process of the Covid-19

pandemic. In a research study conducted with adults in the Netherlands, it was found that there were changes in young individuals' eating behaviors in terms of healthiness/unhealthiness, however, there was no significant change in old individuals' eating behaviors during the Covid-19 pandemic.[26] In the research study by Galali[21] including all age groups, it was stated that the increase in appetite was associated with age, and the group of participants aged 18-30 years had a higher increase in appetite during the Covid-19 pandemic. In a research study performed with adults in Canada, it was put forward that young participants had a higher increase in unhealthy behaviors than old participants during the Covid-19 pandemic.[6] The above result of the current research may have been obtained in association with the fact that a significant part of the participants aged 18-29 years was composed of students. Students form a group with a high percentage of takeout food and junk food consumption, and the increase in spare time during the quarantine process may have induced them to irregularly overconsume foodstuff.

Also, in the current research, it was found that male adults obtained a higher mean HPLP-II Physical Activity Sub-scale score than female adults. In the relevant literature, there are research studies finding similar results.[29,30] The research study carried out in India by Chopra et al[32] stated that there was an increase, in particular, in the time spent daily by men in front of screens and there was a decrease in men's physical activity levels during the Covid-19 pandemic, and the research study by Zajacova et al[6] put forward that there was an increase in time spent by women in front of screens during the Covid-19 pandemic. In a research study in the United States of America, it was found that women were more likely to increase their physical activity levels in the stay-at-home process during the Covid-19 pandemic.[11] A different result regarding gender may have been obtained in the current study in association with the fact that men continued to work outdoors even during the process of the lockdown.

Besides, in the current research, it was discerned that single adults obtained a higher mean Physical Activity Sub-scale score than married adults whilst married adults obtained a higher mean Nutrition Sub-scale score than single adults. In the research study by Knell et al,[11] it was found that individuals with children had higher levels of physical activity during the Covid-19 pandemic. In a research study conducted with Moroccan individuals during the Covid-19 pandemic, it was identified that, in comparison to married/separated individuals, single individuals had a low-level health-related quality of life that covered also mobility.[30] In the current research, single adults may have had higher levels of physical activity in association with the fact that they allocated more time to themselves than married adults did. Likewise, married adults may have had higher nutrition levels in the current research in association with the order introduced by marriage to life.

Moreover, in the current research, upon the examination of participant adults' healthy lifestyle behaviors as per the profession, it was discerned that adults who were self-employed obtained a higher mean HPLP-II Physical Activity Sub-scale score than those who were workers, and adults who were workers obtained a lower mean HPLP-II Nutrition Sub-scale score than those who were civil servants and those who were self-employed. In the research study by Azizi et al,[30] it was found that participants who did not work had a lower health-related quality of life during the Covid-19 pandemic than those who worked and those who were students. The Covid-19 pandemic affected the economies of countries seriously, and together with quarantine practices, commercial activities in all industries decreased or stopped. Together with the effect of quarantine practices on a variety of sectors, workers were forced to quit work or work for a low income or without earning an income. Numerous businesses failing to deal with financial losses and setbacks caused by the Covid-19 pandemic were permanently closed down. In this process, civil servants and self-employed people continued to work in different employment modes.[33] In the current research, workers may have had low levels of physical activity in association with the fact that they were no longer working, and besides, they may have had low nutrition levels in association with the fact that their income levels fell.

Furthermore, in the current research, upon the assessment of participant adults' healthy lifestyle behaviors as per the income level, it was identified that adults who had incomes equaling expenses obtained a higher mean HPLP-II Physical Activity Sub-scale score than those with incomes below expenses, adults who had incomes above expenses obtained a higher mean HPLP-II Spiritual Growth Sub-scale score than those with incomes below expenses, and adults who had incomes below expenses obtained a lower mean HPLP-II score, Interpersonal Relations Sub-scale score, and Stress Management Sub-scale score than those with incomes equaling expenses and those with incomes above expenses. In research studies performed in Canada and France, it was found that there was an increase in unhealthy lifestyle behaviors of individuals who were financially affected by the Covid-19 pandemic.[6,34] In the research study by Azizi et al,[30] it was stated that the socioeconomic level in the quarantine process during the Covid-19 pandemic did not affect the health-related quality of life significantly. In the research study conducted with Dutch adults, it was identified that individuals experiencing stress about their financial situations adopted a healthier lifestyle during the Covid-19 pandemic.[16] In the research study by Kanık et al,[35] it was asserted that anxiety about the personal economic situation affected

the psychological well-being negatively during the Covid-19 pandemic.

Next, in the current research, upon the evaluation of participant adults' healthy lifestyle behaviors as per the place of residence, it was discerned that adults who resided in the province center obtained a higher mean HPLP-II score, Health Responsibility Sub-scale score, and Physical Activity Sub-scale score than those residing in the district. In the research study by Radwan et al,[18] it was identified that participants living in an apartment had a higher likelihood of reporting unhealthy lifestyle changes than those living in a house with a garden during the Covid-19 pandemic. In a research study in France, it was found that the health behaviors of participants living in populous areas and having a garden were negatively affected by the Covid-19 pandemic.[34] The above result of the current research may have been obtained in association with the fact that province centers had more facilities for health and social services than districts.

Additionally, one of the significant determinants of health behaviors is health perception.[36] In the current research, 59% of the participant adults stated that they perceived their health as good, and it was discerned that adults who perceived their health as good obtained a higher mean score from the HPLP-II and all its sub-scales than those perceiving their health as satisfactory. The absence of the effect of the perception of health status as bad in the current research may have been associated with the fact that solely four adults reported perceiving their health as bad. This last finding, in turn, may have been obtained in association with the fact that 87.80% of the participant adults had no chronic disease in the current research.

Limitations of the study

This study has some limitations. Adults under the age of 40 comprised 85% of the participants. Low average age is an important factor affecting health behaviors such as nutrition and spiritual growth. In addition, the fact that the data is collected online limited the sample to those who use social media. The other limitations of this study are the inability to prospectively evaluate the health behaviors of adults and the evaluation of health behaviors only with subjective data.

CONCLUSION

In the research, it was found that adults performed health behaviors inadequately during the process of the Covid-19 pandemic, and income level, place of residence, and health perception generally affected adults' health behaviors. Restrictions imposed during the process of the Covid-19 pandemic disrupted the order of individuals' routine lives significantly. Finding out individuals' health behaviors during the process of the Covid-19 pandemic is quite important to the identification of the effect of restrictions on individual and societal consequences. In this respect, studies to be performed with larger samples including adults from all age groups are needed to identify the effect of the Covid-19 pandemic on health behaviors. Also, studies should be performed to encourage adults to adopt healthy lifestyle behaviors more.

Author contributions
Study idea/design: MÇY
Data collection: MÇY
Data analysis and interpretation: MÇY
Literature review: MÇY
Writing of the article: MÇY
Critical review: MÇY
Final approval and responsibility: MÇY

Conflict of interest: *The authors declared no conflict of interest.*

Financial Disclosure: *The authors have declared no financial support*

REFERENCES

1. World Health Organization (WHO). Coronavirus disease (COVID-19) pandemic. https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov Accessed 10 August, 2022.
2. Ammar A, Brach M, Trabelsi K, Chtourou H, Boukhris O, Masmoudi L, et al. Effects of COVID-19 home confinement on eating behaviour and physical activity: results of the ECLB-COVID19 international online survey. Nutrients. 2020;12(6):1583.
3. Enriquez-Martinez OG, Martins MCT, Pereira TSS, et al. Diet and lifestyle changes during the COVID-19 pandemic in Ibero-American countries: Argentina, Brazil, Mexico, Peru, and Spain. *Frontiers in Nutrition*. 2021;8:671004.
4. Wang X, Lei SM, Le S, Yang Y, Zhang B, Yao W, et al. Bidirectional influence of the COVID-19 pandemic lockdowns on health behaviors and quality of life among Chinese adults. *International Journal of Environmental Research and Public Health*. 2020;17(15):5575.
5. Arora T, Grey I. Health behaviour changes during COVID-19 and the potential consequences: A mini-review. *Journal of Health Psychology*. 2020;25(9):1155-1163.
6. Zajacova A, Jehn A, Stackhouse M, Denice P, Ramos H. Changes in health behaviours during early COVID-19 and socio-demographic disparities: a cross-sectional analysis. *Canadian Journal of Public Health*. 2020;111(6):953-962.
7. Kolokotroni O, Mosquera MC, Quattrocchi A, Heraclides A, Demetriou C, Philippou E. Lifestyle habits of adults during the COVID-19 pandemic lockdown in Cyprus: evidence from a cross-sectional study. *BMC Public Health.* 2021;21(1):1-11.
8. Jordan, S, Krug S, Manz K, Moosburger R, Schienkiewitz A, Starker A, et al. Health behaviour and COVID-19: Initial findings on the Knell pandemic. *Journal of Health Monitoring*. 2020;5(S8):1-14.

9. Martínez-de-Quel Ó, Suárez-Iglesias D, López-Flores M, Pérez CA. Physical activity, dietary habits and sleep quality before and during COVID-19 lockdown: A longitudinal study. *Appetite.* 2021;158:105019.
10. Cheval B, Sivaramakrishnan H, Maltagliati S, Fessler L, Forestier C, Sarrazin P, et al. Relationships between changes in self-reported physical activity, sedentary behaviour and health during the coronavirus (COVID-19) pandemic in France and Switzerland. *Journal of Sports Sciences.* 2021;39(6):699-704.
11. Knell, G, Robertson MC, Dooley EE, Burford K, Mendez KS. Health behavior changes during COVID-19 pandemic and subsequent "Stay-at-Home" orders. *International Journal of Environmental Research and Public Health.* 2020;17(17):6268.
12. Uysal H, Argın E. The effect of COVID-19 pandemic on the lifestyle behaviors of individuals. *Clinical Nursing Research.* 2021;30(7):1059-70.
13. Yüce GE, Gamze MUZ. Effect of COVID-19 pandemic on adults' dietary behaviors, physical activity and stress levels. *Cukurova Medical Journal.* 2021;46(1):283-91.
14. Mertoğlu H, Şenöz AB, Bahar A. The effect of nutrition and sexual health education on healthy lifestyle behaviors of preservice teacher. *European Journal of Alternative Education Studies.* 2020;5(1):54-70.
15. Bahar Z, Beşer A, Gördes N, Ersin F, Kıssal A. Sağlıklı Yaşam Biçimi Davranışları Öçeği II'nin geçerlilik güvenirlilik çalışması. *Cumhuriyet Üniversitesi Hemşirelik Yüksekokulu Dergisi*. 2008;12(1):1-13.
16. van der Werf ET, Busch M, Jong MC, Hoenders HR. Lifestyle changes during the first wave of the COVID-19 pandemic: a cross-sectional survey in the Netherlands. *BMC Public Health.* 2021;21(1):1-11.
17. Cheikh Ismail L, Osaili TM, Mohamad MN, Al Marzouqi A, Jarrar AH, Abu Jamous DO, et al. Eating habits and lifestyle during COVID-19 lockdown in the United Arab Emirates: a cross-sectional study. Nutrients. 2020;12(11):3314.
18. Radwan H, Kitbi MA, Hasan H, Al Hilali M, Abbas N, Hamadeh R, et al. Diet and lifestyle changes during COVID-19 lockdown in the United Arab Emirates: results of a cross-sectional study. *Research Square*. 2020:1-22. https://doi.org/10.21203/rs.3.rs-76807/v1
19. Robinson E, Boyland E, Chisholm A, Harrold J, Maloney N, Marty L, et al. Obesity, eating behavior and physical activity during COVID-19 lockdown: A study of UK adults. *Appetite*. 2021;156:104853.
20. Qi M, Li P, Moyle W, Weeks B, Jones C. Physical activity, health-related quality of life, and stress among the Chinese adult population during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health.* 2020;17(18):6494.
21. Galali Y. The impact of COVID-19 confinement on the eating habits and lifestyle changes: A cross sectional study. *Food Science & Nutrition.* 2021;9(4):2105-13.
22. Flanagan EW, Beyl RA, Fearnbach SN, Altazan AD, Martin CK, Redman LM. The impact of COVID-19 stay-at-home orders on health behaviors in adults. *Obesity.* 2021;29(2):438-45.
23. Rodríguez-Pérez C, Molina-Montes E, Verardo V, Artacho R, Garcia-Villanova B, Guerra-Hernandez EJ, et al. Changes in dietary behaviours during the COVID-19 outbreak confinement in the Spanish COVIDiet study. *Nutrients.* 2020;12(6):1730.
24. Özkan A. Covid- 19 salgın döneminde sağlıklı yaşam biçimi, fiziksel aktivite ve egzersizin rolü. *Baskent University Faculty of Health Sciences Journal.* 2021;6:56-72.
25. Agurto HS, Alcantara-Diaz AL, Espinet-Coll E, Toro-Huamanchumo CJ. Eating habits, lifestyle behaviors and stress during the COVID-19 pandemic quarantine among Peruvian adults. *PeerJ.* 2021;9:e11431.
26. Poelman MP, Gillebaart M, Schlinkert C, Dijkstra SC, Derksen E, Mensink F, et al. Eating behavior and food purchases during the COVID-19 lockdown: A cross-sectional study among adults in the Netherlands. *Appetite.* 2021;157:105002.
27. Ingram J, Maciejewski G, Hand CJ. Changes in diet, sleep, and physical activity are associated with differences in negative mood during COVID-19 lockdown. *Frontiers in Psychology*. 2020;11:2328.
28. Rawat D, Dixit V, Gulati S, Gulati S, Gulati A. Impact of COVID-19 outbreak on lifestyle behaviour: A review of studies published in India. *Diabetes & Metabolic Syndrome.* 2021;15(1):331-6.
29. Antunes R, Frontini R, Amaro N, Salvador R, Matos R, Morouço P, et al. Exploring lifestyle habits, physical activity, anxiety and basic psychological needs in a sample of Portuguese adults during COVID-19. *International Journal of Environmental Research and Public Health.* 2020;17(12):4360.
30. Azizi A, Achak D, Aboudi K, Saad E, Nejjari C, Nouira Y, et al. Health-related quality of life and behavior-related lifestyle changes due to the COVID-19 home confinement: Dataset from a Moroccan sample. *Data in brief.* 2020;32:106239.
31. López-Moreno M, López MTI, Miguel M, Garcés-Rimón M. Physical and psychological effects related to food habits and lifestyle changes derived from covid-19 home confinement in the Spanish population. *Nutrients.* 2020;12(11):3445.
32. Chopra S, Ranjan P, Singh V, Kumar S, Arora M, Hasan MS, et al. Impact of COVID-19 on lifestyle-related behaviours-a cross-sectional audit of responses from nine hundred and ninety-five participants from India. *Diabetes & Metabolic Syndrome*. 2020;14(6):2021-2030.
33. Kaushik M, Guleria N. The impact of pandemic COVID-19 in workplace. *European Journal of Business and Management.* 2020;12(15):1-10.
34. Constant A, Conserve DF, Gallopel-Morvan K, Raude J. Socio-cognitive factors associated with lifestyle changes in response to the COVID-19 epidemic in the general population: results from a cross-sectional study in France. *Frontiers in Psychology*. 2020;11:579460.
35. Kanık B, Solak N, Uluğ ÖM. Koronavirüs pandemisi sürecinde sosyo-ekonomik düzeyin ve ekonomik kaygıların psikolojik iyi oluştaki rolü. In: Çukur Yalçınkaya CŞ, Alkar Ö, editörler. Pandemi Psikolojisi, Ankara: Türkiye Klinikleri; 2020. p.51-58.
36. Özdelikara A, Alkan SA, Mumcu N. Determination of health perception, health anxiety and effecting factors among nursing students. Med J Bakirkoy. 2018;14(3):275-82.