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DETERMINING THE NUTRITIONAL LEVELS AND PHYSICAL ACTIVITY HABITS OF PHYSICAL EDUCATION AND SPORTS TEACHERS DURING THE COVID-19 PROCESS

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Abstract

Covid-19 has largely maintained its effect in our country as well as in the world. This has adversely affected the lives of people by staying in quarantine or curfew. It was aimed to determine the Nutritional Levels and Physical Activity Habits of Physical Education and Sports Teachers during the Covid-19 Process with this study. The model of our study was applied to determine the nutritional habits and physical activity levels of physical education and sports teachers in the Eastern Anatolia region during the COVID-19 process. The population of our research consists of physical education and sports teachers among the teachers in the Eastern Anatolia region. The sample of our study consisted of 278 randomly selected people from among physical education teachers. In our study, in order to determine the healthy lifestyles of physical education and sports teachers, a questionnaire aimed at "Examination of Nutritional Habits and Nutritional Knowledge Levels of Healthcare Professionals" through Yücel (2015) and a short form of "International Physical Activity Questionnaire" were developed by Erdoğan(2021) and adapted to the pandemic process by developing "Nutritional Knowledge Level, Nutritional Habits and Physical Activity Levels in the Pandemic Process" and a questionnaire with 26 questions was applied to determine the nutritional knowledge levels, nutritional habits and physical activity levels of teachers. The data obtained in our study were transferred to the SPSS 22 package program and analyzed and the significance level was accepted as $p<0.05$. It was determined that 37.1% of physical education teachers had changes in their eating habits, they ate 2 meals with 56.8% of their daily main meals, Lunch with 56.1% of the meals they skipped during the day, Meal skipping reasons were caused by changes in their sleep pattern with 30.9%, 36% of them did not change the type of food they consumed at the snack, the most common type of food/beverage they consumed between meals was fruit/dry fruit with 40.6%, and 47.8% of them did not change their daily fluid consumption and as daily water consumption, 33.5% of physical education teachers consumed 1.5 liters of water. When the physical activity levels were examined, it was found that 45% of the physical education teachers did not do regular physical activity, 42.8% exercised once a week, and in physical activity, there was no change, 59% of them did their physical activities in the gym, it was also determined that 36.7% of them think their physical activities are beneficial, 37.4% were partially affected by the stay at home project, and 53.2% had increased body weight.

As a result, it is thought that there are changes in nutritional knowledge levels and physical activity levels, that it negatively affects human health during the pandemic period, and that adequate/balanced nutrition and physical activity during the COVID-19 process will positively affect people's health.

Keywords: Pandemic, Physical Education, Nutrition, Physical Activity

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INTRODUCTION

The coronavirus (Covid-19) pandemic, which first appeared in Wuhan, China in late 2019, soon became a worldwide threat and was declared a global epidemic by the World Health Organization in March (Koubaa, 2020). The Covid-19 outbreak has caused negative effects on social, economic, sports and mostly health worldwide (Aygün and Ünal, 2020). Coronavirus disease (COVID-19), which is named as a pandemic by the World Health Organization (WHO), is common in our country as well as all over the world in the fields of economy, health, social etc. With the measures taken to prevent the spread of the epidemic, which is an infectious disease that has a negative effect on these areas, daily life has changed rapidly with nutrition, physical activity level and type, consumer behavior, methods and techniques in education (Gençalp, 2020).

Due to the spread of coronavirus and the uncertainty in treatment facilities, states have implemented measures such as the closure of schools, travel limits, suspension of sports competitions, limitation of recreational activities and flexible working hours to protect against the epidemic and prevent the spread of the epidemic. In addition, individuals are encouraged to stay at home as much as possible and to apply personal hygiene measures (Budak and Korkmaz, 2020). With these measures, not going out on the streets caused physical activities to be restricted and the person to stay away from his/her daily life and lead a sedentary life. Due to the monotonous effect of routine life and the increase in the time spent at home, the increase in the desire to consume food (especially carbohydrate foods) and the decrease in physical mobility may cause undesirable effects on body weight (Eskici, 2020).

In order for people to continue their lives, they need to meet their socio-cultural, psychological and biological needs (Baysal et al. 2011). The most important of the needs is nutrition (Eken, 2018). Nutrition is the conversion of food that gives the necessary nutrients and bioactive components to the energy in the body in order to sustain, grow and develop, improve, protect, increase the quality of life and maintain efficiency (Tuber, 2015) . Nutrition is one of the important issues to be addressed throughout life and during the pandemic process. The use of nutrients in the body to sustain life and maintain health is expressed as nutrition. In other words, it is a behavior that aims to obtain the nutritional values required by the body in sufficient amount and on time in order to maintain a healthy life process and to reach high levels of quality of life (Arı and Arslan, 2020).

"Adequate nutrition" can be described as adequate intake of energy, nutrient values and other bioactive substances needed by the body to stay healthy, "balanced nutrition", consuming sufficient amounts of nutrients, and "healthy nutrition" can be described as selecting nutrients appropriately and consuming them in the right way, taking into account the harm and benefit of products for health during the growing, cooking and storage stages (Alphan, 2013).

Nutritional habits include the number of meals a day, the type and amount of food consumed at the main meal and snack, buying, cooking, preparing and serving food, fast or slow eating, chewing, sadness, joy or food consumption in times of fatigue, consuming food hot or cold (Sürücüoğlu, 1999). The incidence of diseases such as obesity, skin diseases, cardiovascular diseases, skeletal structure problems, diabetes, cancer, etc. will be seen less in

the society as people gain a balanced, adequate, healthy and correct diet without skipping meals (Yücel, 2015). If the nutrients required for the body are consumed on time and in the desired amount, many problems related to nutrition will be eliminated (Işkın & Sarıışık, 2017).

Emotional eating behavior is observed in individuals under psychological pressure during the pandemic process and these individuals tend to prefer foods with high amounts of fat and sugar and minimize stress (Jayne, Ayala, Karl, Deschamps, McGraw, O'Connor and Cole, 2020). It is known that feeding with such foods and materials causes obesity and has a negative effect on immunity (Christ, Lauterbach and Latz, 2019; de Heredia, Gómez-Martínez and Marcos, 2012). Physical activity is a vital reality that is known to have an important place in providing weight control and maintaining health (Swift, Johannsen, Lavie, Earnest, & Church, 2014).

Physical activity, which is defined as any activity performed by consuming energy, is of great importance in the protection and continuity of health (Pündük, 2020). Making physical activity one of the life philosophies in all years of life in order for individuals in the society to form a healthy life basis will have a positive effect in the following years. People's perception of healthy lifestyle behaviors and their application in their lives will positively affect both social health and a healthy lifestyle (Özkan, 2020). Physical activity can be done in many different ways such as running, walking, swimming, cross-country, cycling. However, in order to prevent the increase of coronavirus, most of these activities were prohibited by the states and this negatively affected the implementation of many sports branches and caused inadequate physical activity (Kartal et al., 2020).

Physical education teacher is a teacher who organizes games and sports activities that support physical activity among all students and individuals, and that continue this from kindergarten to the end of high school education. During the COVID-19 pandemic, it was observed that face-to-face and distance education courses were held periodically at primary, secondary and high school levels, but Physical Education was not included in these courses (Can, 2020). In this context, it is important for physical education teachers to continue physical activity at home in order to increase their health and strengthen their immunity (Chen et al., 2020).

In line with the information, this study aims to determine the changes and developments in the physical activity levels and eating habits of teachers who actively do sports in post-pandemic sports lessons.

METHOD

Research Model

A quantitative study model was applied to determine the nutritional habits and physical activity levels of physical education and sports teachers working in the Eastern Anatolia region during the COVID-19 process.

Study Group

The determination of nutritional habits and physical activity levels during the COVID-19 process constitutes the population of our research and this scope consists of physical education and sports teachers among the teachers in the Eastern Anatolia region. The sample of our study consisted of 278 randomly selected people from among physical education teachers.

Data Acquisition Tool and Data Acquisition

In our study, data were obtained by applying personal information form and nutritional habits and physical activity questionnaire during the pandemic process.

Nutritional knowledge level, nutritional habits and physical activity questionnaire of physical education and sports teachers were reached online via e-mail and Google forms application from whatsapp groups by obtaining the necessary permissions.

Personal Information Form

In our study, demographic information with 5 questions(gender, age, height, marital status, branch) was included.

Nutritional Knowledge Level, Nutritional Habits and Physical Activity Levels in the Pandemic Process

In our study, in order to determine the healthy lifestyles of physical education and sports teachers, a questionnaire aimed at "Examination of Nutritional Habits and Nutritional Knowledge Levels of Healthcare Professionals" through Yücel (2015) and a short form of "International Physical Activity Questionnaire" were developed by Erdoğan(2021) and adapted to the pandemic process by developing "Nutritional Knowledge Level, Nutritional Habits and Physical Activity Levels in the Pandemic Process" and a questionnaire with 26 questions was applied to determine the nutritional knowledge levels, nutritional habits and physical activity levels of teachers. The validity and reliability of the survey questions in the study were tested and the KMO value was found to be .909 and the Crombach alpha value was found to be .967.

MET (Metabolic Equivalence) Calculation

1 MET=3.5 ml/kg/min oxygen consumption

METx3.5xweight (kg)/200= … kcal/min.

Considering the physical activity score, the physical activity levels of the participants were classified as "low, medium and high" (Devran and Saka, 2019):

ϖ < 3 MET mild to severe activity,

ϖ 3-6 MET moderate activity,

ϖ > 6 MET high intensity activity

Analysis of Data

The data obtained in the study were used from the SPSS statistical package program. The questionnaire form was applied to physical education and sports teachers and their nutritional

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habits, physical activity level and demographic information were determined. Percentage and frequency tests were applied with the SPSS program.

RESULTS

Table 1: *Socio-demographic information of the participants*

Gender	**N**	**%**
Male	194	69.8
Female	84	30.2
Total	278	100.0

Age	**N**	**%**
21-25	65	23.4
26-30	97	34.9
31-35	89	32.0
36 and above	27	9.7
Total	278	100.0

Height	**N**	**%**
150-160	32	11.5
161-170	98	35.3
171-180	105	37.8
181-190	43	15.5
Total	278	100.0

Marital Status	**N**	**%**
Married	175	62.9
Single	103	37.1
Total	278	100.0

Nutrition education	**N**	**%**
Yes	75	27.0
No	203	73.0
Total	278	100.0

Chronic Disease	**N**	**%**
Yes	14	5.0
No	264	95.0
Total	278	100.0

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When Table 1 was evaluated, it was found that 69.8% of the participants were male, 30.2% were female, 23.4% were 21-25 years old, 34.9% were 26-30 years old, 32.0% were 31-35 years old, 9.7% were over 36 years old, 32 people were 150-160 cm tall, 98 people were 161-170 cm tall, 105 people were 171-180 cm tall, 43 people were 181-190 cm tall, 175 people were married, 103 people were single, 73% did not receive nutrition education, 95% did not have a chronic disease.

Table 2. Nutritional Knowledge Levels of Physical Education and Sports Teachers

		Frequency	Percentage %
Has There Been a Change in Nutritional Habit During the Pandemic Period?	Yes	103	37.1
	No	76	27.3
	Partially	99	35.6
Number of main meals per day	1 Meal	-	-
	2 Meals	158	56.8
	3 Meals	98	35.3
	More	22	7.9
Main meal skipped during the day	Breakfast	89	32.0
	Lunch	156	56.1
	Dinner	33	11.9
Reasons for skipping meals	Changes in Nutritional Habits	83	29.9
	Because I don't feel like it	65	23.4
	Increase in Body Weight	30	10.8
	Stress	14	5.0
	Changes in Sleep patterns	86	30.9
	I Don't Skip Meals	-	-
Has there been a change in the type of food/drink you consume at the snack?	Yes	88	31.7
	No	100	36.0
	Partially	90	32.4
Food/beverage types most frequently consumed between meals	Carbonated/Acidic beverages	19	6.8
	Juice, etc.	4	1.4
	Cake/Cookie/Biscuit	66	23.7
	Candy/Chocolate, etc.	27	9.7
	Fruit/Dry fruit, etc.	113	40.6
	Chips/Cookies, etc.	49	17.6
Has there been a change in daily fluid consumption?	Increased	90	32.4
	Decreased	55	19.8
	Unchanged	133	47.8
Daily water consumption	1 litre and below	40	14.4
	1.5 litres	93	33.5
	2 litres	68	24.5
	2.5 litre and above	77	27.7

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When table 2 was examined, it was determined that 37.1% of physical education teachers had changes in their eating habits, they ate 2 meals with 56.8% of their daily main meals, Lunch with 56.1% of the meals they skipped during the day, Meal skipping reasons were caused by changes in their sleep pattern with 30.9%, 36% of them did not change the type of food they consumed at the snack, the most common type of food/beverage they consumed between meals was fruit/dry fruit with 40.6%, and 47.8% of them did not change their daily fluid consumption and as daily water consumption, 33.5% of physical education teachers consumed 1.5 liters of water.

Table 3. Physical Activity Levels of Physical Education and Sports Teachers

		Frequency	Percentage %
Do you regularly do physical activity?	Yes	52	18.7
	No	125	45.0
	Partially	101	36.3
How many days a week do you exercise? ?	1 Day	119	42.8
	2 Days	70	25.2
	3 Day	62	22.3
	4 Day	27	9.7
Has there been a negative change in your status of doing physical activity?	Yes	106	38.1
	No	106	38.1
	Partially	66	23.7
Where do you do your physical activities?	At home	164	59.0
	Gym	92	33.1
	Jogging and Hiking Areas	22	7.9
Do you believe that the exercises done at home are beneficial?	Yes	102	36.7
	No	75	27.0
	Partially	101	36.3
Did the government's Stay at Home project affect your sports?	Yes	98	35.3
	No	76	27.3
	Partially	104	37.4
Has there been a change in your body weight?	Increased	148	53.2
	Decreased	34	12.2
	Unchanged	96	34.5

When table 3 was examined, it was found that 45% of the physical education teachers did not do regular physical activity, 42.8% exercised once a week, and in physical activity, there was no change, 59% of them did their physical activities in the gym, it was also determined that 36.7% of them think their physical activities are beneficial, 37.4% were partially affected by the stay at home project, and 53.2% had increased body weight.

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Table 4: Examination of nutritional knowledge levels and physical activity levels of Physical Education Teachers according to some variables

		Nutrition				Physical Activity			
		x̄	ss	t	p	x̄	ss	t	p
Gender	Male	2.4348	,32837	-868	0.036	1.8898	,37900	-940	0.253
	Female	2.4699	,26076			1.9354	,35231		
Marital Status	Married	2.4171	0.30639	-,1996	,047	1.9048	,34810	,070	0.944
	Single	2.4934	0.31020			1.9015	,40900		
Nutrition Education	Yes	2.5200	,34828	2.465	,014	1.8502	,374444	-1.461	,145
	No	2.4178	,28992			1.9233	,36883		
Chronic Disease	Yes	2.3529	,22010	-1.148	,252	1.8980	,28256	-,058	,954
	No	2.4503	,31303			1.9039	,37563		

When Table 4 was examined, when the nutritional and physical activity values were examined in the gender variable, it was determined that there was a significant difference in nutritional values when the variables were examined and in the marital status variable, it was determined that the average of those who were single was higher than those who were married and also in the nutritional education variable, it was determined that the values of those who received nutritional education were higher. No significance was found in the variables of Met, Nutrition and Physical Activity in the variable of whether you have a chronic disease. ($p<0.05$)

Table: 5 Examination of nutritional knowledge levels and physical activity levels of Physical Education Teachers according to some variables (Anova)

		Nutrition				Physical Activity			
		x̄	ss	f	Sig	x̄	S.s	f	sig
Age	21-25	2.5077	,29950	1.358	,256	1.9209	,34537	1.064	0.365
	26-30	2.4154	,34466			1.9264	,39883		
	31-35	2.4256	,29345			1.8480	,37433		
	36 and above	2.4684	,23330			1.9630	,30842		
Height	150-160	2.4926	,24540	1.564	,198	2.0848	,33818	3.400	0.018
	161-170	2.4538	,27526			1.8878	,37447		
	171-180	2.4599	,35377			1.8966	,37874		
	181-190	2.3557	,30266			1.8217	,33496		
Branch	Football	2.4231	,31922	3.622	,002	1.9421	,42338	1.802	0.099
	Basketball	2.4973	,29337			1.9740	,49412		
	Volleyball	2.4519	,25440			2.0390	,38480		
	Handball	2.2706	,07892			2.0857	,19166		
	Athletics	2.8824	,43112			1.8750	,45457		
	Swimming	2.3048	,35178			1.6883	,27714		
	Other	2.4459	,28868			1.8654	,32049		

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When Table 5 was examined, it was found that there was no significance in Met, Nutrition and Physical Activity values in the test of examining nutritional knowledge levels and physical activity levels of Physical Education Teachers according to age variable (Anova). When the height variable was examined, it was determined that there was a significance in physical activity values and it was determined that the values of teachers with shorter height were high. When the branch variable was examined, it was determined that there was a significance in nutritional knowledge levels and it was determined that the values of people with athletic branch were high. ($p<0,05$)

DISCUSSION AND CONCLUSION

A total of 278 people, 194 male and 84 female, participated in our study titled Examination of Met, nutritional knowledge levels and physical activity levels of Physical Education Teachers. When the values were examined in our study, it was seen that the values were above the average. It was determined that there was a change in the nutritional habits and physical activity values of the individuals participating in the study. In their study, Błaszczyk-Bębenek, Jagielski, Bolesławska, Jagielska, Nitsch-Osuch and Kawalec (2020) stated that during the Covid-19 disease isolation process, changes occurred in the dietary habits of Polish individuals, especially "canned foods, meat and dairy products and sweet products" were consumed more frequently, while "products such as energy drinks, ready-to-eat foods and fast-food" were consumed less and their body weight ratios increased. Garipoğlu and Bozar (2020) stated that there was a negative change in the lifestyle and nutritional habits of the individuals participating in the study examining the nutritional habits of the people in social isolation during the Covid-19 epidemic. In addition, they stated that the participants ate carbohydrates in this period, their tea and coffee intake increased, there were changes in their sleep routines, and their body weight increased due to the decrease in physical activity and inadequacy. Pellegrini Ponzo, Rosato, Scumaci, Goitre, Benso and Broglio (2020), in their study examining the nutritional habits and weight changes of obese people during the COVID-19 pandemic restriction process, revealed that there was a significant increase in their body weight as well as the negative changes that started in their nutritional preferences when these individuals entered the quarantine process. Macit (2020) stated in his study that with the introduction of the Covid-19 outbreak into our lives, changes in nutritional preferences of adults started to occur, physical activity started to decrease and supplement use increased. Alhusseini and Alqahtani (2020) determined the effect of Covid-19 disease on eating habits in Saudi Arabia and found that individuals changed their nutritional habits significantly during

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the epidemic. In another study, Tarkoçin, Alagöz and Çingöz (2020) determined that pre-school children did not have emotional or behavioral problems before the pandemic, but that behaviors such as "excessive mobility, jealousy, anxiety, fear, aggressive/angry/aggressive behaviors, dependence on parents" emerged in children with the pandemic, and that parents' perception of healthy nutrition occurred in their children during the pandemic period. Kriaucioniene, Bagdonaviciene, Rodríguez-Pérez and Petkeviciene (2020), in their study examining the health behaviors and body weight differences of individuals during the Covid-19 epidemic period in Lithuania, determined that individuals consumed more food than normal, ate more, cooked more frequently at home, and lost weight and physical activities during this period. Özlem and Mehmet (2020) emphasized their studies on nutritional habits published in March and July 2020 and stated that the nutritional habits of the Covid-19 quarantine process differ in every society. In addition, they found that quarantine and stress factors increased the rate of eating and fast food consumption decreased. Ismail, Osaili, Mohamad, Al Marzouqi, Jarrar, Zampelas and Hasan (2020), in their study evaluating the nutritional habits and lifestyles of people living in the North Africa (MENA) region during the epidemic period, found that individuals consumed more than normal food, increased body weight and decreased physical activity rates. Yılmaz, Aslan and Unal (2020), in their study investigating the eating habits and ready-to-eat food purchasing tendencies of teachers during the Covid-19 pandemic, determined that individuals' food consumption increased compared to the pre-pandemic period and that they attached more importance to hygiene when purchasing food. They stated that the nutritional habits and sleep patterns of the participants who stayed at home for a long time during the epidemic period had a negative effect. Previous, Aydın and Molla (2020) determined that the pandemic process negatively affected the physical activity levels of physical education and sports teachers living in places that had and did not have a curfew during the Covid-19 pandemic. It was determined that the physical activity rates of the participants in the regions with curfew were lower than the participants in the region without restrictions. Maugeri, Castrogiovanni, Battaglia, Pippi, D'Agata, Palma and Musumeci (2020) determined the effect of physical activity on psychological health during the Covid-19 epidemic in Italy and found that there was a decrease in people's tendency to do physical activity during the epidemic period and accordingly, it caused psychological problems in individuals. Ercan and Keklicek (2020) found that physical activity levels of physical education and sports teachers decreased much more during the Covid-19 pandemic process and that they turned to exercise activities that could be done at home. Qin, Song, Nassis, Zhao, Dong, Zhao and Zhao (2020) found that the pandemic negatively affected the physical activity level of the society, the time spent in front of the screen has been extended, and

adopted a sedentary and unhealthy lifestyle. In a different study, Kanık (2020) stated that there was a difference in the physical activity levels of all world individuals due to the prolongation of time spent at home during the Covid-19 pandemic and this situation negatively affected the physical and mental health development of individuals. In order to prevent this negative situation, the application of physical activities that can be done at home will enable individuals to be strengthened socially, health, psychologically and mentally and will be an important factor in taking measures against the Covid-19 epidemic.

Conclusion: In our study, it was determined that there was a significant difference in the met value of the physical education teachers and it was determined that there was a significant difference in the nutritional values of the variables of marital status and "Did you receive nutritional education?". During the COVID-19 process, changes were observed in people's nutritional and physical activities during the quarantine period.

REFERENCES

Koubaa, A. (2020). Understanding the COVID19 Outbreak: A Comparative Data Analytics and Study.

Aygün, M. & Ünal, M . (2020). COVID19 Pandemisinin Buz Hokeyi Sporuna Etkisi . Anatolian Clinic the Journal of Medical Sciences , Anadolu Kliniği Tıp Bilimleri Dergisi (COVID 19 Özel Sayısı), 195-203. doi: 10.21673/anadoluklin.738039

Budak, F. & Korkmaz, Ş. (2020). COVID-19 Pandemi Sürecine Yönelik Genel Bir Değerlendirme: Türkiye Örneği. Sosyal Araştırmalar ve Yönetim Dergisi, (1), 62-79.

Eskici G. Covid-19 Karantinası: Beslenme, Ağırlık Kontrolü ve Bağışıklığa Yönelik Öneriler Gündem: Karantinada Ramazan Ayı Beslenme Önerileri. Çanakkale Onsekiz Mart Üniversitesi, Spor Bilimleri Fakültesi. https://cdn.comu.edu.tr/cms/sporbf/files/1505-karantinada-ramazan-ayi-beslenme-onerileri.pdf

Arı, A. G., & Arslan, K. (2020). Fen bilimleri öğretmenlerinin genel beslenme alışkanlıkları, Van Yüzüncü Yıl University the Journal of Social Sciences Institute. 47, 393-415.

Baysal, A., Aksoy, M., Besler H. T. (2011). Diyet el kitabı, Ankara: Hatiboğlu Yayınları.

Eken, T. K. B. (2018). Yetişkin bireylerde beslenme alışkanlıkları, fiziksel aktivite ve uyku kalitesinin kan lipid profili üzerine etkisi, (Yüksek Lisans Tezi). Yakın Doğu Üniversitesi, Lefkoşa. K.K.T.C.

TUBER (2015). Türkiye beslenme rehberi, Ankara: T.C. Sağlık Bakanlığı, Yayın No: 1031.

Sürücüoğlu, M. S. (1999). Beslenme ve sağlığımız, Standard, 38 (448), 40-51.

Işkın, M. & Sarıışık, M. (2017). Öğrencilerin besin tüketim alışkanlıkları üzerine bir araştırma, Türk Turizm Araştırmaları Dergisi.: 1(1), 33-42.

Alphan, E. (2013). Hastalıklarda beslenme tedavisi, 1. Baskı, Ankara: Hatipoğlu Yayınları.

Jayne, J. M., Ayala, R., Karl, J. P., Deschamps, B. A., McGraw, S. M., O'Connor, K., ve Cole, R. E. (2020). Body weight status, perceived stress, and emotional eating among US Army Soldiers: A mediator model. Eat Behav, 36, 101367. doi:10.1016/j.eatbeh.2020.101367.

Christ, A., Lauterbach, M., ve Latz, E. (2019). Western Diet and the Immune System: An ınflammatory connection. Immunity, 51(5), 794-811. doi:10.1016/j.immuni.2019.09.020.

Swift, D. L., Johannsen, N. M., Lavie, C. J., Earnest, C. P., ve Church, T. S. (2014). The role of exercise and physical activity in weight loss and maintenance. Prog Cardiovasc Dis, 56(4), 441-447. doi:10.1016/j.pcad.2013.09.012.

Pündük, Z. (2020). COVID-19 Salgını, Küresel Trendler, Fiziksel Hareketsizlik ve Sedanter Davranışı Etkiler mi?. Turkiye Klinikleri Spor Bilimleri, 12 (2).

Kartal, A., Ergin, E., & Kanmış, H. D., (2020). COVID-19 pandemik salgın döneminde yaşam kalitesini arttırmaya yönelik sağlıklı beslenme ve fiziksel aktivite önerileri, Eurasian JHS ;3 (COVID-19 Special Issue):149-155.

Özkan, A. (2020). Sağlık Hizmetleri Meslek Yüksekokulu öğrencilerinin fiziksel aktivite düzeyi ve sağlıklı yaşam biçimi davranışlarının incelenmesi. Uluslararası Güncel Eğitim Araştırmaları Dergisi, 6(1), 112-126.

Gençalp, D. K. (2020). Covıd-19 salgını döneminde ilk ve acil yardım öğrencilerinin beslenme alışkanlıkları ve fiziksel aktivite durumlarının değerlendirilmesi. Paramedik ve Acil Sağlık Hizmetleri Dergisi, 1(1), 1-15.

Chen, P., Mao, L., Nassis, G.P., Harmer, P., Ainsworth, B.E., Li, F. (2020). Coronavirus disease (COVID-19): The need to maintain regular physical activity while taking precautions. Journal of Sport and Health Science, 9, 103-104.

CAN, E. (2020). "Coronavirüs (Covid-19) pandemisi ve pedagojik yansımaları: Türkiye'de açık ve uzaktan eğitim uygulamaları", Açıköğretim Uygulamaları ve Araştırmaları Dergisi, 6(2), 11-53.

Erdoğan, R. (2021). Pandemi döneminde beden eğitimi ve spor yüksekokulu öğrencilerinin beslenme alışkanlıkları ve fiziksel aktivite düzeylerinin belirlenmesi. OPUS–Uluslararası Toplum Araştırmaları Dergisi, 17(Özel Sayı), xx-xx. DOI: 10.26466/opus.862585

Yücel, B. (2015). Sağlık çalışanlarının beslenme alışkanları ve beslenme bilgi düzeylerinin ıncelenmesi. Y.L Tezi, Başkent Üniversitesi Sağlık Bilimleri Enstitüsü, Ankara.

Devran, B. S., ve Saka, M. (2019). Lise öğrencilerine verilen beslenme eğitiminin beslenme alışkanlıkları, beslenme bilgi düzeyi ve fiziksel aktivite üzerine etkisi. Beslenme ve Diyet Dergisi, 47(3), 5-14.

Błaszczyk-Bębenek, E., Jagielski, P., Bolesławska, I., Jagielska, A., Nitsch-Osuch, A., ve Kawalec, P. (2020). Nutrition behaviors in Polish adults before and during covid-19 lockdown. Nutrients, 12(10), 3084

Garipoğlu, G., ve Bozar, N. (2020). Covid-19 salgınında sosyal izolasyonda olan bireylerin beslenme alışkanlıklarındaki değişiklikler. Pearson Journal Of Socıal Scıences & Humanıtıes, 6(6), 100-113.

Macit, M. S. (2020). Covid-19 salgını sonrası yetişkin bireylerin beslenme alışkanlıklarındaki değişikliklerin değerlendirilmesi. Mersin Üniversitesi Sağlık Bilimleri Dergisi, 13(3), 277-288.

Pellegrini, M., Ponzo, V., Rosato, R., Scumaci, E., Goitre, I., Benso, A., ve Broglio, F. (2020). Changes in weight and nutritional habits in adults with obesity during the "lockdown" period caused by the COVID-19 virus emergency. Nutrients, 12(7), 2016.

Alhusseini, N. ve Alqahtani, A. (2020). COVID-19 pandemic's impact on eating habits in Saudi Arabia. Journal of Public Health Research, 9(3).

Tarkoçin, S., Alagöz, N., ve Boğa, E. (2020). Okul öncesi dönem çocuklarının pandemi sürecinde (covıd-19) davranış değişiklikleri ve farkındalık düzeylerinin anne görüşlerine başvurularak incelenmesi. Electronic Turkish Studies, 15(6), 1017-1036.

Özlem, A., ve Mehmet, N. (2020). Eatıng habıts changes durıng covıd-19 pandemıc lockdown. ESTÜDAM Halk Sağlığı Dergisi, 5, 188-196.

Ismail, L. C., Osaili, T. M., Mohamad, M. N., Al Marzouqi, A., Jarrar, A. H., Zampelas, A., ve Hasan, H. (2020). Assessment of Eating Habits and Lifestyle during Coronavirus Pandemic in the MENA region: A CrossSectional Study. British Journal of Nutrition, 1-30

Yılmaz, H. Ö., Aslan, R., ve Unal, C. (2020). Effect of the COVID-19 Pandemic on Eating Habits and Food Purchasing Behaviors of University Students. Kesmas: Journal Kesehatan Masyarakat Nasional (National Public Health Journal), 15(3).

Maugeri, G., Castrogiovanni, P., Battaglia, G., Pippi, R., D'Agata, V., Palma, A., and Musumeci, G. (2020). The impact of physical activity on psychological health during Covid-19 pandemic in Italy. Heliyon, 6(6), e04315.

Öncen, S., Aydın, S., ve Molla, E. (2020). COVID-19 pandemisi döneminde sokağa çıkma sınırlaması olan ve olmayan illerde yaşayan spor bilimleri öğrencilerinin fiziksel aktivite düzeylerinin değerlendirilmesi. Electronic Turkish Studies, 15(6), 739-749

Ercan, Ş., and Keklicek, H. (2020). Covıd-19 pandemisi nedeniyle üniversite öğrencilerinin fiziksel aktivite düzeylerindeki değişimin incelenmesi. İzmir Katip Çelebi Üniversitesi Sağlık Bilimleri Fakültesi Dergisi, 5(2), 69-74.

Kanık, Z. H. (2020). Covıd-19 pandemisinde ev tabanlı fiziksel aktivite. Gazi Sağlık Bilimleri Dergisi, Özel Sayı, 46-51.

Qin, F., Song, Y., Nassis, G. P., Zhao, L., Dong, Y., Zhao, C., ve Zhao, J. (2020). Physical activity, screen time, and emotional well-being during the 2019 novel coronavirus outbreak in China. International Journal of Environmental Research and Public Health, 17(14), 5170