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Impact of the COVID-19 Pandemic on the Physical Activity Level of Medical Students

COVID-19 Pandemisinin Tıp Öğrencilerinin Fiziksel Aktivite Düzeyleri Üzerine Etkisi

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Abstract

Aim: The COVID-19 pandemic has had significant effects on medical education as it affects almost every field. Various restrictions were implemented to prevent the spread of the disease. Face-to-face education rapidly turned into online education. University campuses were evacuated and students were sent to their houses. It is also thought that the process has had an impact on students' physical activity levels. The purpose of this study was to evaluate the physical activity level of medical students in the COVID-19 pandemic and online education process.

Methods: The descriptive study was performed with third year medical students. Data was collected with an online questionnaire between 07–10 June 2021. Volunteering was the basis for participation in the survey. A short sociodemographic information form, and Turkish version of International Physical Activity Questionnaire-Short Form (IPAQ-SF) were used as data collection tools.

Results: 79 students volunteered for the study. The mean age of the students was 21.7 ± 4.1 (18-49) years, and 57% (n=45) of them were female. The average screen time of the students was 6.0 ± 3.4 hours, 49.4% (n=39) of the them were eating much more and 68.4% (n=54) of them were doing less physical activity during the pandemic. Sixteen (20.3%) of the students' Body Mass Index were over to the average value. During the pandemic period, the average weight of the students was 66.9±14.6 kg, their BMI was 22.4±4.1 kg/m2. Although the current weight of the students increased slightly compared to the pre-pandemic period (66.9±14.6, 66.5 ±13.4 respectively), there was no significant change in body mass index (z=-0.80, p=0.93). The students' activity points were 664.5±1233.7 in high activity, 290.7±405.6 in moderate activity, 702.6±626.9 in walking activity, and 1657.9±1498.9 in total. Forty one (51.8%) of the students were not doing high physical activity, 39% (n=31) were not doing moderate physical activity. There was no significant difference in physical activity levels between male and female students ($\chi 2$=3.48, p=0.15). No statistically significant corralation was found between the educational status of the parents and the physical activity levels of the students ($\chi 2$=1.06, p=0.90 and $\chi 2$=2.02, p=0.73, respectively).

Conclusions: Physical activity level of medical students was insufficient during the pandemic time. Public health precautions should be achieved to increase students' physical activity levels, and necessary education, support and opportunities should be provided.

Keywords:
Medical Student, Distance Education, Physical Activity, COVID-19, Pandemic

Anahtar sözcükler:
Tıp Öğrencisi, Uzaktan Eğitim, Fiziksel Aktivite, COVID-19, Pandemi

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Özet

Amaç: *COVID-19 pandemisinin hemen her alanda olduğu gibi tıp eğitimi üzerine de önemli etkileri oldu. Hastalığın yayılımını önlemek için çeşitli kısıtlamalar uygulandı. Yüz yüze eğitim hızla online platforma taşındı. Üniversite kampüsleri boşaltıldı ve öğrenciler evlerine gönderildi. Yaşanan sürecin öğrencilerin fiziksel aktivite düzeyleri üzerinde de etkili olduğu düşünülmektedir. Bu çalışmada, COVID-19 pandemisi ve online eğitim sürecinde tıp öğrencilerinin fiziksel aktivite düzeylerinin değerlendirilmesi amaçlanmıştır.*

Yöntem: *Tıp fakültesi üçüncü sınıf öğrencilerinin dahil edildiği kesitsel bir çalışma yapıldı. Veriler 07-21 Haziran 2021 tarihleri arasında çevrimiçi bir anket aracılığıyla toplandı. Çalışmaya katılım için gönüllülük esas alındı. Veri toplama aracı olarak kısa bir sosyo-demografik bilgi formu ile Uluslararası Fiziksel Aktivite Anketi-Kısa Formu (IPAQ-SF)'nun Türkçe versiyonu kullanıldı.*

Bulgular: *Çalışma için 79 öğrenci gönüllü oldu. Öğrencilerin yaş ortalaması 21.7 ± 4.1 ve 45'i (57%) kadındı. Öğrencilerin ekran başında geçirdikleri süre günlük ortalama 6.0±3.4 saatti. Öğrencilerin %49.4'ü (n=39) pandemi döneminde daha fazla yemekte, %68.4'ü (n=54) daha az fiziksel aktivite yapmaktaydı. Öğrencilerin 16'sının (n=%20.3) vücut kitle indeksi normalin üzerindeydi. Pandemi döneminde öğrencilerin ortalama kiloları 66.9±14.6 kg, vücut kitle indeksleri ise 22.4±4.1 kg/m2 idi. Öğrencilerin şimdiki kiloları pandemi öncesi döneme göre bir miktar artmış olsa da (sırasıyla 66.9±14.6, 66.5 ±13.4), vücut kitle indekslerinde anlamlı bir değişiklik yoktu (z=-0.80, p=0.93). Şiddetli fiziksel aktivite puanı ortalama 664.5±1233.7, orta fiziksel aktivite puanı ortalama 290.7±405.6, yürüme puanı ortalama 702.6±626.9 idi. Katılımcıların toplam fiziksel aktivite puanı ortalamaları 1657.9±1498.9 idi. Öğrencilerin %51.8'i (n=41) şiddetli fiziksel aktivite yapmazken, %39'u (n=31) orta fiziksel aktivite yapmıyordu. Kadın ve erkek öğrenciler arasında fiziksel aktivite düzeyleri açısından anlamlı bir fark yoktu (χ2=3.48, p=0.17). Anne ve babanın eğitim durumu ile öğrencilerin fiziksel aktivite düzeyleri arasında istatistiksel anlamlı bir ilişki saptanmadı (sırasıyla χ2=1.06, p=0.90 ve χ2=2.02, p=0.73).*

Sonuç: *COVID-19 pandemisi döneminde tıp öğrencilerinin fiziksel aktivite düzeyleri yetersizdir. Öğrencilerin fiziksel aktivite düzeylerini arttıracak halk sağlığı önlemleri hayata geçirilmeli, gerekli eğitim, destek ve fırsat sağlanmalıdır.*

INTRODUCTION

The sedentary lifestyle and obesity are increasing all around the world. Physical inactivity is one of the most crucial public health issues which should be interfered. The studies revealed that a sedentary lifestyle had related to diseases such as coronary heart diseases, obesity, gallbladder diseases, musculoskeletal diseases, osteoporosis, Type 2 Diabetes, and it has been noticed to associate with some cancer types such as breast and colon cancer (1).

Physical activity is essential for people of all ages, has countless benefits in human health, and hugely reduces health expenditures (2). It has proven that physical activity prevents chronic diseases (1, 2), improves psychological parameters, reduces depression anxiety, and reduces the risk of premature death (3-5). Furthermore, physical activity also positively affects the academic achievement of young individuals in Turkey (6). The benefits of regular physical activity were related to the duration and severity of the physical activity (7).

On 11 March 2020, World Health Organization (WHO) declared COVID-19 as a pandemic (8). Turkey reported its first COVID-19 case report on the same date as WHO (9). In this process, several restrictions were implemented by governments. The first restriction measures in Turkey were imposed on 12 March 2020. Since this date, all university students have continued their education online at home (10). At Atatürk University Medical School, 1-3 degree students have been continuing their education online during the pandemic. Social isolation,

limitations, and online education were the factors in reduction of the physical activity of students during the COVID-19 pandemic. Decreased physical activity causes weight gain and obesity. During the pandemic process, people were advised to perform physical activity to maintain their physical and mental health and immune function (11). Pandemic has been shown to cause less physical activity in students with longer screen exposure. During this period, both online lessons and restrictions caused young people to spend more time at home online (12).

Two separate studies in Spain and Canada have shown that children and adolescents are more sedentary and spend more time in front of the screen during the pandemic period (13,14). An international study from Europe and Latin America reported similar results (15). A study conducted in Italy put forth that 66.5% of medical students did not exercise physically during the pandemic, and 83.5% remained immobile for more than 8 hours a day (16). These rates are considerably higher than those reported in pre-pandemic studies with medical students in Thailand and America (respectively 49.5% and 22%) (17,18). A study showed that moderate to high physical activity decreased by about 50% during the COVID-19 pandemic compared to the pre-pandemic period (19).

In a pre-pandemic study in Turkey, medical students were reported to usually engage in moderately physical activity. In the study mentioned, it was found that 61.6% of the students did not engage in severe physical activity, 59.9% did not engage in moderate physical activity and 1.7% did not have walking activity (20).

Similar to this study, a study conducted by Ozturk et al. with university students found that 72.4% of students did not engage in severe physical activity, 67.7% did not engage in moderate physical activity, and 1.2% did not engage in walking activity (21).

No studies were found by researchers investigating the physical activity levels of Turkish medical students during the pandemic period in Turkey.

The purpose of this study was to determine the physical activity levels of Atatürk University third grade medical students during the online education and COVID-19 pandemic period in Turkey.

METHODS

Study Setting and Population

This cross-sectional study was performed between 07- 21 June 2021. The students who BMI over 35 and had a physical activity disability were eliminated from the study. Printed materials were not employed due to the pandemic, and the data were collected through an online questionnaire prepared by the authors using Google Forms. The questionnaire was sent to WhatsApp group of the students. The students were informed about the purpose of the study and invited. The research was conducted on the basis of voluntary participation. Participant consent was thus obtained online by way of the first question of the questionnaire "I voluntarily agree to participate in the study". Each student was given to has the right to participate in this questionnaire only once. Students were given one week to respond to the questionnaire, during which time they were reminded once. At the end of the period, surveys were closed to the response system. The survey took about 10 minutes to answer.

The study group of the research is Atatürk University third year students of English Medicine Program. When determining the study group, it was taken into account that there was a preclinical period and that it was easily accessible to the researchers. It was aimed to reach all students (n=92). Seventy nine students volunteered for the study. Eighty six percent of the study group has been reached.

Data Collection Tools

A questionnaire consisting of sixteen questions and two parts was used to collect the data:

1) Sociodemographic characteristics form

2) International Physical Activity Questionnaire- Short Form (IPAQ-SF)

Sociodemographic Characteristics Form

Age, gender, height, weight (Before and after the pandemic), education status of parents, smoking and eating habits were investigated. The students' feedback was taken as the basis for their height and pre and post pandemic weight. According to the answers, pre and post pandemic Body Mass Indexes (BMI) was calculated. As stated by BMI criteria of WHO, values below 18.4 are underweight, values between 18.5-24.9 normal weight, values between 25.0-29.9 pre-obesity, and values between 30.0-34.9 are classified as obese class 1 (22).

International Physical Activity Questionnaire-Short Form (IPAQ-SF)International Physical Activity Questionnaire was developed by International Consensus Group in 1999. The reliability and validity of the test were analyzed across 12 countries between the age groups of 16-69 (23). The adaptation of scale to Turkish was performed by Öztürk (2005). Validity and reliability of the scale has been proven (21).

The questionnaire contains seven questions about students' physical activities in the last week (Table 1). It consists of questions such as whether they did vigorous and moderate physical activity and their duration, walking and sitting times. The result that obtained from students were converted to MET (Metabolic Equivalent) value (minute/week) to calculate their physical activity (PA) score. As a purpose of that, 3.3 MET value spend for walking, 4.0 METs for moderate PA, and 8.0 METs for vigorous PA were multiplied by the time spent based on activity (min) and the number of days. Physical activity levels were categorized into 3 groups as high, moderate, and low according to score ranges. Appropriately, over 3000 MET min/week is high PA, between 600-3000 MET min/week is moderate, and less than 600 MET min/week is low physical active group (21).

Table 1. International Physical Activity Questionnaire-Short Form (IPAQ-SF)

International Physical Activity Questionnaire - Short Form IPAQ-SF)
1. During the last 7 days, how many days did you do vigorous physical activities like heavy lifting, digging, aerobics, or fast bicycling?
2. How much time did you usually spend doing vigorous physical activities on one of those days?
3. During the last 7 days, how many days did you do moderate physical activities like carrying light loads, bicycling at a regular pace, or doubles tennis?
4. How much time did you usually spend doing moderate physical activities on one of those days?
5. During the last 7 days, how many days did you walk for at least 10 minutes at a time?
6. How much time did you usually spend walking on one of those days?
7. During the last 7 days, how much time did you spend sitting on a weekday?

Statistical Analysis

Data were analyzed by using the SPSS 24.0 software (SPSS Inc., Chicago, IL, USA). Data were presented as mean, standard deviation, median, minimum, maximum, percentage, and frequencies. Kolmogorov-Smirnov tests were used for the normal distribution of data. Due to the data were not normally distributed, Wilcoxon test was used to compare two different groups. Chi-square tests were used for the comparison of the categorical data. A p-value of <0.05 was considered statistically significant.

Ethical Consent

Ethical permissions were taken from the Turkish Health Ministry Health Services General Directorate Scientific Research Platform and from the Atatürk University Clinical Research Ethical Committee (IRB No.B.30.2.ATA.0.01.00/251, No:27, Date:27.05.2021). The study was carried out in accordance with the rules of the Declaration of Helsinki.

RESULTS

This study was evaluated the complete data of 79 volunteer students. Table 2 shows sociodemographic characteristics of the students. The mean age of the students was 21.77 ± 4.13 (18-49) years, and 57% (n=45) were female.

Table 2. Sociodemographic Characteristics of the Students

Sociodemographic characteristics	**Mean ± SD**	**Min**	**Max**
Age	21.7 ± 4.1	18	49
Height (cm)	172.5 ± 9.3	157	190
Weight-current (kg)	66.9 ± 14.6	45	109
Weight-before the pandemic (kg)	66.5 ± 13.4	47	96
BMI-before the pandemic	22.3 ± 4.09	16.8	33.7
BMI-current	22.4 ± 4.14	16.9	34.4
Screen time per day (Hour)*	6.0 ± 3.4	0	18

DE: Distance Education

**total time spent on screen for online lessons in one day*

The average screen time by the students in front of the screen for the online lessons was 6,057 ± 3,4 hours per day. Fourteen students (17.7%) was smoking. Thirty-nine (49.4%) of the students were eating much more and 54 (68.4%) of the students were doing less PA during the pandemic. All the students were staying with their families during that time of period. Table 3 shows descriptive features of students.

Table 3. Descriptive Features of the Students

Variables		**Number (n)**	**Percentage (%)**
Gender	Male	34	43
	Female	45	57
Mother's educational status	Primary School	30	37.9
	High School	23	29.1
	Bachelor's Degree	26	32.9
Father's educational status	Primary School	19	24.1
	High School	13	16.5
	Bachelor's Degree	47	59.5

Variables		Number (n)	Percentage (%)
Smoking	Yes	14	17.7
	No	65	82.3
Has the number of cigarettes you smoked changed during the pandemic period	Increase	6	7.6
	Decrease	3	3.8
	No change	6	7.6
	Quit smoking	2	2.5
How have your eating habits changed during the pandemic period	I eat more	39	49.4
	I eat less	18	22.8
	No change	22	27.8
How have your physical activities changed during the pandemic period	Increase	20	25.3
	Decrease	54	68.4
	No change	5	6.3
Physical Activity	Vigorous	22	27.8
	Moderate	40	50.6
	Walking and sitting	17	21.5
BMI cathegorization	Underweight (<18,5 kg/m2)	15	19
	Normal (18.5-24,9 kg/m2)	48	60.8
	Overweight (25.0-29,9 kg/m2)	10	12.7
	Obese (≥30 kg/m2)	6	7.6

SD: Standart Deviation
BMI: Body Mass Index

The mean weight of the students before and after the pandemic were 66.50±13.4 kg and 66.97±14.6kg, respectively. BMI of the students before the pandemic were 22.32±4.1, and 22.41±4.1 after the pandemic. There was no significant difference in BMI before and after the pandemic (z=-0.80, p=0.93).

This study shows that non-smoker students did more vigorous PA, but walking and moderate PA levels of smoker students were greater than the others. Hardly, no significant correlation was found between smoking status and PA ($\chi2$=1.66, p=0.43).

Parents educational status appeared to be unaffected by the PA levels of the students ($\chi2$=1.06, p=0.90 and $\chi2$=2.0, p=0.73 respectively).

When analyzing the students' PA levels, the research shows that 41 students did not do high vigorous PA, 31 students did not do PA, and 6

students did not do walking. Table 4 shows the summary statistics for students' PA levels. High PA score were 664.5 ±1233.7, moderate PA score were 290.7 ±405.6, the walking-sitting score were 702.6 ±626.9.

Table 4. Students' Physical Activity Levels

PA Level	Mean±SD	Min	Max
High	664.5±1233.7	.00	5760.0
Moderate	290.7±405.6	.00	2400.0
Walking-sitting	702.6±626.9	.00	2772.0
Total	1657.9±1498.9	.00	7108.0

PA: Physical Activity

When compared according to students' gender, men's moderate PA level were greater than women's, while woman's walking levels were higher than men's. Hardly, there are not significant between genders in terms of PA ($\chi 2$= 3.48 p=0.17). Table 5 presents the comparison of PA levels according to various variables.

Table 5. Physical Activity Levels According to Various Variables

			Physical Activity Level				
Variable			**High**	**Moderate**	**Walking, sitting**	**$\chi 2$**	**p**
Mother's education level	Primary School	n	7	16	7	1.06	0.90
		%	23.30	53.30	23.30		
	High School	n	8	10	5		
		%	34.80	43.50	21.70		
	Bachelor's Degree	n	7	14	5		
		%	26.90	53.80	19.20		
Father's educational level	Primary School	n	4	12	3	2.02	0.73
		%	21.10	63.20	15.80		
	High School	n	3	7	3		
		%	23.10	53.80	23.10		
	Bachelor's Degree	n	15	21	11		
		%	31.90	44.70	23.40		

			Physical Activity Level				
Variable			**High**	**Moderate**	**Walking, sitting**	**χ2**	**p**
Smoking status	Smoking	n	2	8	4	1.66	0.43
		%	14.30	57.10	28.60		
	Not smoking	n	20	32	13		
		%	30.80	49.20	20.00		
Gender	Male	n	10	20	4	3,48	0.17
		%	29.4	58.8	11.8		
	Female	n	12	20	13		
		%	30.80	49.20	20.00		

DISCUSSION

In this study, it is aimed to determine the physical activity levels of medical students during the COVID-19 pandemic and online education process. As far as we know, this study is the first to be carried out in Turkey during the pandemic. The current study was determined that average screen time of the students were 6 hours per day, about half of them ate more than in the pre-pandemic periods, and 7 out of 10 students did less physical activity.

Depending on the first case, seen in Turkey, education was suspended for 3 weeks at all levels then due to the number of cases education was quickly moved to the online platform and student dormitories and university campuses were also evacuated and students were sent home. After that process, as a part of the measures taken to prevent the spread of the COVID-19 virus, social isolation, public places such as restaurants, cafes, shopping centers, and gyms were closed, and people were asked not to leave the house unless they had to (24).

Starting this date, the education of preclinical students at Atatürk University Faculty of Medicine has been carried out online. Online training was ongoing at the time of data collection.

During this period considering restrictions and quarantine practices, the study shows that students spent longer time in front of the screen and engaged in less physical activity, and 68.7% of students move less.

A study of 1470 medical students in Italy during the COVID-19 pandemic restrictions found that students moved 65% less before than pandemic, and the reason for this was about reduced access to sports facilities and gyms, 51% of the students. Furthermore, it has also been found that more than 90% of the students sit for more than 6 hours a day (19). Similar findings have been also reported in Guistino (25) and Rogers' (26) studies. Our study results are consistent with the literature.

The restrictions and quarantine caused by the COVID-19 have caused the sudden removal of people's normal daily routine physical activities and spend time in a limited area at home. Even before the pandemic, medical students tend to live in a sedentary period due to their busy schedules and curriculum.

Our study shows that more than half of the medical students had moderate PA during the pandemic period. This situation showed similar results with the study conducted by Üçok et al. (2011) on the physical activity of medical students before the pandemic (4).

The study conducted with emergency and first aid students shows that 56.9% of them were found to be inactive during the pandemic period. That study in question also reveals that

32.5% of the students did low physical activity, 10.6% did vigorous physical activity and their PA levels were not sufficient (27). In this study, IPAQ total scores were found to be 1337.8±2612.3, and high vigorous PA score were 7736.1±3970.57, moderate PA score were 1305.1±574.0. The results we found in our study were much considerably lower than these study's results (664.5±1233.7 and 290.7 ±405.6, respectively) and the walking scores (702.6 ± 626.9) were higher than walking scores (168.3±92.55) found in the aforementioned study.

According to these results, it seems that medical students are more inactive during the pandemic period. During the pandemic period social isolations, restrictions (Such as curfews, closed gyms, etc.), and all lessons of pre-clinical medical students are held online have changed the daily life activities of the students and prevented them from doing high vigorous and moderate physical activities. As a matter of fact, our study conduct that the average time spent by the students in front of the screen was 6 hours. Hardly, some of the students report a maximum of 18 hours of daily screen time. It means that these students are spending the whole day in front of a screen. Precautions on this issue need to be taken.

In 2006, the study conducted by Savcı et al. with healthcare students shows that nearly 70% of the students had low PA levels and 15% were physically inactive. Total PA score of this study was 1958±1588 which is higher than the value we found in our study (1657.9) (28). In two studies examining the PA status of health students, the total FA score was found to be 1838.5±2452.6 (20) and 1804.91±731.33 (29,30). Another study found similar results, with boys having higher overall PA scores than girls (31). A different study revealed that men's duration of vigorous PA was higher than women's (4). Kale's study found that men had significantly higher overall FA scoring averages than women (20). In the current study found that male students' moderate PA levels were found to be higher than females, while women's walking levels were found to be higher, but there was no significant difference between genders in respect of the physical activity.

In a study of 256 medical students in the pre-pandemic period, no difference between the genders was found in terms of physical activity. However, the duration of severe physical activity was found to be significantly higher in men (4).

The study conducted by Kıyak et al.(2019) with medical students revealed that only 11% of the students performed PA at an adequate level (32).

Another effect of social isolation and staying at home in quarantine has been on eating habits. According to studies about stress and eating disorders present that, conditions such as stress and anxiety cause eating disorders in both young and elderly (33). In our study has shown that the eating habits of students have changed and ate more than normal. Although the stress experienced by students was not the focus of this study, the stress caused by the pandemic and home isolation might have triggered changes in eating habits. Another study examining the PA of medical students before the pandemic period present that their PA was found to be moderate and their body mass index was normal (4).

In a study about the PA level of the medical students in Austria during the pandemic period with the participation of 509 students, comparing the PA and consumption values of the students in the previous years with the data of the students studying during the pandemic period. According to the result of this study, the students' snack and meal consumption rates have increased compared to previous years, and their walking and PA rates have decreased significantly compared to previous years. This study showed similar findings to our study.

As stated in our study results, despite the weight and BMI of the students slightly increased compared to the pre-pandemic period, the difference was not statistically significant. In

addition, the fact that the students were still very young and their basal metabolic rates were high may have been effective in this result.

The study examining with 1430 undergraduate students during the pandemic period in Italy indicates that the PA and walking times of the students decreased due to the closure during the pandemic, no significant difference was found between the BMIs of the students before and after the pandemic (34). The result of this study was showed similar findings to our study.

The effect of the parents on children's PA has been subject of researches for many years. A research conducted with mothers and their children indicated that the rate of adopting a healthy lifestyle is 27% higher in children of mothers who have children aged 0-3 and lead a PA and healthy life (35). Another study conducted in Turkey was shown that primary and high school graduates are more physically active than university and graduate graduates (36). According to the results of our study, there was no relationship between the education level of the family and the PA of the students.

When considering determinants of physical activity such as social environment, facilities, and infrastructure, providing opportunities for young people should be considered in initiatives that plan to increase PA. Medical schools should encourage the physical activities of students. We think it is important to integrate health-enhancing programs and trainings into the curriculum. Studies should be carried out to support health-enhancing behaviors such as increasing sports fields on university campuses, free exercise programs, and the availability of healthy food in cafeterias and canteens, and existing ones should be developed. Solutions such as exercise programs, telemedicine, e-health applications should be strongly suggested (37).

Limitations

The study has some limitations. First of all, it was conducted with third-year medical students of a single medical faculty. Therefore, the results cannot be generalized to all medical students. Variables such as height, weight, and physical activity are based on students' self-evaluations. Objective measurement could not be made. The participants' memory is involved in the answers, and it is not possible to avoid prejudice. Finally, as the study was conducted with an online questionnaire, there is also the possibility of selection bias. The inability to reach students who did not have a device or internet and did not use social media may have impacted the results. Finally, the low number of samples may have affected the level of significance in some comparisons.

CONCLUSIONS

This study provides data about the PA of medical students who stayed with their families during the COVID-19 pandemic, continued their education online, and spent an average of six hours in front of the screen. The result of our study shows that PA level of medical students was insufficient and students' eating habits increased during the pandemic time.

Public health precautions should be achieved to increase students' PA levels, and necessary education, opportunities, and support should be provided.

Contributors

ECT, EG designed the research. EG participated in data collection, ECT, EG data analysis. ECT, EG wrote the manuscript, read and approved the final script.

Declaration of Interest

The authors declared no conflict of interest.

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Informed Consent
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