



ANALYSIS OF PHYSICAL ACTIVITY STATES OF STUDENTS BETWEEN 7-16 AGE GROUP DURING COVID-19 PROCESS

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Abstract:

Covid-19 virus, which entered our lives in the last period of 2019, has caused radical changes in our lives. After the pandemic was declared, the threat of the epidemic that affected the whole world caused us to change a large number of our habits. In particular, the periods when people were closed at home, which led to a decrease in physical activity levels. In our study, an international physical activity form was given to 278 students between the ages of 7 and 16. Physical activity levels of the students in the past week and what activities they did were found. 162 male students and 116 female students participated in the study. 28 of these students were in primary education, 154 were in secondary education and 96 were in high school. While 7 of the students who participated in the study had barriers to doing sports, it was found that 271 students did not have any. As a result of the analyses conducted about the prevalence of physical activity, it was found that the students were moderately active. It was found that 8.8% of the students were highly active, 23.8% were very active, 30.74% were moderately active, 19.11% were slightly active and 17.57% were inactive (sedentary). In terms of the ways of doing activity in general, it can be seen that during the pandemic, individuals preferred activities which were easy to do at home and on the street and also which were less risky. It can be said that sports branches performed as a team are generally avoided. Activities that are easy to do and less risky, such as running and walking for exercise, have come to the fore during the pandemic process.

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Keywords: physical activity, COVID-19, student

1. Introduction

The Covid-19 virus, which emerged towards the end of 2019 and which has affected the whole world since then, has threatened humanity seriously (Özdal, 2020). Coronavirus disease (COVID-19), which has been in our lives for a long time, is a viral disease that threatens our health, reduces our quality of life and causes us to change our habits in our daily lives. Studies conducted have shown that obesity is an important factor in the complications of this disease being more severe. In addition, the changes in eating habits and food shopping habits as a result of decreased physical activity and psychological factors such as fear and stress in long periods of staying home during the pandemic have increased the prevalence of obesity. Physical inactivity or sedentary life has been reported to be associated with anxiety, depression and cognitive dysfunction (Booth et al., 2012; Mayda et al., 2020). In the Covid-19 pandemic, elderly individuals and individuals with chronic diseases such as hypertension, diabetes, cardiovascular disease and chronic respiratory problems are more at risk (Pavón et al., 2020). In the study, which was conducted at the beginning of the pandemic process during home confinement, when BMI groups and physical activity levels of the participants were compared, statistical difference was found between groups' low physical activity and total physical activity (18,9 kg/m² and 25-29,9 kg/m²) scores (Tural, 2020).

Covid-19 virus, which affected the whole world, has caused very big changes in individuals' lives. Pandemic has caused very serious sociological, psychological and physical problems. Problems such as the uncertainty about how the process will come to an end, problems such as the vaccine's being found but not being easily accessible have increased its negative effect on individuals. Many individuals who are active in their daily lives have begun to lead a sedentary life with the effects of pandemic. Different negativities were encountered while protecting from the Covid-19 virus. Changes in sedentary lifestyle and eating habits have caused an increase in the risk of obesity, which is one of the greatest problems of our day (Acar & Yilmaz, 2021; Tural, 2020). All age groups have been affected of this situation negatively. It is a very high possibility for this effect to cause an increase in diseases such as cardiovascular diseases, obesity, diabetes, and anterior cruciate ligament damage. The fact that work places, schools and other institutions were rarefied or completely closed according to pandemic conditions during the process has caused individuals to spend their lives at home and do all their jobs in front of the computer (Kehribar & Karapinar, 2019; Tural, 2020; Kayaalp et al., 2020).

With the recommendation of Scientific Committee on the cases seen in Turkey, it was decided to take some measures to decrease the spread of Covid-19 in Turkey on March 13, 2020. With the recommendations of Scientific Committee, these measures have been implemented as precautionary strategies with some principles during the process of struggling with the pandemic in Turkey (Turan & Çelikyay, 2020). Therefore, the fact that tasks which required more activity in the pre-pandemic period were completed in

front of the screen in an inactive manner led to the restriction of physical activity. When unhealthy nutrition was added to the lack of physical exercise, a very dangerous situation for human health emerged. It was found that during the Covid-19 pandemic, people in home quarantine had low physical activity and this affected health-related quality of life, physical function, pain and general health perception (Tural, 2020).

Global Covid-10 pandemic resulted in the closure of gyms, stadiums, pools, fitness rooms, physiotherapy centres, parks and game areas. Therefore, many individuals could not participate actively in regular individual or group sports or physical activities outside their homes. Under these conditions, most of the individuals tend to be less active physically; they have longer screen time, irregular sleep pattern and worse diet programs, which lead to loss of physical well-being in addition to weight gain.

During the pandemic, there has been an increase in the consumption of foods with high refined carbohydrate, sugar and fat content due to reasons such as individuals' mental state, increased stress and decreased physical activity (Çulfa et al., 2021). This type of diet, also called Western diet worldwide, increases the risk of developing type 2 diabetes and obesity and the individuals in this population constitute high risk group in terms of serious complications and mortality caused by Covid-19 (Dietz et al., 2020). Not having access to exercise and physical activity may cause mental health problems and this may increase the stress or anxiety many people will experience in the face of being isolated. Possible loss of family members or friends due to virus and the effects of the virus on individuals' economic welfare and access to food will exacerbate these effects.

It may still be possible for many people to exercise without any equipment and limited space. Home life may be an option to be more active during the day for those who have to sit for long hours, such as stretching, doing housework, climbing ladders or dancing to the music. Physical activity and relaxing techniques inside the house will help to stay calm and protect health during this time. World Health Organization (WHO) recommends 150 minutes of moderate or 75 minutes of vigorous physical activity a week, or a combination of both (WHO, 2020). The increase in the time spent home, watching or listening to pandemic news all the time, increased worries, increase in the desire to consume food (especially carbohydrate food) depending on the mood and decreased physical activity may cause undesired weight gain. For those who have internet access, there are many free sources on how to be active during the pandemic. For example, physical fitness games can appeal to people of all ages and they can be used in small spaces. Another important aspect of keeping physical fitness is strength training, which does not require large areas but helps to protect muscle strength; this is important especially for old people or for people with physical disability (Eskici, 2020). In addition, physical performance parameters such as strength, speed, endurance, power and agility may be affected from body composition (such as muscle mass, body fat percentage) (Bostanci et al., 2019; Ari ve Deliceoglu, 2020). Therefore, deterioration in body composition is related to sedentary life.

The closure of schools and sports fields in our country due to the pandemic, the fact that games were not played in the infrastructure and interruption of sports in schools

caused serious movement restrictions. Cancellation or postponement of all sports activities including all lower and upper leagues can be given as examples of numerous effects of Covid-19 on sports activities (Türkmen & Özşarı, 2020). Distance education process and the fact that this process was spent in front of the computer was another factor that caused limited physical activity. It is very important to take special measures, especially for the rehabilitation of children, while programming return to normal life after the pandemic. This group, which is the group most affected by the society, should be included in the academic planning of activity programs more than the pre-pandemic period in accordance with purposes.

2. Material and Method

2.1 Participants and Procedure

In our study, international physical activity form was applied to 278 students between the ages of 7 and 16. Physical activity levels of the students in the past week and what activities they did were determined. 162 of the participants were male, while 116 were female. 28 primary education students, 154 secondary education students and 96 high school students participated in the study. Of the students who participated in the study, while 7 had an obstacle for doing sports, it was found that 271 students did not have any obstacles. Cronbach alpha internal consistency coefficient was found as 0.89 in this study. In this descriptive study, the simple random sampling method was used.

2.2 Data Collection Tool

International Physical Activity Questionnaire (IPAQ) was used to find out the physical activity levels of the participants (Craig et al., 2003). Validity and reliability study of the Questionnaire was conducted by Öztürk in 2005 in Turkey (Öztürk, 2005). In our study, the 7-item self-administered short form of the Questionnaire which covers the last 1 week to evaluate the level of physical activity was used.

2.3 Statistical Analyzes

The SPSS version 22.0 (SPSS Inc., Chicago, IL) program was used for statistical analyzes. The data were expressed as frequency and percentage.

3. Results

Our study was conducted on primary school, secondary school and high school (9th and 10th grade) students. 28 participants (10.1%) were aged between 7 and 10, 153 participants (55%) were aged between 11 and 13 and 97 participants (34.9%) were aged between 14 and 16. The majority of the participants were students between the ages of 11 and 13.

Table 1: Age Ranges

	Frequency	Percentage
14-16	97	34.9
11-13	153	55.0
7-10	28	10.1
Total	278	100.0

162 (58.3%) of the 278 students who participated in the study were male, while 116 (41.7%) were female.

Table 2: Gender

	Frequency	Percentage
Male	162	58.3
Female	116	41.7
Total	278	100.0

10.1% of the participants were primary school students, 55.4% were secondary school students and 34.5% were high school students.

Table 3: Educational Status

	Frequency	Percentage
Primary	28	10.1
Secondary	154	55.4
High school	96	34.5
Total	278	100.0

While 97.5% of the students stated that they did not have an obstacle to doing sports, 2.5% stated that they had an obstacle to doing sports.

Table 4: The state of having an obstacle to doing sports

	Frequency	Percentage
Yes	7	2.5
No	271	97.5
Total	278	100.0

Our study aimed to find out the frequency of activities performed in the last 7 days. The participants were asked to indicate the level of physical activity they did for all days of the week separately. When the results are reviewed, it can be seen that they generally intensified on the option “sometimes” for all days of the week.

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Monday

	Frequency	Percentage
Never	47	16.9
Rarely	39	14.0
Sometimes	105	37.8
Mostly	67	24.1
Always	20	7.2
Total	278	100.0

Tuesday

	Frequency	Percentage
Never	43	15.5
Rarely	58	20.9
Sometimes	89	32.0
Mostly	70	25.2
Always	18	6.5
Total	278	100.0

Wednesday

	Frequency	Percentage
Never	44	15.8
Rarely	59	21.2
Sometimes	84	30.2
Mostly	67	24.1
Always	24	8.6
Total	278	100.0

Thursday

	Frequency	Percentage
Never	46	16.5
Rarely	54	19.4
Sometimes	85	30.6
Mostly	72	25.9
Always	21	7.6
Total	278	100.0

Friday

	Frequency	Percentage
Never	45	16.2
Rarely	57	20.5
Sometimes	80	28.8
Mostly	65	23.4
Always	31	11.2
Total	278	100.0

Saturday

	Frequency	Percentage
Never	59	21.2
Rarely	50	18.0
Sometimes	78	28.1
Mostly	64	23.0
Always	27	9.7
Total	278	100.0

Sunday

	Frequency	Percentage
Never	58	20.9
Rarely	55	19.8
Sometimes	77	27.7
Mostly	58	20.9
Always	30	10.8
Total	278	100.0

When the answers were examined to the question of how and in which environment physical activities were performed, the following answers were found:

3.1 Exercise in gyms (fitness, step, aerobic etc.)

	Frequency	Percentage
Not at all	175	62.9
1-2 times	33	11.9
3-4 times	38	13.7
5-6 times	18	6.5
7 times and more	14	5
Total	278	100

3.2 Exercise at home (step, aerobic, etc.)

	Frequency	Percentage
Not at all	67	24.1
1-2 times	45	16.2
3-4 times	63	22.7
5-6 times	48	17.3
7 times and more	55	19.8
Total	278	100

3.3 Playing games jumping games such as hopscotch/jumping rope

	Frequency	Percentage
Not at all	112	40.3
1-2 times	49	17.6
3-4 times	48	17.3
5-6 times	37	13.3
7 times and more	32	11.5
Total	278	100

3.4 Playing moving games such as tag and dodgeball

	Frequency	Percentage
Not at all	119	42.8
1-2 times	45	16.2
3-4 times	46	16.5
5-6 times	20	7.2
7 times and more	48	17.3
Total	278	100

3.5 Playing chasing games

	Frequency	Percentage
Not at all	114	41
1-2 times	39	14
3-4 times	43	15.5
5-6 times	26	9.4
7 times and more	56	20.1
Total	278	100

3.6 Walking for exercise

	Frequency	Percentage
Not at all	50	18
1-2 times	45	16.2
3-4 times	69	24.8
5-6 times	46	16.5
7 times and more	68	24.5
Total	278	100

3.7 Riding bike

	Frequency	Percentage
Not at all	86	30.9
1-2 times	28	10.1
3-4 times	29	10.4
5-6 times	42	15.1
7 times and more	93	33.5
Total	278	100

3.8 Running

	Frequency	Percentage
Not at all	48	17.3
1-2 times	43	15.5
3-4 times	44	15.8
5-6 times	54	19.4
7 times and more	89	32
Total	278	100

3.9 Dancing

	Frequency	Percentage
Not at all	140	50.4
1-2 times	43	15.5
3-4 times	25	9
5-6 times	25	9
7 times and more	45	16.2
Total	278	100

3.10 Playing football

	Frequency	Percentage
Not at all	133	47.8
1-2 times	32	11.5
3-4 times	30	10.8
5-6 times	21	7.6
7 times and more	62	22.3
Total	278	100

3.11 Skate boarding

	Frequency	Percentage
Not at all	229	82.4
1-2 times	17	6.1
3-4 times	10	3.6
5-6 times	6	2.2
7 times and more	16	5.8
Total	278	100

3.12 Playing volleyball

	Frequency	Percentage
Not at all	144	51.8
1-2 times	51	18.3
3-4 times	31	11.2
5-6 times	29	10.4
7 times and more	23	8.3
Total	278	100

3.13 Playing basketball

	Frequency	Percentage
Not at all	116	41.7
1-2 times	39	14
3-4 times	39	14
5-6 times	26	9.4
7 times and more	58	20.9
Total	278	100

3.14 Doing gymnastics

	Frequency	Percentage
Not at all	170	61.2
1-2 times	48	17.3
3-4 times	25	9
5-6 times	17	6.1
7 times and more	18	6.5
Total	278	100

3.15 Walking/playing with a pet

	Frequency	Percentage
Not at all	180	64.7
1-2 times	22	7.9
3-4 times	18	6.5
5-6 times	17	6.1
7 times and more	41	14.7
Total	278	100

4. Discussion and Conclusion

Since the day Covid-19 virus entered our lives, there have been radical changes in our daily routines. We are now living in an environment in which we cannot do many activities we have done before the pandemic. With restrictions, people had to adopt a lifestyle they had to fit into limited spaces and times in their homes. This unfamiliar situation led to changes in physical activity and dietary styles. Especially the fact that students had to continue education online in front of a computer and that their lives evolved into a stagnation from an extremely active life style of going to school five days a week and participating in sport activities with friends has caused great problems. This immobile lifestyle brought with it irregular eating, sleeping and physical activity patterns. Especially the fact that people were not informed sufficiently at the beginning of the process and they were not warned that the problems that may occur after the pandemic may harm as much as contacting with the virus caused the process to continue unhealthily.

The aim of our study was to research the physical activity states of children between the ages of 7 and 16 during the pandemic process. A total of 278 students, 162 males and 116 females, between the ages of 7 and 16 participated in the study. The age groups were determined as 7 and 10 years of age primary education students, 11 and 13 years of age secondary education students, and 14 and 16 years of age 9th and 10th graders. 55% of the participants were between 11 and 13 years of age, 34.9% were between 14 and 16 years of age and 10.1% between 7 and 10 years of age.

While 97.5% of the students stated that they did not have an obstacle to doing sports, 2.5% stated that they had an obstacle to doing sports. As a result of the analysis about the frequency of physical activity, it was found that the group the study was conducted on was moderately active. The rate of those highly active was 8.8%, the rate of those very active was 23.8%, the rate of those moderately active was 30.74%, the rate of those slightly active was 19.11% and the rate of inactive (sedentary) students was found as 17.57%. According to the results of the physical activity Questionnaire applied on a similar group of students before the pandemic, it was found that 14.12% of the students were inactive (sedentary), 38.93% were active in a low level, 36.26% were moderately active, 8.45% were very active and 2.39% were highly active (Konca, E. et al., 2019). When the pandemic period was compared with pre-pandemic period, it was found that the

number of inactive individuals increased, while the rate of individuals who were active in a low level decreased. When the pandemic and pre-pandemic period physical activity levels are examined in general, it can be seen that the rate of moderately active individuals was similar in both periods. It can be seen that the rate of those who were highly active was higher in the pandemic period when compared with the pre-pandemic period. It can be said that the level of activity in the pandemic period was higher when compared with the pre-pandemic period. When the distribution of level of activity in the last week was examined in terms of days, it was concluded that the participants were moderately active with a rate of 30.74% and highly active with a rate of 23.8% in all days of the week.

When the types of activities done were examined, it was found that the rate of activities done at home increased when compared with the activities done at gym. The rate of those who stated that they never did sports at gym was 62.9%. While 40.3% did not play games that require explosive power such as jumping rope and hopscotch, the other options were close to each other. While 42.8% of the participants stated that they did not do any activities such as tag and dodgeball, the rate of the participants who stated that they did these activities 7 times and more was 17.3%. While 41% did not do aerobic activities such as chasing at all, 20.1% did these activities 7 times and more. It was concluded that activities done for healthy life and exercise were done more than other activities. 24.5% of the participants stated that they did this kind of activity 7 times and more, while 24.8% stated that they did this kind of activity 3-4 times a week. While 33.5% stated that they rode bike 7 times and more, 30.9% stated that they did not ride bike at all. While 32% stated that they ran 7 or more times, 19.4% stated that they ran 5-6 times. While the rate of those who stated that they did not do any activities with rhythm such as dancing was 50.4%, the rate of those who did these activities 7 times and more was 16.2%. Football, which is normally one of the most common activities, was one of the most difficult activities to perform during the pandemic. While 47.8% of the participants stated that they didn't play football at all, 22.3% stated that they played 7 times or more. 82.4% of the students, in other words a great majority, stated that they did not do the activity of skateboarding at all, which is a difficult activity to perform under pandemic conditions. While 51.8% of the participants stated that they didn't play volleyball at all, 18.3% stated that they played 1-2 times. 41.7% of the participants stated that they didn't play basketball at all, while 20.9% stated that they played 7 times or more. 61.2% of the participants stated that they did not do any gymnastics, 17.3% stated that they did 1-2 times. While 64.7% stated that they did not walk or play with a pet at all, 14.7% stated that they did this activity 7 times and more. When the types of doing activity are considered in general, it can be seen that during the pandemic, the activities which are easy to perform at home and school and also less risky are preferred more. It can be seen that individuals generally stayed away from team sports. Activities which are easy to do but at the same time less risky, such as running and walking for exercise, have been activities which have come to the forefront during the pandemic.

Conflict of Interest Statement

The authors declare no conflicts of interests.

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