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What is the physical and mental health status of individuals playing tennis recreationally during the pandemic process?

¿Cuál es el estado de salud física y mental de las personas que juegan al tenis de forma recreativa durante el proceso de pandemia?

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ABSTRACT

The aim of our study is to investigate the physical and psychological state of individuals who play tennis recreationally during the pandemic process. 206 individuals who have been playing tennis recreationally for at least 1 year participated in the study. As a data collection tool, demographic information questionnaire, International Physical Activity Questionnaire-Short Form (IPAQ-SF), and SF-12 Brief Health Questionnaire were used. The data were analyzed in 2.0.0 Jamovi statistics program; Descriptive statistics were analyzed using Mann Whitney U test, Kruskal Wallis test, and ANCOVA test. According to the findings of the study, there was no statistically significant difference between the groups in the physical and mental health scores of the participants according to the MET level ($p>0.05$). Men's physical health mean scores and women's mental health scores were higher. Physical health mean scores of non-smokers were higher than smokers, and there was a statistically significant difference in favor of non-smokers in physical health scores ($p<0.05$). As a result, the physical and psychological conditions of individuals who play tennis recreationally are generally at a good level. During the pandemic period individuals may be advised to play tennis.

KEYWORDS

COVID-19; Recreative tennis; Physical health; Mental health

RESUMEN

El objetivo de nuestro estudio es investigar el estado físico y psicológico de los individuos que practican tenis de forma recreativa durante el proceso de pandemia. Participaron en el estudio 206 personas que han estado jugando al tenis de forma recreativa durante al menos 1 año. Como instrumento de recolección de datos se utilizaron el cuestionario de información demográfica, el Cuestionario Internacional de Actividad Física-Versión Corta (IPAQ-SF) y el Cuestionario Breve de Salud SF-12. Los datos fueron analizados en el programa estadístico Jamovi 2.0.0. Las estadísticas descriptivas se analizaron mediante la prueba U de Mann Whitney, la prueba de Kruskal Wallis y la prueba de ANCOVA. Según los hallazgos del estudio, no hubo diferencia estadísticamente significativa entre los grupos en las puntuaciones de salud física y mental de los participantes según el nivel MET ($p>0.05$). Las puntuaciones medias de salud física de los hombres y las puntuaciones de salud mental de las mujeres fueron más altas. Las puntuaciones medias de salud física de los no fumadores fueron más altas que las de los fumadores, y hubo una diferencia estadísticamente significativa a favor de los no fumadores en las puntuaciones de salud física ($p<0.05$). Como resultado, la condición física y psicológica de las personas que practican tenis de manera recreativa son generalmente de buen nivel. Durante el periodo de la pandemia se puede aconsejar a las personas que jueguen al tenis.

PALABRAS CLAVE

COVID-19; Tenis recreativo; Salud física; Salud mental.

1. INTRODUCTION

COVID-19 is a disease caused by SARS-CoV-2 that can cause mild to severe infections in humans. The World Health Organization (WHO) declared Covid-19 an international public health emergency (Wang et al., 2020) on January 30, 2020, and a global pandemic on March 11, 2020 (WHO, 2021). As a result of the rapid spread of COVID-19 all over the world, 168,826 cases and 6503 deaths from COVID-19 have been reported worldwide (Zhai et al., 2020). Despite significant efforts to control the disease, the virus remains prevalent in many countries with varying degrees of clinical symptoms (Rai et al., 2021). To slow the spread of the epidemic known as COVID-19, many countries are implementing measures such as using masks, maintaining social distance, and staying at home (Király et al., 2020). During the stay at home, sedentary behaviors around leisure interests and screen activities are exhibited (WHO, 2021). It has been suggested that limiting physical activity

(PA) levels while helping to delay or stop the spread of a pandemic may not be an optimal approach (Amekran & El Hangouche, 2020).

Public health advocates continue to strongly encourage physical activity in the home setting (Wang et al., 2020a) to prevent the potentially harmful effects of COVID-19 preventive lifestyle adjustments and to ensure the elimination of restrictions that do not require the elimination of physical activity (Hammami et al., 2020). Middle-aged adults in Turkey during the pandemic period in a study conducted on it, it was determined that the obstacles in front of the level of participation in physical activity have the highest level of relationship with environmental factors (Gülü & Ayyıldız, 2022). A decrease in physical activity (48,9%) and sleep quality (40,7%), and an increase in alcohol use (26,6%) and smoking (6,9%) have been reported since the onset of the COVID-19 pandemic (Stanton et al., 2020). In eating preferences affected by the changing living habits with the pandemic; it has been reported that during the quarantine period, the frequency of affecting the nutritional habits of individuals is 45,3% and the frequency of weight gain is 61,0% (Dilber et al., 2020). Also, in moments of great psychological and emotional vulnerability, such as the COVID-19 pandemic, PA seems to gain even more importance (Antunes et al., 2020). The COVID-19 pandemic may exacerbate existing mental health problems and cause more stress among children and young people due to many different factors, including uncertainty, anxiety, fear of getting sick or seeing a loved one get sick, disruption of normal routines, difficulties maintaining social relationships, and economic recession and cause a change in daily living habits (Golberstein et al., 2020).

The American College of Sports Medicine (ACSM) recommends that young adults should aim for at least 30 minutes of moderate-intensity aerobic activity [3-6 metabolic equivalents (MET)] (>6 METs) 3 days a week, or vigorous-intensity activity (VIA) for 20 minutes 5 days per week to promote health (Haskell et al., 2007). Tennis is one of the most popular sports worldwide and is played by millions of people (Kaiser et al., 2021). Tennis, which is widely played in more than 200 countries affiliated with the International Tennis Federation (Valleser & Narvasa, 2017), is a versatile sport characterized by a one-sided movement pattern that requires repetitive high effort, usually within 5-10 seconds of attack and 10-20 seconds of recovery (Fernandez et al., 2009). The properties of tennis include prolonged endurance activity for aerobic fitness advantage, and a positive benefit on cardiovascular function (Groppel & DiNubule, 2009), aerobic capacity, and muscle mass (Kovacs, 2007; Marks, 2006) has been reported. A positive association has been shown between regular tennis participation and positive health benefits, including better aerobic condition, a leaner body, a more favorable lipid profile, improved bone health, and a reduced risk of cardiovascular morbidity and

mortality (Pluim et al., 2007). During the pandemic period, the health effects of tennis, which can be played without contact in the open air, on sedentary individuals are significant. In this context, the aim of our study is to examine the physiological and psychological parameters of individuals who play tennis recreationally during the pandemic period.

2. METHODS

2.1. Design

The study is in relational screening model and in the study; demographic information questionnaire, 'International Physical Activity Questionnaire-Short Form (IPAQ-SF)' and 'SF-12 Brief Health Questionnaire' were used. Data were collected from participants online via 'Google Form'. The relational screening model is used to decipher the relationship or effect between two different variables (Fraenkel et al., 2012).

2.2. Participants

The population of the research consists of 206 (female: 67, male: 139) individuals who play tennis recreationally in different provinces of Turkey.

Table 1. Descriptive statistics of participants

		n	**x̄**	**sd**
Age	*Female*	67	36,2	8,62
	Male	139	34,9	9,34
Height	*Female*	67	167	6,47
	Male	139	177	5,85
Weight	*Female*	67	58,2	8,31
	Male	139	78,3	11,7

2.3. Instruments and procedures

2.3.1. Demographic Information Questionnaire: In the demographic information of the participants; data has been collected using gender, age, height, weight, marital status, smoking, chronic disease status, having COVID-19, how COVID-19 is experienced, annual time playing tennis, playing tennis days/weeks, and tennis playing hours/days.

2.3.2. International Physical Activity Questionnaire-Short Form (IPAQ-SF): The PA level of the participants was evaluated with the IPAQ-SF. A valid and reliable questionnaire was developed by

Michael Booth to determine the PA and health level of the population and to examine the relationship between them. The International Physical Activity Assessment Group developed the IPAQ based on this survey; the Turkish validity and reliability study of the scale was carried out in 2005 (Öztürk, 2005). In our study, the short form of the scale consisting of 7 questions was used. In its short form, PA and MET levels of individuals can be determined by calculating walking, sitting, moderate activity, and vigorous activity. Here, physical activities in the last 10 days are taken into consideration. The time spent sitting is considered a separate question. Scoring of the questionnaire includes the duration (in minutes) and frequency (number of days) of walking, moderate-intensity, and vigorous activity (Sağlam et al., 2010). With these calculations, "MET-minute" score is reached; MET-minute is calculated by multiplying the minute of activity performed by the MET score. These are evaluated as sitting MET: 1,5. MET walking MET: 3,3 MET, moderate activity: 4,0 MET, and vigorous physical activity: 8,0 MET. Using these MET values, the daily and weekly PA levels of individuals are calculated. Walking MET-min/week=3,3 is calculated as X walking minutes and X walking days. Moderate MET-min/week=4,0 is calculated as X minutes of moderate activity and X number of days of moderate activity. Vigorous MET-min/week=8,0 is calculated as X minutes of vigorous activity and X number of days of vigorous activity. Total MET-min/week=(walking + moderate + vigorous + sitting) is calculated as MET-min/week. In addition to these calculations, social classification can also be made. This classification is entitled; 1st category: Inactive ones: <600 MET-min/week, 2nd category: Minimum Active ones: >600 – 3000 MET-min/week and 3rd category: Very active ones:<3000 MET-min/week.

2.3.3. SF-12 Brief Health Questionnaire: In our study, the SF-12 (Short form-12) Short Health Questionnaire was applied. SF-12 is a questionnaire that can be used to show the current health status of the society and to reveal the workforce loss of chronic diseases (Kovasc et al., 2005); even it is among the most widely used (Burdine et al., 2000). The General Health Questionnaire is a questionnaire that examines mental illnesses and is used as a first-stage screening test in social studies. The 12-item general health questionnaire is widely preferred because it is short, has high sensitivity and specificity in distinguishing cases, and can be used in various socio-cultural settings. While it is stated that the scale can be used safely in the detection of non-psychotic depression and anxiety symptoms, it is not recommended to be used in the detection of psychotic and manic patients and chronic mental patients (Ünalan, 2014). For the scale to be evaluated correctly, no data should be missing. While 56,57706 is added to the sum of the scores given to the 12 questions for the physical

health scores, 60,75781 is added to the sum of the scores given to the 12 questions to determine the mental health scores, the scores are determined (Ware et al., 1996).

2.4. Statistical Analyses

In the research, “frequency (f), percentage (%), arithmetic mean ($\bar{x}$), and standard deviation (sd)” were used in demographic information. To examine the normality of the data distribution, it was determined that "the skewness and kurtosis coefficients of the data were not between +1,5 and -1,5" by looking at the skewness and kurtosis coefficients of the data. “This situation is interpreted as the scores obtained from the study do not show a normal distribution (Tabackhnick & Fidell, 2013”. Based on this, the Mann Whitney U test was used to compare two variables, and the Kruskal Wallis test and the ANCOVA test were used to compare more than two variables. The necessary permission to start the study was obtained from Karamanoğlu Mehmetbey University Scientific Research and Publication Ethics Committee on 04.03.2022 (Document no: 60501).

3. RESULTS

In this study, in which the PA levels, physical health and general health conditions of individuals who play tennis recreationally during the pandemic process were investigated, the following results were obtained.

Table 2. Percentage and frequency values of some variables according to the gender of the participants

	Group	**Female**		**Male**		**Total**	
		(f)	**(%)**	**(f)**	**(%)**	**(f)**	**(%)**
Marital status?	*Married*	34	29.1	83	70.9	117	56.8
	Single	33	37.1	56	62.9	89	43.2
Use Smoke?	*Yes*	13	28.9	32	71.1	45	21.8
	No	54	33.5	107	66.5	161	78.2
Chronic disease?	*Yes*	9	56.3	7	43.7	16	7.8
	No	58	30.5	132	69.5	190	92.2
Had Covid-19 Diase?	*Yes*	25	30.1	58	69.9	83	40.3
	No	42	34.1	81	65.9	123	59.7
Survived Covid-19?	*Home*	24	30.4	55	69.6	79	95.2
	Hospital	1	25	3	75	4	4.8

When Table 2 is examined, 56.8% (f:117) of the participants are married and 43.2% (f:89) are single. 21.8% (f:45) of the participants smoke and 78.2% (f:161) do not smoke. While 7.8% (f:16) of the participants have a chronic disease, 92.2% (f:190) do not have a chronic disease. While 40.3%

(f:83) of the participants have had COVID-19 disease, 59.7% (f:123) have not had COVID-19 disease. While 95.2% (f:79) of the participants who had COVID-19 disease survived the disease mildly at home, 4.8% (f:4) survived the disease in the hospital.

Table 3. The mean and standard deviation values of some variables according to the gender of the participants

Playing Tennis	Group	n	x̄	sd	Total
Years	*Female*	67	4.82	6.45	6.70±6.97
	Male	139	7.61	7.06	
Per/Day a Week	*Female*	67	2.34	1.02	2.73±1.53
	Male	139	2.92	1.69	
Hour/Day	*Female*	67	3.12	2.10	4.23±3.89
	Male	139	4.75	4.41	
Total MET	*Female*	67	2256	2148	2470±1908
	Male	139	2574	1781	

When Table 3 is examined, the average years of playing tennis for female are (4,82±6,45) years and the average for male are (7.61±7.06) years. The average of playing tennis for female per day/week is (2.34±1.02) days and the average for male are (2.92±1.69) days. The average hour/day playing tennis for female are (3.12±2.1) and the average for male are (4.75±4.41). Total MET averages for female are (2256±2148) and male's averages are (2574±1781).

Table 4. The mean and standard deviation values of the participants' Physical and Mental Health scores according to some variables

	Group	n	Physically Health (x̄±sd)	Mental Health (x̄±sd)
Gender	*Female*	67	51.7±5.23	51.3±6.11
	Male	139	51.8±5.77	51.7±5.63
Marital status	*Married*	117	52.1±5.28	52.1±5.65
	Single	89	51.3±5.97	50.9±5.91
Use Smoke?	*Yes*	45	50.1±6.95	51.5±6.84
	No	161	52.2±5.07	51.6±5.47
Chronic disease?	*Yes*	16	49.5±8.10	50.7±3.64
	No	190	52.0±5.31	51.6±5.93

When Table 4 is examined, the average physical health score of the female are (51.7±5.23) and the average of the male are (51.8±5.77). Mental health mean scores of female are (51.3±6.11) and male's mean scores are (51.7±5.63). The mean physical health scores of married participants (52.1±5.28) and singles (51.3±5.97). Mental health mean scores of married people (52.1±5.65) and singles (50.9±5.91). Among the participants, the mean physical health score of the smokers is (50.1±6.95) and the mean of the non-smokers is (52.2±5.07). The mean score of mental health of

smokers is (51.5±6.84) and the mean of non-smokers is (51.6±5.47). The mean physical health score of the participants with chronic disease is (49.5±8.10) and the average of those without the chronic disease is (52.0±5.31). The mean mental health score of those with chronic disease is (50.7±3.64) and of those without the chronic disease is (51.6±5.93).

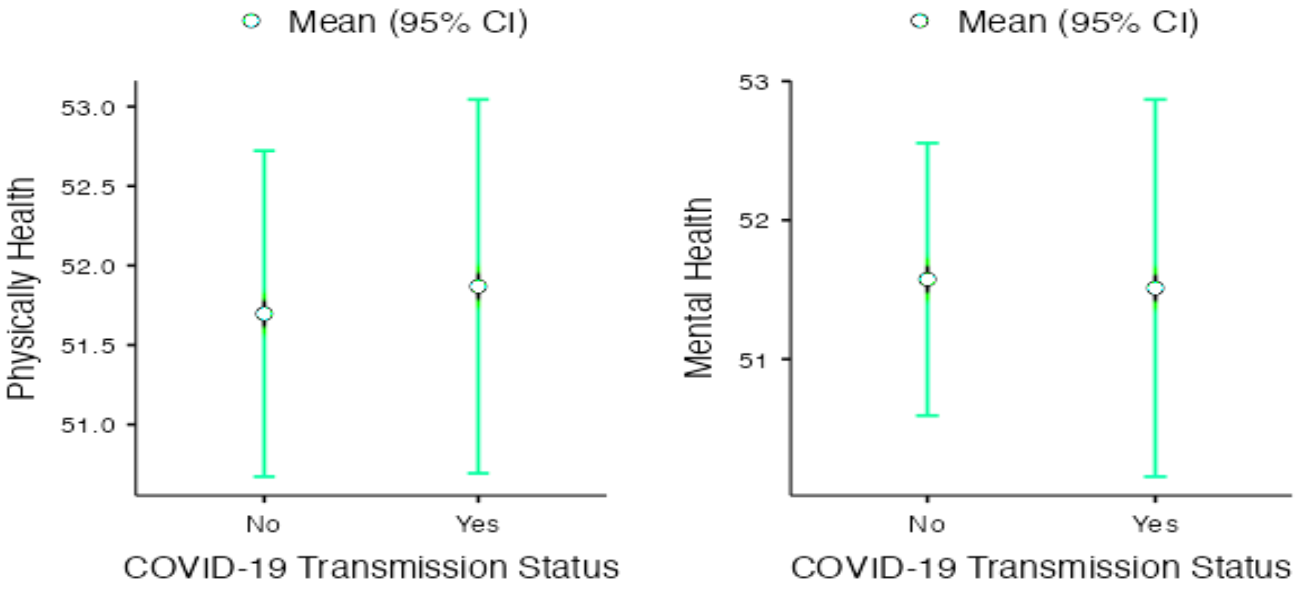

Figure 1. Mean and standard deviation values of Physical and Mental Health scores according to the COVID-19 (+)/(-) status of the participants

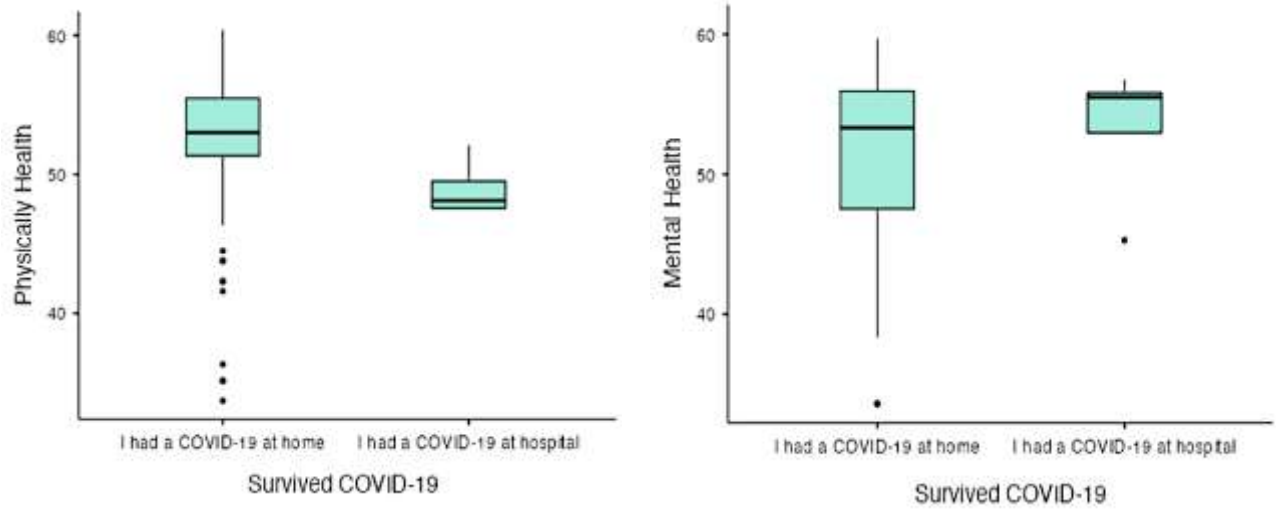

Figure 2. The mean and standard deviation values of the Physical and Mental Health scores of the participants according to their COVID-19 status

When Figure 1 is examined, the physical health score averages of the participants who have had COVID-19 (+) are (51.9±5.38) and the physical health scores of those who have not had COVID-19 (-) are (51.7±5.74). The average mental health scores of the participants who have had COVID-19 (+) is (51.5±6.21) and the average of the mental health scores of those who have not had COVID-19 (-) is (51.6±5.49).

When Figure 2 is examined, the physical health mean score of the participants who have had COVID-19 at home (f:79) is (52.0±5.46) and the mean physical health score of those who have had COVID-19 in the hospital (f:4) is (49.0±2.15). Mental health mean scores of those who have had COVID-19 at home (f:79) is (51.4±6.27) and of those who have had COVID-19 in hospital (f:4) is (53.3±5.35).

Table 5. Physical and Mental Health Mann Whitney U test results according to the COVID-19 (+)/(-) status of the participants

	Group	**N**	**x̄**	**Median**	**Sd**	**U**	**p**
Physical Health	*COVID-19 (+)*	83	51.9	53.0	5.38	5026	0.9
	COVID-19 (-)	123	51.7	53.0	5.74		
Mental Health	*COVID-19 (+)*	83	51.5	53.6	6.21	4800	0.5
	COVID-19 (-)	123	51.6	52.8	5.49		

When Table 5 is examined, there is no statistically significant difference between the physical health mean scores of those who have had COVID-19 (+) (51.9±5.38) and those who have not had COVID-19 (-) (51.7±5.74) (p>0,05). There is no statistically significant difference between the mental health mean scores of the participants who have had COVID-19 (+) (51.5±6.21) and those who have not had COVID-19 (-) (51.6±5.49) (p>0.05).

Table 6. Physical and Mental Health Kruskal Wallis test results according to participants' COVID-19 status and MET level

	Variable	**x^2**	**df**	**ε^2**	**p**
COVID-19 situation	*Physical Health*	3.2	2	0.02	0.2
	Mental Health	0.81	2	0.00	0.7
MET status	*Physical Health*	6.0	2	0.03	0.05
	Mental Health	0.58	2	0.00	0.8

df=degree of freedom

When Table 6 is examined, there is no statistically significant difference (x^2=3.2, p>0.05) between the mean physical health scores of the participants who have never had COVID-19 (51.7±5.74), those who have had COVID-19 at home (52.0±5.46), and those who have had COVID-19 in the hospital (49.0±2.15). There is no statistically significant difference (x^2=0.81, p>0.05)

between the mean mental health scores of those who have never had COVID-19 (51.6±5.49), those who have had COVID-19 at home (51.4±6.27), and those who have had COVID-19 in the hospital (53.3±5.35). There is no statistically significant difference (x^2=6.0, p>0.05) between the physical health mean scores of the participants in the inactive (50.2±5.59), minimally active (51.6±5.51), and very active (52.8±5.73) groups. There is no statistically significant difference (x^2=0.58 p>0.05) between the mean mental health scores of the participants in the inactive (50.7±6.16), minimally active (51.5±5.75), and very active (51.9±5.82) groups.

Table 7. Physical Health scores ANCOVA test results of the participants according to smoking status

Use smoke?	Source of Variation	Sum of Squares	df	Mean of Squares	F	p	Dif.
1.Yes 2.No	Between Groups	165	1	164.5	5.4	0.02*	2>1
	Within Groups	165	1	164.5			
	Total	6237	204	30.6			

p<0.05, Dif; Difference, df=degree of freedom

When Table 7 is examined, there is a statistically significant difference in favor of non-smokers in the physical health scores of the participants (F=5.4, p=0.02).

4. DISCUSSION

The following results were obtained in the study, which investigated the physiological and psychological parameters of individuals playing tennis recreationally during the pandemic process.

The first result of our study is that although men's average years of tennis, weekly tennis averages, and daily tennis averages are higher than women's, women's mean METs are higher than men's. There is no statistically significant difference between the groups in physical and mental health scores according to MET level. It is recommended that adults and the elderly should be as physically active as possible to maintain quality of life during the COVID-19 pandemic (Cunningham & Sullivan, 2020). In a study conducted at the beginning of the COVID-19 epidemic, it was reported that participants (75%) had PA levels during the pandemic (between 58-66%) compared to pre-quarantine (Smith et al., 2020). Again, according to a study, it was observed that during the COVID-19 epidemic, 31.9% of the participants started to exercise more and 44.2% have not changed their PA level (Brand et al., 2020). Studies conducted during the pandemic period have reported that women's PA levels are higher than men's (Mascherini et al., 2021; Faulkner et al., 2021). According to metabolic equivalent (MET) tests, which is a way to determine PA level; it has been shown that singles tennis matches are similar in intensity to medium to hard swimming, while doubles tennis is

between 6 and 6 MET (Ainsworth et al., 2000). In a study, it was concluded that although elderly tennis players (>50 years old) had similar daily PA times in the COVID-19 pandemic, the cardiometabolic health values of individuals who spent more time playing tennis were at a better level (Chao et al., 2021). Playing tennis is not only beneficial for physical parameters but also provides many benefits on the parameters necessary for a healthy life such as cognitive and mental health etc. (Kovacs et al., 2016). In a study conducted in Australia during the COVID-19 outbreak; it has been reported that although the tennis training and match numbers of the middle (41-60 years old) and senior (61-year-old) tennis players decreased, the emotional well-being of senior tennis players was not adversely affected in this situation (Turner et al., 2021). These studies support our results. In our study, the fact that the participants have been playing tennis actively for at least 1 year may have affected their physical and mental health scores as well as increased their PA levels. In addition, the fact that women have higher MET levels than men may be since women have more responsibilities in their home environment than men.

Another result of our study is that while the physical health averages of men are higher than the physical health averages of women, the mental health scores of women are higher than the mental health scores of men. While the mental health mean scores of the smokers were higher than the non-smokers, the physical health mean scores of the non-smokers were higher than the smokers, and there was a statistically significant difference in the physical health scores in favor of the non-smokers. The American College of Sports Medicine states that tennis exercises are a highly viable and popular activity that meets health recommendations in terms of quantity and quality for the development and maintenance of cardiovascular fitness in healthy adults regardless of ability (Fernandez et al., 2009a). It has been previously reported that individuals who have been playing tennis for a long time provide the development of other physiological parameters such as power, strength, agility, and speed, as well as the development of endurance, thanks to cardiovascular and metabolic adaptations (König et al., 2021). When individuals who play tennis are compared to those who do not play tennis; it can be said that individuals who play tennis may have better physiological fitness and better mental health levels throughout their lifetime (Marks, 2006). In our study, it can be thought that men play tennis more than women in weekly days and hours, and this may be reflected in men's physical health scores. On the other hand, it is known that physical activity has many benefits including mental health and well-being (Mcmahon et al., 2017), and physical inactivity is said to bring negative mental health consequences (Vancampfort et al., 2020). In previous studies, it was reported that there is a strong relationship between the level of PA and the level of psychological distress, and the

probability of psychological distress decreases as the level of PA increases in both male and female (Romero et al., 2013). Social isolation caused by the COVID-19 pandemic has had negative consequences for mental health (Filgueira et al., 2021). In a study, it was reported that the COVID-19 quarantine significantly reduced the total PA level, sleep quality, and mental health scores (Trabelsi et al., 2021). In another study, it was concluded that PA/exercise was the most commonly used (59%) way of coping to manage stress during the COVID-19 pandemic process (Shechter et al., 2020). It has also been reported that individuals with high PA levels during the quarantine period have better emotional states, while those with mild PA levels have worse emotional states (Qin et al., 2020). In the COVID-19 epidemic, it was stated that tennis is a safe method that can increase the PA level, especially since it is contactless and can be played according to the social distance rules in the open area (Crespo et al., 2021). In a study conducted during the pandemic period, women's self-acceptance, positive relationships with others, environmental mastery, personal development, and purpose in life sub-dimensions scores were higher than men's (Fernández-Abascal & Martin-Diaz, 2021). In our study, it can be thought that the reason why women's mental health scores were higher than men's was that women's roles in social life contributed to this situation. It has also been reported that people with high-risk factors in terms of the effects of COVID-19 in the pandemic have reduced smoking, and on the contrary, those who work at home or live alone have increased their smoking behavior (Koyama et al., 2021). In our study, the reason for the fact that smokers had higher mental health scores than non-smokers while the physical health scores of smokers were lower than non-smokers could be due to many different reasons. That is why its reason is another issue that needs to be investigated further.

Another result of our study is that the physical health scores of the participants who have not had COVID-19 are higher than the mean physical health scores of those who have had COVID-19, but this is not statistically significant. Mental health mean scores of the participants who have had COVID-19 are higher than those who have not had COVID-19, but this is not statistically significant. According to the Centers for Disease Control and Prevention, it is said that being older, having a chronic disease, and being obese increases the likelihood of hospitalization for COVID-19 patients by 6 times and the probability of death by 12 times (Killerby et al., 2020). When the symptoms of COVID-19 patients were examined in meta-analytical studies; it is that patients experience muscle pain or muscle fatigue the most after constant fever and cough (Nasiri et al., 2020; Zhu et al., 2020). In our study, the fact that the majority of the participants have not had COVID-19 disease and there were very few participants with chronic diseases; may have ensured that the participants did not

experience the physical effects of COVID-19, thus ensuring high physical health scores. The fact that tennis players have the experience of thinking and acting under stress keeps them ready for battle in their life skills, as in the constant tennis match (Groppel & DiNubile, 2009). The fact that the participants in our study have played tennis recreationally for at least 1 year and the majority of them do not have chronic diseases may have ensured that their mental health scores were high even if they had COVID-19 in the hospital.

The final result of our study is that the physical health score averages of the participants who have had COVID-19 at home are higher than the physical health scores of those who have had COVID-19 in the hospital, but this is not statistically significant. Mental health mean scores of the participants who have had COVID-19 in the hospital are higher than the mean scores of those who have had COVID-19 at home, but this is not statistically significant. In a study conducted on the reports of the North Shore Institutional Review Board during the pandemic period; 8234 COVID-19 positive cases and 3003 recovered patients were followed up after discharge. In this cohort, those who were mildly symptomatic at first admission (1883 persons, 62.7%) and those who were asymptomatic (1120 persons, 37.3%) were divided into two groups. Death due to COVID-19 is limited to 21 patients (0.7%) (Haag et al., 2021). Patients who survived the pandemic COVID-19 and recovered were divided into two groups; those recovering at home and those recovering in hospital (Özer at al., 2021). According to the results of the systematic review, most of those who had COVID-19 disease had mild (at home) and moderate (hospital) disease (Talevi et al., 2020). Although those who had mild COVID-19 at home were mostly young patients, (Huang et al., 2019), the most prominent complaint of the patients was general weakness (Di-Flippo et al., 2021). In a study conducted during the pandemic period, it was reported that a significant portion of those who had COVID-19 in the hospital had shortness of breath, fatigue, depression, and limited exercise capacity after discharge (Raman et al., 2021). These results support the conclusion in our study that the health scores of those who had COVID-19 at home were higher than those of those who had it in the hospital. The current population of Turkey is (84.680,273 million), and as of 13.03,2022, those who take the 1st dose (57.734,203 million) and the 2nd dose (52.896,306 million) vaccines are at higher levels compared to the vaccination program over 12 years old (TCSB, 2022). Vaccines developed for COVID-19 can be effective in controlling the devastating social and economic effects of the virus and are thought to alleviate the severity of this epidemic (TTB, 2021). In a study conducted in Turkey, when the pre-vaccination group with and without COVID-19 were compared; the antibody levels of those who had the disease were found to be higher and the antibody levels of individuals

under 40 years of age were also higher (Vural et al., 2021). In a study, the ratio was determined for 105 patients with COVID-19 with a mean age (35.7±11) had a milder severity of symptoms than the first after they fully recovered and after contracting the disease for the second time, as 83.33% (Abdelrahman et al., 2021). These results are in line with the result that the majority of the participants in our study who had COVID-19 had the disease at home and these people were middle-aged. In addition, the reason why the mental health scores of the participants who have had the disease in the hospital were higher than those who have had the disease at home; They can be thought of as trying to keep up with the universal psychological responses of individuals to the COVID-19 pandemic after natural disasters (1-fear, 2-separation, loss and reaction to fate, 3-adaptation, sleep and social cognition, and 4-searching for meaning) (Sheek-Hussein et al., 2021), they increase their mental health by providing adaptation.

5. CONCLUSIONS

As a result, it can be said that the physical and mental health of individuals who have been playing tennis recreationally during the pandemic process are at a good level. The fact that the participants have played tennis during the pandemic process may have positively affected the general physical and mental health of both men and women.

One of the limitations of our study was that whether the participants have had COVID-19 was determined according to the results of the PCR (Polymerase Chain Reaction) test they had done in the past. Antibody testing was not requested from those who have not had COVID-19 disease to confirm this condition. Another limitation of our study is that the participants were not asked whether they were vaccinated, and it is not known whether this affects having COVID-19 and how they contract it. At this point, in future studies, the vaccination status of the participants and the vaccine dose status can be investigated. In addition, those who have an antibody test can be included in the study.

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All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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