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DO DAILY STEP COUNTS DURING THE PANDEMIC AFFECT THE BODY COMPOSITION AND MENTAL WELL-BEING OF UNIVERSITY STUDENTS?

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Abstract:
This study aims to determine whether the number of daily steps is effective in the body composition and mental well-being of university students during the COVID-19 pandemic. The research group of the study consisted of 40 volunteer students studying at the Faculty of Sport Sciences by being randomly assigned to the experimental (n:20) and control (n:20) groups. The research is in the experimental model with a pre-test/post-test control group. As a data collection tool in the study, the 'Warwick-Edinburgh Mental Well-Being Scale' was used to determine the personal information form and mental well-being. The obtained data were analysed in the Jamovi 1.8.2 statistical software program with a 95% reliability interval and 5% margin of error. In the analysis of the data, percentage (%), frequency (f), and mean ($\bar{x}$) values were used in the descriptive data, Paired Samples t-test was used in the pre-test/post-test comparison, and Multinomial Regression analysis was used in the relational analysis. According to the findings of the study, 75% of the students in the experimental group and 70% of the students in the control group were in the normal weight class according to the body mass index classification. According to waist-hip ratio classification, 85% of the experimental group and 70% of the control group were in the group that did not have cardiovascular disease risk. After two months of application, the daily average number of steps of the experimental group (12.575±1898.1) and the daily average number of steps of the control group were determined as (5381.27±2026.2). While there was a statistically significant difference in the pre-test/post-test body mass index averages of the experimental group who were asked to take at least 10,000 steps per day ($p<0.05$), although there was an increase in the mean waist-hip ratio and mental well-being, there was no statistically

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significant difference (p>0.05). It was determined that the step average had a statistically significant effect on the experimental group according to the body mass index classification (p<0.05). As a result, while taking at least 10,000 steps per day was effective in the body mass index of the students, it was not so in the waist-hip ratio and mental well-being. In this context, physical activity, and especially walking, can be recommended at the point of protecting health.

Keywords: step counts, body composition, mental well-being

1. Introduction

The COVID-19 (coronavirus disease) pandemic, which affects the whole world, first appeared in the city of Wuhan, China in early December 2019, as the severe acute respiratory syndrome of coronavirus 2 (SARS-CoV-2) (Huang et al., 2020). The World Health Organization declared on January 31, 2020, that COVID-19 is a pandemic of international concern in public health and declared a state of emergency on March 11, 2020 (Ghebreyesus, 2020). Curfew, partial quarantine practices, social distance, mask use, and cleaning rules have become essential to prevent the spread of the COVID-19 pandemic in our country as well as all over the world. Staying at home for a long time is said to cause; increased sitting times, lower energy expenditure (Chen et al., 2020), weakened immunity (Schmitt and Schaffar, 1993), and later on, obesity, joint disorders, vitamin D deficiency, osteoporosis, muscle atrophy, decrease in functional capacity, behavioural changes, depression, and a physically inactive lifestyle (Ünal et al., 2020). Participation in physical activity or sports, which is an essential component of maintaining a healthy lifestyle (Hull et al., 2020) has been adversely affected due to the restriction of access to social areas, fitness centres, and public parks as part of the COVID-19 pandemic safety measures (Heffernan and Jae, 2020).

Due to COVID-19, the young population has shown a sedentary lifestyle during the quarantine period, their susceptibility to depression has increased and their quality of life has been adversely affected (Cihan and Pirinççi, 2020). In this sense, the COVID-19 pandemic is now exacerbating another established global epidemic; physical inactivity (Hall, 2020). Increased inactivity and lack of physical activity (Lee et al., 2012) rank first in a variety of non-communicable diseases worldwide (WHO, 2014). Physical inactivity is one of the risk factors for a wide range of modifiable diseases and is also the fourth leading risk factor for global mortality (Dasso, 2018). It is estimated that with a 10% reduction in physical inactivity, more than half a million deaths could be prevented each year (Lee et al., 2012). The benefits of physical activity for restoring health and preventing diseases (Caspersen et al., 1985) are extensive in terms of reducing the risk of disease and improving mental health (Barr et al., 2018). For the post-pandemic lifestyle to be healthier and longer, we should not stay inactive even if we are at home, away from exercise and exercise areas (Çelik and Yenal, 2020).

For a long time, 10,000 steps a day has been seen as the minimum requirement for a person to be considered "physically active" and pedometers; are simple and inexpensive motion sensors that are easily used by researchers and practitioners to evaluate and motivate physical activity behaviours (Tudor and Bassett, 2004). Recently, after studies on this threshold, lower mortality was observed in older women who had taken 4,400 steps per day; with the greatest benefit reported with 7,500 daily steps (Lee et al., 2019). In addition to being simple, natural, and safe, walking at the point of providing movement during the quarantine process is stated to provide improvements in health parameters such as nutrition, sleep pattern, and vigor in the daily lives of individuals (Başkan et al, 2019). In cases of physical inactivity, people can experience not only physiological disorders but also psychological disorders such as depression (Khosravi et al., 2015). In addition, it has been demonstrated that having an active lifestyle has positive effects on mental well-being (Chekroud et al, 2018; Stubbs et al, 2018). The World Health Organization defines mental well-being as "*an individual's awareness of his/her abilities, overcoming the stress in his/her life, being productive and beneficial in business life, and contributing to society in line with his/her abilities*" (Who, 2004). To cope with the negative emotions of people in quarantine; increasing physical activity and sleeping regularly are strategies to reduce negative emotions (Zhang et al., 2020). Exercise neutralizes the effects of psychological stressors on cardiac reactivity (Hamer et al, 2006). It also reduces stress-inducing increases in stress hormones (Greenwood et al., 2003), serotonin (Greenwood and Fleshner, 2011) and prevents stress-induced immune suppression (Fleshner, 2005). It can be said that aerobic walking exercise is beneficial in bringing individuals to better mental health, protecting them from depression and reducing depressive symptoms (Aylaz et al, 2011). At this point, internet tools and video conferencing methods, which are used more effectively during quarantine, can increase physical activity as a part of our lives (Çelik and Yenal, 2020).

It is known that more than 5 billion people have mobile devices today, and almost all of these phones include a step counter and nutrition applications. Many people use nutrition-related mobile applications to control their diet and maintain their personal ideal weight (Mattioli et al., 2020). Applications can be more effective when social support is advocated and can be a useful tool to reduce the negative impact of quarantine on lifestyle (Paramastri et al., 2020, DiFilippo et al., 2015). While studies emphasize the importance of such practices to stay physically active during the critical period of COVID-19 (Chen et al., 2020; Schwendinger and Pocecco, 2020), physical activity applications can be attractive to users, adaptable to many people, and can be used in small spaces during quarantine (Yang and Koenigstorfer, 2020). Individuals need to be in complete physical and mental well-being during the quarantine. In order to get through the pandemic with the least damage possible, trying to stay active at home, making exercise programs a part of life, and adopting holistic approaches that will protect and improve health in all aspects are important (Arslan and Ercan, 2020). In this context, in this study, it was aimed to reveal the relationship between body composition and mental well-being and the number of daily steps of university students during the pandemic.

2. Material and Methods

2.1. Research Model

This research, which aims to determine the relationship between the number of daily steps and body composition and mental well-being of university students during the pandemic, is an experimental model with a pre-test/post-test control group.

2.2. Research Group

40 undergraduate students (female: 17, male: 23) studying at the Faculty of Sport Sciences participated in the study. Participants were randomly assigned to groups to form experimental (n: 20, female: 10, male: 10) and control (n: 20, female: 7, male: 13) groups. 35% of the participants smoke, 65% do not; 45% have a job and 55% do not.

Table 1: Descriptive statistics of the Experimental and Control groups

	N	Age ($\bar{x}\pm$ ss)	Height ($\bar{x}\pm$ ss)	Weight ($\bar{x}\pm$ ss)	BMI ($\bar{x}\pm$ ss)	WHR ($\bar{x}\pm$ ss)
Experimental	20	21.40±3.20	169.30±6.82	66.99±11.99	23.31±3.55	0.84±0.07
Control	20	22.60±4.38	172.35±8.39	68.67±14.02	22.90±3.12	0.85±0.10

2.3. Data Collection Tools

2.3.1 Determining Body Composition

A. BMI Evaluation

Height and weight measurements of the participants were obtained at the beginning and end of the study as a result of their application to their family physicians. According to the data obtained from all participants; BMI values were calculated. Quetelet index (body mass index, BMI), first described by statistician, astronomer, epidemiologist, and anthropologist Lamber Adolphe Jacques Quetelet from Antwerp, Belgium in 1835, has been used in the determination of body composition for more than a century. BMI index: is the ratio of measured weight (kg) to height (m) squared (BMI= weight (kg)/height^2(m^2)). According to the World Health Organization (WHO); persons with BMI < 18.5 kg/m2 are considered underweight, those with 18.5 ≤ BMI < 25 kg/ m2 are considered normal, those with 25 kg/ m2 ≤ BMI >30 kg/ m2 are overweight, and those with 30 kg/ m2 ≤ BMI are considered obese.

B. Evaluation of Waist/Hip Ratio

The waist and hip measurements of the students were provided by the researchers to measure from the reference points using a tape measure. There are different recommendations for waist circumference measurement. In our study, the measurement was taken from here, as it allows the measurement to be made from the thinnest place between the iliac crystals and the end of the costae. The hip measurement is made from the widest part of the hip. Both measurements were made by holding the tape measure parallel to the ground with an inelastic tape measure (Erhman, 2017). The waist-hip ratio (WHR) is the waist circumference divided by the hip circumference. It has been reported that a WHR of ≥0.94 for young men and ≥0.80 for young women is associated with a higher risk of cardiovascular disease (ACSM, 2018).

C. Pedometer Application

Participants were requested to install the 'Gstep' pedometer application on their mobile phones. The mobile pedometer application 'Gstep', which will be used at the application point, gives the users the number of steps taken during the day, the distance they have covered (in km), the floor level they have climbed, and the number of calories they have burnt. After determining the experimental group and the control group, the pre-test data were collected. While the experimental group was asked to take at least 10,000 steps per day for 2 months, the control group was asked to continue their routine life. The step counts of the experimental and control groups were tracked through activity diaries and recorded day by day (days when there was no curfew).

D. Mental Well-Being Scale

The 'Warwick-Edinburg Mental Well-Being Scale', which was used to determine the mental well-being of university students during the quarantine participating in the research, was developed by Tennant et al. (2007). It is a 5-point Likert-type scale consisting of 14 items, the validity, and reliability of which was made by Kendal (2015). All items of the scale are positive, and the reliability studies of the scale were carried out with individuals aged 16 and over. While the Cronbach's Alpha coefficient of the scale was determined as .89, the correlation coefficient in the test-retest reliability of the scale performed with one-week intervals was determined as .83. In our study, the Cronbach Alpha coefficient was found to be .88.

2.3.2 Research Ethics

The necessary permission to start the study was obtained from the Scientific Research and Publication Ethics Committee of Karamanoğlu Mehmetbey University Rectorate on 08.02.2021 (Document no: E-95728670-100-4457).

2.4. Analysis of the Data

In the study, "frequency (n), percentage (%), arithmetic mean ($\bar{x}$) and standard deviation (ss)" were used for personal information. In order to examine the normality distribution of the data, it was determined that the skewness and kurtosis coefficients of the data were in the range of +1.5 to -1.5. "*This situation is interpreted as the scores obtained from the study show a normal distribution*" (Tabachnick and Fidell, 2013). Based on this, Paired Samples t-test was used in the pre-test/post-test comparison, and the Multinomial Regression Analysis was used in the relational analysis.

3. Results

The frequency and percentage values of the body mass index and waist-hip ratio classifications of the experimental and control groups are given in Table 2.

Table 2: Percentage (%) and frequency (f) values of the
BMI classification of the Experimental and Control Groups

BMI Classification	Experimental (n:20)		Control (n:20)	
	F	%	F	%
Thin	1	5	1	5
Normal	15	75	14	70
Overweight	3	15	5	25
Obese	1	5	0	0

When Table 2 is examined, according to body mass classification, 75% of the experimental group is in the normal group, 15% is in the overweight group, 5% is in the thin group, and the remaining 5% is in the obese group. According to body mass index classification, 70% of the control group is in the normal group, 25% is in the overweight group, and 5% is in the underweight group.

Table 3: Percentage (%) and frequency (f) values of the
WHR classification of the Experimental and Control Groups

WHR Classification	Experimental (n:20)		Control (n:20)	
	F	%	F	%
CDR (no)	17	85	14	70
CDR (yes)	3	15	6	30

CDR: Cardiovascular Disease Risk

When Table 3 is examined, it is seen that 85% of the experimental group has no cardiovascular disease risk and 15% has cardiovascular disease risk according to the waist-hip ratio. According to the waist-hip ratio, 70% of the control group does not have cardiovascular disease risk, and 30% has cardiovascular disease risk.

Table 4: Pre-test /post-test averages of the groups'
BMI, WHR, and Mental Well-Being (MWB) scale

		N	BMI ($\bar{x}$ ± ss)	WHR ($\bar{x}$ ± ss)	Mental Well-Being ($\bar{x}$ ± ss)
Pre-Test	Experimental	20	23.31±3.55	0.84±0.07	56.35±6.94
	Control	20	22.90±3.12	0.85±0.10	53.40±9.15
Post-Test	Experimental	20	22.52±3.22	0.82±0.07	57.25±5.41
	Control	20	22.88±2.13	0.85±0.11	53.80±9.00

When Table 4 is examined, the body mass index pre-test averages of the experimental group are (23.31±3.55) and post-test averages are (22.71±3.14). The body mass index averages of the control group are (22.90±3.12) and post-test averages (22.88±2.13). The pre-test averages of the waist-hip ratio of the experimental group are (0.84±0.07) and the post-test averages (0.82±0.07). The pre-test averages of the waist-hip ratio of the control group are (0.85±0.10) and post-test averages (0.85±0.11). It is seen that the mental well-being scale pre-test averages of the experimental group are (56.35±6.94) and post-test averages (57.25±5.41). It is seen that the mental well-being scale pre-test averages of the control group (53.40±9.15) and post-test averages are (53.80±9.00) values.

Table 5: The t test results of the groups' BMI, WHR and MWB scale

		T	Df	Cohen d	p
Experimental	BMI	3.9308	19.00	0.87894	0.00***
	WHR	1.2974	19.00	0.29011	0.21
	MWB	-1.0000	19.00	-0.22361	0.33
Control	BMI	0.11859	19.00	0.026518	0.91
	WHR	0.56351	19.00	0.126006	0.58
	MWB	-0.47384	19.00	-0.105953	0.64

***p<0.001

When Table 5 is examined, there is a statistically significant difference between the body mass index pre-test averages (23.31±3.55) and post-test averages (22.71±3.14) of the experimental group (t=3.9308, p<0.001). Although there is an increase between the waist-hip ratio pre-test averages (0.84±0.07) and post-test averages (0.82±0.07) of the experimental group, there is no statistically significant difference (t=1.2974, p>0.05). Although there is an increase between the mental well-being scale pre-test averages (56.35±6.94) and post-test averages (57.25±5.41) of the experimental group, there is no statistically significant difference (t=-1.0000, p>0.05). There is no statistically significant difference between the body mass index pre-test averages (22.90±3.12) and post-test averages (22.88±2.13) of the control group (t=0.11859, p>0.05). There is no statistically significant difference between the waist-hip ratio pre-test averages (0.85±0.10) and post-test averages (0.85±0.11) of the control group (t=0.56351, p>0.05). There is no statistically significant difference between the mental well-being scale pre-test averages (53.40±9.15) and post-test averages (53.80±9.00) of the control group (t=-0.47384, p>0.05).

Table 6: Multinominal Regression Analysis Results
of BMI classification and Step Average of the groups

BMI Classification	Predictor	Estimate	SE	Z	p
Normal-Thin	Intercept	-0.15625	1.0386e-8	-1.5044e–7	.0001***
	Group:				
	Experimental-Control	-4.21076	8.6437e-9	-4.8715e–8	.0001***
	Step Average	5.9844e-4	8.7237e-5	6.8599	.0001***
Overweight-Thin	Intercept	-0.73524	1.0474e-8	-7.0195e–7	.0001***
	Group:				

	Experimental-Control	-5.33338	5.6538e-9	-9.4333e−8	.0001***
	Step Average	6.0573e-4	9.3457e-5	6.4814	.0001***
Obese-Thin	Intercept	-10.25289	8.5132e-9	-1.2043e−9	.0001***
	Group:				
	Experimental-Control	0.58482	8.5068e-9	6.8747e+7	.0001***
	Step Average	7.9843e-4	1.1408e-4	6.9991	.0001***

***$p<0.0001$, $R^2 = 0.0767$

When Table 6 is examined, it is seen that the step ratio average affects the experimental group at a rate of (-5.9844e-4) compared to the control group in the comparison of normal-thin according to body mass index classification. According to the body mass index classification, in the comparison of overweight and underweight, it is seen that the step average affects the experimental group by a rate of (-6.0573e-4) compared to the control group. In the comparison of obese-thin according to body mass index classification, it is seen that the step average affects the experimental group by a rate of (7.9843e-4) compared to the control group. In our study, the ratio of the independent variable step average's explanation of the dependent variable body mass index is 77.00%.

4. Discussion

The following results were obtained in this study, in which the effects of students taking at least 10,000 steps per day during the pandemic process on their body composition and mental well-being were investigated.

4.1 Results regarding the classification of body mass index and waist-hip ratio of the groups

According to the body mass index classification, 75% of the students in the experimental group and 70% of the students in the control group take place in the normal weight class. According to waist-hip ratio classification, 85% of the experimental group and 70% of the control group are included in the group without cardiovascular disease risk. In studies conducted before the pandemic, it is seen that BMI values of sports science students are within normal ranges (Borazan, 2015; Çebi and İmamoğlu, 2018; Şener, 2018). Weight gain, which may occur due to inactivity with the COVID-19 pandemic, may also bring negative health consequences (Souza and Tritanty, 2020). The results of a study conducted in the UK reveal that a higher body mass index causes more mortality of COVID-19 (Peters et al., 2021). In addition, hypertension, diabetes, and cardiovascular disease have been identified as potential risk factors for more severely ill patients with COVID-19 (Martinez-Ferran et al., 2020). Chwałczyńska and Andrzejewski (2021) found in their study that Sports Science students had normal BMI values at the beginning of the pandemic. Romero-Blanco et al. (2020) reported that 76.5% of the students had a normal BMI in the study they conducted on Sports Science students during the pandemic period. Öncen et al. (2020), on the other hand, found that Sports Science students living in provinces with and without a curfew have normal BMI values. Akyol et al. (2020) also stated that Sports Science students did exercises suitable for home conditions during the quarantine process, tried to encourage the individuals around them, and were interested in other activities. In our study, BMI values and WHR remained within normal limits when students were able to go out on certain days and at certain hours during the pandemic period. This may be due to the fact that students continue their education in sports sciences and are constantly intertwined with sports, and students try to stay active during the pandemic period. The studies carried out also support our study.

4.2 The results of the groups' 2-month daily step counts follow-up on the average step counts

After two months of application, the daily average number of steps of the experimental group was determined as (12.575±1898.1) and the daily average number of steps of the control group as (5381.27±2026.2). In order to slow the spread of the epidemic known as COVID-19, many countries have been implementing measures such as using masks, maintaining social distance, and staying at home (Király et al., 2020). The number of daily steps is said to be associated with important health outcomes, including all-cause mortality, cardiovascular diseases, and type 2 diabetes (Kraus et al., 2019). It is known that the decrease in the number of steps taken daily (<1000 steps/day) affects the glycaemic level and inflammatory status of the person, as well as the loss of muscle mass and strength, even within a short period of 2 weeks (Lakicevic et al., 2020). Although simple and easy physical activity such as walking has gained more importance, especially during the pandemic period, the mobility restrictions applied to reduce the spread of COVID-19 have affected walking times (Hunter et al., 2021). In a study conducted before the pandemic, it was determined that approximately 26% of university students used the mobile health application and 24% used the pedometer application (Güner et al., 2018). As before the pandemic, during the pandemic period, mobile devices are used in physical activity research, especially in high number of research groups, and they have become the tools used at the point of reaching detailed data about time (Kang et al., 2017). At this point, pedometer applications on mobile devices have gained importance in determining the physical activity status of people (Yıldız and Kara, 2020). According to the data obtained from the mobile devices of individuals during the quarantine period, it was observed that young people spent more time at home and took fewer steps on average per day (Sun et al. 2020). In another study conducted during the pandemic period, a total of 19,144,639 daily steps were measured from the mobile devices of 455.404 users from 187 different countries, within 30 days after the announcement of the pandemic, it was determined that there was a decrease of 27.3 (1432 steps), and that a decrease of 5.5% in average steps (287 steps) within 10 days of the declaration of the pandemic (Tison et al., 2020). In a study conducted with 164,630 people in China, a significant decrease of 3796 steps before and during quarantine, and an increase of 34 steps afterward were determined (Ding et al., 2021). In a study conducted with university students in Italy, it was reported that physical activity based on walking decreased (Gallè et al., 2020). In a study conducted in Turkey, it was found that the number of steps decreased significantly in all groups, regardless of gender and medical condition, during the pandemic compared to before the pandemic (Atakan et al., 2021). The reason why the daily average number of steps (>5000) did not decrease below even in the absence of any intervention in the control group in our study could be thought that the students are Sports Sciences students and are busy with any work in daily life.

4.3 Pre-test/Post-test results of the groups' body mass index, waist-hip ratio, and mental well-being data

While there was a statistically significant difference in the pre-test /post-test body mass index averages of the experimental group who were asked to take at least 10,000 steps per day ($p<0.05$), there was no statistically significant difference ($p>0.05$) although there was an increase in the mean waist-hip ratio and mental well-being. It has been previously reported that there is a positive relationship between psychiatric conditions such as depression, anxiety, manic, panic attacks, social phobia, suicidal ideation, etc (Mather et al., 2009). With the COVID-19 pandemic, the restriction of people's mobility in quarantine conditions has also increased the psychological burden of people (Chouchou et al., 2020; López-Bueno et al., 2020). Despite the fact that the necessity of continuing physical activity, which is known to reduce stress and anxiety, is recommended by the states, quarantine continues in many countries (Toresdahl and Asif, 2020). The transition and uncertainty of universities in the world to distance education, technological concerns of distance education, being away from home, social isolation, decreasing family income, and future employment have led to an increase in university students' stress, anxiety, and depressive symptoms (Aristovnik et al., 2020; Yang et al., 2020). University students in France have been found to have high suicidal thoughts, depression, anxiety, and stress symptoms in the quarantine periods during the COVID-19 epidemic (Wathelet et al., 2020). It is said that 10 minutes of moderate-intensity walking a day may improve mood (Crush et al., 2018). During the pandemic period, it was observed that university students who took the average daily (<599) steps had significantly lower mental status (depression, anxiety, and stress) scores than those who took an average daily (>2000) step and exercised for 1 hour daily (Deng et al. 2020). It has been reported that there are strong relationships between mental well-being and basic psychological needs in individuals who exercise (Öner, 2019). In this context, taking at least 10,000 steps per day of Sports Science students during the pandemic period increased their mental well-being, but the fact that this increase was not statistically significant can be because the basic psychological status and needs of the students were not fulfilled. In studies conducted before the pandemic, it was reported that walking exercises based on taking at least 10,000 steps per day for 12 weeks reduced the WHR values of the participants (Yuenyongchaiwat, 2016; Göçer, 2015). Again, in a study conducted on university students before the pandemic, it was observed that although there was a significant increase in the number of daily steps in the experimental group compared to the control group, there was no change in health data (Rote, 2017). In our study, the reason for the decrease in the WHR scores of the experimental group, but not statistically significant can be thought of due to the fact that at the beginning most of the students' WHR was not within the cardiovascular risk limits.

4.4 Results regarding the effect of step average on body mass indexes of the groups

It was determined that the step average had a statistically significant effect on the experimental group according to the body mass index classification ($p<0.05$). External stimuli can play an important role in developing healthy lifestyle behaviour (Erdem et al., 2020). Using a pedometer to determine the daily step count of individuals is an easy method to follow and encourage physical activity (Bravata et al., 2007). In a study conducted before the pandemic, it was reported that as a result of encouraging the increase in the number of steps of the participants, the average number of steps increased by 26.9% and BMI values decreased (Clarke et al., 2007; Rooney et al., 2005). In another study, it was observed that an internet-based motivational intervention supported by pedometers significantly increased the number of steps of sedentary students (Miragall et al. 2018). In another study, it was concluded that after 12 weeks of walking exercise applied to participants who took (<5,000) steps per day, participants took at least 10,000 steps per day, resulting in an increase in the physical activity level of the participants, and a decrease in body weight and BMI values (Yuenyongchaiwat, 2016). In a study conducted before the pandemic; as a result of asking participants to take more steps gradually over 24 weeks; It has been reported that taking at least 10,000 steps per day has a positive effect on the body weight and body composition of individuals (Bailey et al., 2019). Chaudhry et al. (2020) stated as a result of the systematic review of the effects of step count monitoring interventions on physical activity that there are increases in short and long-term step count, and simple step count monitoring interventions can be prioritized to address the problem of physical inactivity. In a 4-month longitudinal experimental study during the pandemic period, a statistically significant result was found in the BMI values of the experimental group at the end of 4 months through self-report of physical activity (Nagovitsyn et al., 2021). This study supports the result of our study.

5. Conclusion

As a result, while taking at least 10,000 steps per day is statistically significant in the BMI values of the students, this increase is not statistically significant although there is a decrease in WHR and an increase in MWB scores. In our study, it can be said that taking an average of 5000 steps per day does not make a difference from the group taking 10,000 steps in mental well-being, so taking 5000 steps daily may also affect mental well-being. Daily step counts can be used to encourage physical activity in individuals and to determine future physical activity levels. Physical inactivity is a major public health concern, and our findings support the findings that step count tracking interventions can improve physical activity levels. In this direction, walking interventions can be applied with a large sample of pedometer applications for longer periods and in groups with very low daily step counts. In addition, technological tools such as pedometers can be used as a motivating tool to improve the current situation in crisis interventions such as COVID-19 and as a competitive tool in application groups.

Conflict of Interest Statement

The authors declare no conflicts of interests.

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