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Özgün araştırma

Covid-19 Pandemisinin Farklı Meslek Gruplarına Koronafobi, Fiziksel Aktivite Engelleri, Fiziksel Aktivite Düzeyi ve Yaşam Kalitesi Açısından Etkisi

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Öz

Amaç: Bu çalışmanın amacı, farklı meslek gruplarında Covid-19 pandemisi sırasında koronafobi, fiziksel aktivite engelleri, fiziksel aktivite düzeyleri ve yaşam kalitelerini karşılaştırmaktı.
Gereç ve Yöntem: Bu çalışmaya 1685 kişi dahil edildi. Katılımcılar mesleklerine göre öğrenci (n=498), sağlık çalışanı (n=259), masa başı çalışan (n=419), özel sektör/serbest meslek (n=201), silahlı kuvvetler/güvenlik personeli (n=88) ve sınıflandırılmamış grup (n= 220) olarak gruplandırıldı. Koronafobi düzeyleri (Covid-19 Fobi Ölçeği, C19F-Ö), fiziksel aktivite engelleri (Fiziksel Aktivite Engelleri Anketi, FAEÖ), yaşam kalitesi düzeyleri (Nottingham Sağlık Profili, NSP) değerlendirildi.
Bulgular: C19F-Ö toplam ve "Psikolojik" ve "Sosyal" alt boyut puan ortalamaları, FAEÖ toplam ve "Kişisel" alt boyut puan ortalamaları öğrenci grubunda diğer gruplara göre daha yüksekti ($p<0,001$). C19P-Ö "Ekonomik" alt boyutu puan ortalaması özel sektör/serbest meslek grubunda daha yüksekti ($p<0,001$). FAEÖ "Sosyal" alt boyut puanı sağlık çalışanlarında daha yüksek bulundu ($p<0.05$).
Sonuç: Bu çalışmanın sonuçları, sağlık çalışanlarında fiziksel aktivite engelinin sosyal faktörlerden kaynaklanabileceğini ve özel sektör/serbest meslek grubundaki bireylerin koronafobisinin daha çok ekonomik nedenlerden kaynaklanabileceğini desteklemektedir. Bu çalışma, farklı meslek gruplarının yaşam tarzlarının pandeminin farklı yönlerinden etkilenebileceğini düşündürmektedir. İleride yapılacak çalışmalarda tüm meslek grupları için bireysel egzersiz takip sistemi oluşturulabilir.

Anahtar kelimeler: *COVID-19, Meslekler, Egzersiz, Yaşam Kalitesi*

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Original Research

The Effect of COVID-19 Pandemic on Different Occupational Groups in terms of Coronaphobia, Barriers to Physical Activity, and Quality of Life

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Abstract

Objectives: The aim of this study was to compare coronaphobia, barriers to physical activity, the levels of physical activity and quality of life in different occupational groups during the Covid-19 pandemic.
Materials and Methods: 1685 individuals were included in this study. Participants were grouped per their professions as students (n=498), healthcare workers (n=259), desk workers (n=419), private sector/self-employed (n=201), army/security personnel (n=88), and non-classified (n= 220). Coronaphobia levels (Covid-19 Phobia Scale, C19P-S), barriers to physical activity (Physical Activity Barriers Questionnaire, PABQ), quality of life levels (Nottingham Health Profile, NHP) were evaluated.
Results: C19P-S total and "Psychological" and "Social" sub-dimension mean scores, PABQ total and "Personal" sub-dimension mean scores were higher in the student group compared to the other groups ($p<0.001$). The mean score of the C19P-S "Economic" sub-dimension was higher in the private sector/self-employed group ($p<0.001$). The PABQ "Social" sub-dimension score was found to be higher in healthcare workers ($p<0.05$).
Conclusion: The results of this study support that barrier to physical activity in health workers may be caused by social factors and the coronaphobia of individuals in the private sector/self-employed group may be mostly caused by economic reasons. This study suggests that the lifestyle of different occupational groups may be affected from different aspects of the pandemic. In future studies, an individual exercise tracking system can be created for all occupational groups.

Keywords: *COVID-19, Occupations, Exercise, Quality of Life*

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Introduction

COVID-19 was first declared by the World Health Organization (WHO) as a new viral pneumonia on 31 December 2019. Then it became one of the most serious pandemics and spread rapidly all over the world ([WHO] World Health Organization, 2020). The first case in Turkey was reported on March 11, 2020, and approximately 5.46 million cases have been reported worldwide until July 11, 2021 (Republic of Turkey Ministry of Health Corona Table). Restrictions were introduced in Turkey in order to reduce the spread of the virus and its effects. Schools and all public gathering places were shut down. A long period of curfew was declared for the elderly and also for those with chronic illnesses. In addition, staying at home and working from home were encouraged (Toprak Celenay et al., 2020).

Recently, with the decrease in the number of cases, curfew restrictions were revoked in Turkey as in most countries. However, uncertainty about new variations of the COVID-19 pandemic still remains. Social distancing rules are expected to persist for months or even years. Social distancing protects us from the virus. However, if individuals accept isolation as an obstacle to physical activity and reduce the activity rate, the risk of developing chronic diseases will increase (Papaioannou et al., 2020; Ozmen et al., 2016). Such problems will both increase health expenditures and adversely affect the quality of life considerably (Yurtcicek et al., 2018). Identifying barriers to physical activity may prevent health problems that may arise in future preventive restrictions (Coto et al., 2020). Although the potential protective roles of physical activity on human health during the pandemic are known, the differences between occupational groups in this regard are largely unknown. Investigating the differences in occupational groups will give an idea about which group should give importance to more physical activity as well as in the development of regulations for work conditions.

There is no clear view regarding the effect of COVID-19 on the level of coronaphobia aside from its effects on the quality of life and physical activity level of individuals (Srivastav et al., 2021). Determining the effect of coronaphobia on different professional groups will assist developing strategies to cope with the pandemic (Coto et al., 2020). The main purpose of this study was to evaluate the effects of COVID-19 on coronaphobia, physical activity barriers, and physical activity and quality of life levels in different occupational groups and to investigate differences between these occupational groups in this regard.

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Materials and Methods

This study was conducted in line with the principles of the Declaration of Helsinki (World Medical Association 2014 General Assembly). It was approved by the Ethics Committee of Bozok University (Decision number: 2017-KAEK-189_2021.02.10_13) and was conducted in accordance with international ethical standards for human biological rhythm research (Portaluppi et al., 2010).

Between March 1 and July 01, 2021, a web-based assessment was conducted via an online form. Individuals aged 18-65 years who volunteered to participate in the study were included in the study. Those who had Covid-19 in the past, those with known psychological disorders, and those who were illiterate and could not fill in the forms were excluded from the study. A signed informed consent form was obtained from the participants.

The individuals participating in the study were classified in 6 groups as healthcare professionals (physicians, nurses, dentists, pharmacists, midwives, physiotherapists, and emergency medical technicians), desk workers (teachers, academics, and civil servants), self-employed/private sector employees (engineers, tradesmen, farmers, and workers), army/security personnel (police officers, soldiers, and security guards), students, and non-classified occupational group (housewives and retirees).

The demographic and physical characteristics of the participants (age, weight, height, gender, education, occupation, marital status, chronic diseases, and exercise habits before and after the pandemic) were recorded. Coronaphobia levels, barriers to physical activity, and physical activity and quality of life levels were evaluated using an online form.

Coronaphobia was evaluated with the Covid-19 Phobia Scale (C19P-S), developed by Arpacı et al. (2020) C19P-S is a questionnaire consisting of 20 items in 4 sub-dimensions, namely psychological, psychosomatic, economic, and social subscales. All items are rated on a 5-point scale from “strongly disagree (1)” to “strongly agree (5)”. The total score ranges from 20 to 100; higher scores indicate a higher level of coronaphobia (Toprak Celenay et al., 2020; Arpaci et al., 2020).

The physical activity levels of the participants were evaluated with the short form of the International Physical Activity Questionnaire (IPAQ-7). This questionnaire evaluates individuals’ physical activity performance during the previous 7 days. The energy expenditure associated with physical activity is converted to metabolic activity (MET). The MET score is calculated using 1 MET for sitting, 3.3 METs for walking, 4 METs for moderate activity, and 8 METs for intense activity. For the total score, MET values from walking, moderate activity,

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and intense activity are summed up. Higher scores indicate higher levels of physical activity (Saglam et al., 2010; Cheval et al., 2021).

The Physical Activity Barriers Questionnaire (PABQ) was used to determine the factors that prevented the participants from doing physical activity. The Turkish version of the PABQ, which was adapted by Yurtcicek et al., is a 5-point Likert-type (1=strongly disagree, 5=strongly agree) and consists of 24 items. Higher scores on the scale indicate more barriers to physical activity (Yurtcicek et al., 2018).

The Nottingham Health Profile (NHP) was used to assess health-related quality of life. The Turkish adaptation study was conducted by Kücükdevecı et al. (2000) The NHP is a general quality of life questionnaire that measures individuals' perceived health problems and the extent to which these problems affect normal daily activities. The questionnaire consists of 38 "yes/no" items in 6 sub-dimensions: energy (3 items), pain (8 items), emotional reactions (9 items), sleep (5 items), social isolation (5 items), and physical activity (8 items). Each section is scored between 0 and 100. "0" indicates the best health, and "100" indicates the worst health (Tarsuslu Simsek et al., 2010).

Statistical Analysis

All data analyses were performed using the SPSS 25.0 software (SPSS Inc., Chicago, Illinois, USA). Continuous variables are expressed as mean ±standard deviation. The Kolmogorov Smirnov test was used for determination of normal distribution. Categorical variables are given as number (n) and percentage (%). Since the number of participants was over 200 in the study, parametric tests were used (Tabachnick and Fidell, 2001). One Way ANOVA test, one of the parametric tests, was applied to determine whether there was significant differences between the independent variables and the scale and sub-dimension scores. In case of a significant difference between the groups, the post-hoc test was performed to determine between which groups the significance was. Bonferroni's post-hoc test was chosen because the variance was homogeneously distributed and the sample numbers were not equal (Miler 1981). A chi square test was used to compare categorical variables. $p<0.05$ was considered statistically significant.

Results

A total of 1734 individuals participated in the study. Participants were classified as students (n=500), health workers (n=262), desk workers (n=441), private sector/self-employed workers (n=214), army/security personnel (n=92), and non-classified workers (n =225). After

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the exclusion criteria were applied, 1685 individuals were included in the data analysis. Details of the included and excluded individuals are presented as a flowchart (Figure 1).

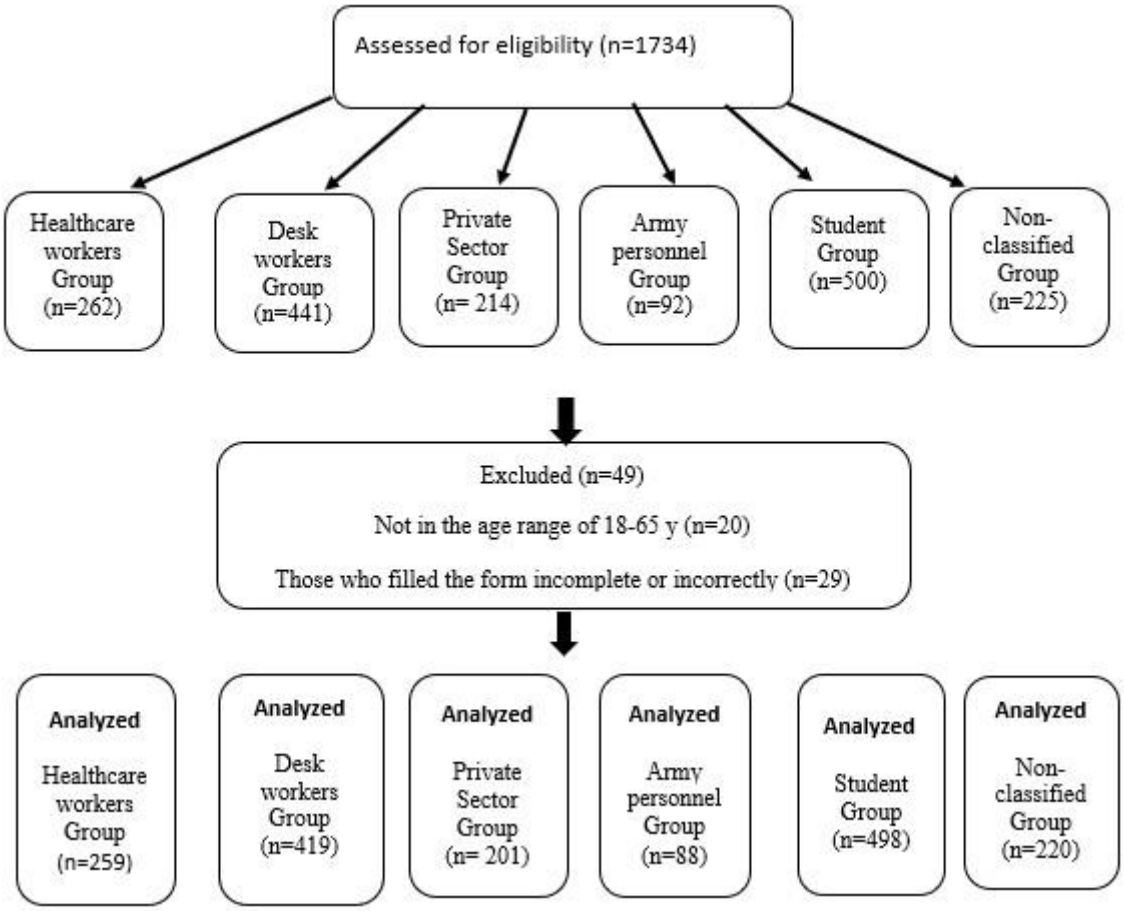

Figure 1. The flowchart diagram of the participants.

The sociodemographic variables per group are presented in Table 1. There was no statistically significant difference between the occupational groups in terms of the question "Did you have exercise habits before the pandemic?" ($p>0.05$). However, there was a statistical difference between occupational groups in terms of gender ($p<0.001$), educational status ($p<0.001$), marital status ($p<0.001$), body mass index (BMI) ($p<0.001$), and the question “Have you had a post-pandemic exercise habit?” ($p=0.028$) (Table 1).

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Table 1. Comparison of physical and demographic characteristics of occupational groups.

	Occupational groups						p
	Healthcare workers (n=259)	**Desk workers (n=419)**	**Private Sector (n=201)**	**Students (n=498)**	**Army Personnel (n=88)**	**Non-classified (n=220)**	
Gender							
Female	215 (17.6)	313 (25.6)	83 (6.8)	387 (31.6)	16 (1.3)	210 (17.2)	**<0.001&**
Male	44 (9.5)	106 (23.0)	118 (25.6)	111 (24.1)	72 (15.6)	10 (2.2)	
BMI (kg/m^2)	23.94±3.4	24.95±3.7	24.45±4.1	22.58±3.1	26.43±3.9	26.65±4.7	**<0.001&**
Education							
Secondary school	0 (0.0)	2 (1.7)	14 (11.9)	19 (16.1)	0 (0.0)	83 (70.3)	
High school	21 (6.5)	31 (9.7)	57 (17.8)	123 (38.3)	10 (3.1)	79 (24.6)	**<0.001&**
Graduate	152 (15.5)	265 (27)	98 (10.0)	347 (35.3)	70 (7.1)	51 (5.2)	
Postgraduate	86 (32.7)	121 (46)	32 (12.2)	9 (3.4)	8 (3)	7 (2.7)	
Marital status							
Married	143 (18.5)	272 (35.1)	83 (10.7)	7 (0.9)	70 (9.0)	199 (25.7)	**<0.001&**
Single	116 (12.7)	147 (16.1)	118 (13.0)	491 (53.9)	18 (2.0)	21 (2.3)	
Exercise habits before the Covid-19 pandemic?							
Yes	107 (14.9)	198 (27.5)	87 (12.1)	200 (27.8)	45 (6.3)	83 (11.5)	0.079&
No	152 (15.8)	221 (22.9)	114 (11.8)	298 (30.9)	43 (4.5)	137 (14.2)	
Exercise habits during the Covid-19 pandemic?							
Yes	67 (13.9)	147 (30.5)	53 (11.0)	133 (27.6)	27 (5.6)	55 (11.4)	**0.028&**
No	192 (16.0)	272 (22.6)	148 (12.3)	365 (30.3)	61 (5.1)	165 (13.7)	

&: Pearson Chi-square test, cells have expected count less than 5.

Table 2 shows the comparison of occupational groups' C19P-S total and sub-dimension mean scores, IPAQ-7 total mean scores, and PABQ total and sub-dimension mean scores. C19P-S total score and "Psychological" and "Social" sub-dimension mean scores were higher in the student group than in all groups (F=11.839, F=12.018, F=6.084; p<0.001). The mean score of the C19P-S "Somatic" sub-dimension was highest in the non-classified group (housewives, retirees) (F=12.674 p<0.001). The mean score of the C19P-S "Economic" sub-dimension was higher in the private sector/self-employed group (F=10.515 p<0.001). The mean score of IPAQ-7 was higher in the army/security group than in all groups (F=22.185 p<0.001). PABQ total score and PABQ "Personal" sub-dimension were higher in students (F=11.073, F=11.418; p<0.001). The PABQ "Social" sub-dimension score was higher in health workers (F=2.527, p=0.027). The PABQ "Physical" sub-dimension score was highest in the non-classified group (F=14.308 p<0.001).

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Table 2. Comparison of coronaphobia, physical activity level and physical activity barriers status according to the occupational groups (n=1685)

Occupational groups	**n**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**K**
		X±SD	X±SD	X ±SD	X ±SD	X ±SD	X.±SD	X ±SD	X.±SD	X.±SD	X.±SD
(1) Healthcare workers	259	51.08±13.07	19.30±4.89	9.51±3.25	14.37±4.09	7.90±2.98	756.58±608.14	62.42±13.23	8.95±2.71	41.73±9.22	12.68±4.43
(2) Desk workers	419	50.34±13.15	18.70±5.08	9.66±3.57	14.09±4.27	7.89±2.75	645.49±579.84	62.28±13.57	8.66±2.83	41.92±9.34	13.01±4.20
(3) Private Sector	201	54.06±17.01	19.24±6.03	10.96±4.25	14.74±5.18	9.14±3.58	874.92±668.14	62.76±16.19	8.41±3.12	44.27±12.09	12.68±4.60
(4) Students	498	56.00±15.06	20.85±5.62	10.83±3.91	15.32±4.52	9.00±3.35	899.7±768.73	67.74±13.94	8.30±2.77	45.40±10.84	14.47±4.33
(5) Army personnel	88	48.08±10.32	17.27±4.33	9.31±2.57	13.23±3.26	8.27±2.39	1304.59±1074.9	59.83±10.2	8.49±2.86	39.80±7.67	12.24±3.40
(6) Non-classified (housewife, retired)	220	55.09±12.72	19.89±4.78	11.30±3.69	15.00±3.99	8.90±2.75	578.05±383.97	64.19±14.17	8.85±2.68	45.36±9.09	14.67±4.24
F=		11.839	12.018	12.674	6.084	10.515	22.185	11.073	2.527	11.418	14.308
p=		**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**0.027**	**<0.001**	**<0.001**
Post-Hoc=		**1-4 (<0.001) 1-6 (0.028) 2-3 (0.031) 2-4 (<0.001) 2-6 (0.001) 3-5 (0.013) 4-5 (<0.001) 5-6 (0.001)**	**1-4 (0.002) 1-5 (0.028) 2-4 (<0.001) 3-4 (0.004) 4-5 (<0.001) 5-6 (0.001)**	**1-3 (<0.001) 1-4 (<0.001) 1-6 (<0.001) 2-3 (0.001) 2-4 (<0.001) 2-6 (<0.001) 3-4 (0.007) 4-5 (0.005) 5-6 (<0.001)**	**2-4 (<0.001) 4-5 (0.001) 5-6 (0.019)**	**1-3 (<0.001) 1-4 (<0.001) 1-6 (0.005) 2-3 (<0.001) 2-4 (<0.001) 2-6 (0.001)**	**1-5 (<0.001) 2-3 (0.001) 2-4 (<0.001) 2-5 (<0.001) 3-5 (<0.001) 3-6 (<0.001) 4-5 (<0.001) 4-6 (<0.001) 5-6 (<0.001)**	**1-4 (<0.001) 2-4 (<0.001) 3-4 (<0.001) 4-5 (<0.001) 4-6 (<0.001)**	**1-4 (0.038)**	**1-4 (<0.001) 2-4 (<0.001) 2-6 (0.001) 3-5 (0.008) 4-5 (<0.001) 5-6 (<0.001)**	**1-4 (<0.001) 1-6 (<0.001) 2-4 (<0.001) 2-6 (<0.001) 3-4 (<0.001) 3-6 (<0.001) 4-5 (<0.001) 5-6 (<0.001)**

F=One-way ANOVA Test; **A:** C19P-S-total; **B:** C19P-S-mental; **C:** C19P-S-somatic; **D:** C19P-S-social; **E:** C19P-S-economic; **F:** IPAQ-total; **G:** PABQ-total; **H:** PABQ-social environment; **I:** PABQ-personal; **K:** PABQ-physical environment

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Table 3 shows the comparison of occupational groups in terms of the NHP total score and the NHP-Energy, NHP-Pain, NHP-Emotional, NHP-Sleep, NHP-Social, and NHP-Physical sub-dimensions mean scores. The NHP total score, and the NHP-Sleep and NHP-Physical subscale scores were higher in the student group than in all groups (F=16.268, F=18.731, F=9.586; p<0.001).

NHP-Energy, NHP-Pain, NHP-Emotional, and NHP-Social sub-dimensions were statistically highest in the non-classified occupational group (F=11.959, F=11.959, F=12.698, F=10.885; p<0.001).

Table 3. Comparison of life quality levels of occupational groups (n=1685)

	n	**L**	**M**	**N**	**O**	**P**	**Q**	**R**
Occupational groups		X.±SD	X.±SD	X.±SD	X.±SD	X.±SD	X.±SD	X.±SD
(1) Healthcare workers	259	31.13±21.55	47.36±37.42	28.23±20.93	31.27±22.58	30.12±24.68	34.44±30.45	26.45±25.65
(2) Desk workers	419	30.28±25.84	40.18±37.97	29.24±27.52	32.38±28.40	29.07±29.83	34.03±30.05	25.30±29.22
(3) Private Sector	201	35.56±24.88	48.62±36.19	33.78±24.90	39.56±28.02	33.37±31.06	33.78±32.46	29.34±30.08
(4) Students	498	38.51±24.93	49.46±35.77	35.99±25.75	38.80±26.55	40.68±29.05	40.48±32.52	33.23±27.98
(5) Army personnel	88	16.51±17.65	23.11±30.05	16.05±19.60	19.82±21.54	12.73±21.27	17.05±20.69	13.64±20.47
(6) Non-classified (housewife, retired)	220	37.44±24.39	53.33±37.34	35.97±25.45	40.10±25.15	36.09±29.13	41.55±30.39	30.68±27.74
F=		16.268	11.959	13.084	12.698	18.731	10.885	9.586
p=		**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**
Post-Hoc=		**1-4 (0.001)** **1-5 (<0.001)** **2-4 (<0.001)** **2-5 (<0.001)** **2-6 (0.006)** **3-5 (<0.001)** **4-5 (<0.001)** **5-6 (<0.001)**	**1-5 (<0.001)** **2-4 (0.002)** **2-5 (0.001)** **2-6 (<0.001)** **3-5 (<0.001)** **4-5 (<0.001)** **5-6 (<0.001)**	**1-4 (0.001)** **1-5 (0.001)** **1-6 (0.020)** **2-4 (0.001)** **2-5 (<0.001)** **2-6 (0.020)** **3-5 (<0.001)** **4-5 (<0.001)** **5-6 (<0.001)**	**1-3 (0.012)** **1-4 (0.003)** **1-5 (0.006)** **1-6 (0.004)** **2-3 (0.021)** **2-4 (0.003)** **2-5 (0.001)** **2-6 (0.006)** **3-5 (<0.001)** **4-5 (<0.001)** **5-6 (<0.001)**	**1-4 (<0.001)** **1-5 (<0.001)** **2-4 (<0.001)** **2-5 (<0.001)** **3-4 (0.033)** **3-5 (<0.001)** **4-5 (<0.001)** **5-6 (<0.001)**	**1-5 (<0.001)** **2-4 (0.024)** **2-5 (<0.001)** **3-5 (<0.001)** **4-5 (<0.001)** **5-6 (<0.001)**	**1-4 (0.022)** **1-5 (0.003)** **2-4 (<0.001)** **2-5 (0.005)** **3-5 (<0.001)** **4-5 (<0.001)** **5-6 (<0.001)**

F=One-way ANOVA Test; **L:** NHP-total; **M:** NHP-energy; **N:** NHP-pain; **O:** NHP-emotional; **P:** NHP-sleep; **Q:** NHP-social; **R:** NHP-physical mobility.

Discussion

This study revealed that exercise habits decreased during the pandemic, the armed forces were the group with the highest level of physical activity, and the group that was most worried about the pandemic and had an obstacle to physical activity was students. It also stated that the physical activity disability in health workers may be caused by social factors and the coronaphobia of individuals in the private sector/self-employed group may be caused mostly by economic reasons. It has been reported that COVID-19 has psychological and physical effects, and these studies have been carried out mostly in healthcare workers (Ruiz-Fernández et al., 2020; Hacımusalar et al., 2020). As far as we know, this is the first study assessing and comparing the effects of coronaphobia, physical activity level, barriers to physical activity, and quality of life in different occupational groups during the COVID-19 pandemic.

It is reported that individuals with a higher BMI due to or independent of the pandemic have lower rates of physical activity. This may be related to the misconception that they cannot enter a healthy lifestyle because they are overweight or obese (Atlantis et al., 2008). In addition, individuals with high BMI reported that they experienced fear of injury or fear of contracting the disease as an obstacle to physical activity (Ibrahim et al., 2013). In our study, the BMI Level of the non-classified group was higher than the other groups and the level of physical activity was lower. The level of coronaphobia was also high. This result supports the studies carried out.

The Covid-19 outbreak in Turkey has caused economic, social, and psychological fears. These negative effects have resulted in a new phobia, coronaphobia (Toprak Celenay et al., 2020; Arpaci et al., 2020). Mertens et al. (2020) emphasized that self-health anxiety, fear of losing the loved ones, and increased social media exposure may be related to the coronaphobia of the current COVID-19 pandemic (Toprak Celenay et al., 2020; Gourkhede et al., 2020). Toprak Celenay et al. (2020) reported that individuals working from home had a higher level of coronaphobia than those who continued their normal work routines, and that the most influential parameter was economic reasons. In the present study, the coronaphobia levels of individuals were lower than the ones reported by Toprak Celenay et al., and the most affected sub-parameter in coronaphobia was psychological reasons as in the literature. The difference in these results may be due to the relaxation in restrictions. In addition, the group with the highest level of coronaphobia in our study was the student group. In the pandemic, students may be struggling academically, financially, and emotionally because they are away from friends and the schools are closed. Some of them may have family members who have been affected by the

coronavirus or are frontline workers. The parents of some individuals may be experiencing economic difficulties due to unemployment (Papaioannou et al., 2020; Gourkhede et al., 2020). In the economic sub-dimension of the coronaphobia scale in our study, the private sector/self-employed group had the highest score. The reason for this may be that unemployment in the private sector/self-employed group has increased more than other sectors during the pandemic.

Studies investigating the impact of COVID 19 since the onset of the pandemic have been conducted in many countries such as Australia, Spain, India, Mexico, China, and Turkey. It has been reported that staying at home for a long time can lead to an increase in sedentary behaviors such as sitting activities and playing games on the Internet (Srivastav et al., 2021; Ugbolue et al., 2020). Srivastav et al. (2021) compared physical activity levels of students before and during the COVID 19 pandemic period and found that they did less physical activity during the pandemic.

Restrictions decreased at the time of our study with the decrease in the number of cases in Turkey. In the present study, the mean physical activity levels of all individuals were 790.68±689.8 MET-min/week (mildly-moderately active). In addition, it was determined that the exercise habits of individuals in all groups decreased after the pandemic compared to the pre-pandemic period. These results may show that the level of physical activity decreased in the pandemic period, as in the literature, and the effects of sedentary life still continue even if the restrictions are reduced.

In the present study, in terms of the physical activity levels in different occupational groups, it was found that the most active group was the army/security group, and the most sedentary group was the non-classified group (retirees and housewives). This may be due to the fact that the army/security personnel were exempt from the curfews in the pandemic, they played an active role in quarantine monitoring, and continued their normal work program.

With vaccine studies and new technological treatments in various parts of the world, the COVID-19 pandemic may end soon. However, uncertainty and unpredictability still remain about the course of the pandemic. Three scenarios are considered for the near future: the first is optimistic (completion of vaccine studies in the next 6-9 months); the second is promising (vaccination/treatment will be completed in the next 10-18 months); and, the third is pessimistic (there will be new waves of the disease). Whatever happens, social distancing rules may persist for months or even years (Ugbolue et al., 2020; Gourkhede et al., 2020). Social distancing protects us from the virus, but it should not reduce our level of physical activity. It is very important to investigate and consider the factors that prevent people from performing physical activity during the pandemic in different occupational groups. If the factors that prevent people

from performing physical activity are identified, solutions can be proposed. In the literature, the most common barriers to physical activity are presented as personal (insufficient time, health concerns, insufficient energy, and insufficient motivation), social (family, friends, and work environment, lack of time), and physical (environmental problems; lack of space to do sports) (Yurtcicek et al., 2018; Cheval et al., 2021). In the present study, the most common barrier that prevented all participants from performing physical activity was "personal reasons". This may indicate that reluctance, low energy, and motivational factors in Turkey are more effective than physical conditions and social environment during the pandemic period. In addition, the group with the most barriers to physical activity was students and the reason was mostly related with personal factors. The quarantines due to the COVID-19 pandemic have likely further increased teens' online gaming. The ban on activities outside home, especially during quarantine, may have been a cause of inactivity for young people living in small apartments in urban areas. Even after the restrictions have been relaxed, this may have become a habit (Papaioannou et al., 2020; Coto et al., 2020). Health workers, on the other hand, stated that they did not perform physical activity mostly due to social factors (due to being preoccupied with family and work life). This suggests that healthcare professionals are making self-sacrificing efforts for their families and patients at work in every period of the pandemic, rather than for their own personal reasons.

The COVID-19 pandemic has also significantly affected individuals' quality of life. Determining the negative effects of the pandemic on the quality of life is important in terms of increasing individuals' well-being (Algahtani et al., 2021). Algahtani et al. (2021) investigated the impact of COVID-19 on the quality of life of individuals living in Saudi Arabia and concluded that it mostly affected physical and psychological health. In the present study, which was conducted in Turkey, when the quality of life of all participants was evaluated, it was seen that energy and social sub-dimensions were more prominent. In addition, the group with the highest quality of life was the army/security group. The higher quality of life in the army/security personnel may be due to high levels of physical activity or low levels of coronaphobia.

This is a novel study that compares different occupational groups in terms of many factors during the Covid-19 pandemic process. One of the limitations of our study was the use of a web-based questionnaire method to avoid the risk of infection albeit the participants consisted of individuals assumed to have skills to fill an online form. Second, although the 1734 respondents who completed the questionnaires were randomly selected, the pool of professional respondents was small and could have been larger. Finally, some demographic and physical

characteristics (age, body mass index, gender, marital status, and occupation) of the groups were different. In addition, the fact that the age range was wide and the working status of the people classified in the same group was ignored under different conditions may have affected the homogeneity. Future studies should attempt to standardize these covariates or they should be designed to assess their potential impact.

Despite some limitations of online studies, the findings of our study provided useful information about the effects of the COVID-19 pandemic on factors associated with physical activity and quality of life. Another strength of our study was that the survey method is cost-effective, takes less time, and it is easily accessible to the participants and environmentally friendly. In addition, the inclusion of different occupational groups in different regions in the study increases generalizability by preventing bias.

Conclusion

As a result, the level of coronaphobia and barriers to physical activity in the student group were higher and their quality of life was lower than the other groups. The group with the best level of physical activity was the army/security group, and their quality of life was also better than the other groups. It was determined that the factor that prevents health workers from doing physical activity was social reasons, and individuals in the private/self-employed group felt the economic sub-dimension of coronaphobia the most. The group with the highest level of barriers to physical activity and coronaphobia were students. This study strongly highlights the need for community health and wellness programs to deal with the current and immediate effects of the local and global crisis. These studies can be a stepping stone to public health for the creation of exercise programs. In addition, public health assessments are one of the most basic strategies to be used in reducing economic costs. In future studies, an individual exercise tracking system with telerehabilitation can be created for all occupational groups. Also, for future studies, we suggest investigating factors such as physical activity and quality of life of individuals in the same occupational group with similar demographic characteristics during periods of restriction such as pandemics.

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Statement of Contributorship

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References

Algahtani FD, Hassan SN, Alsaif B, Zrieq R. (2021). Assessment of the Quality of Life during COVID-19 Pandemic: A Cross-Sectional Survey from the Kingdom of Saudi Arabia. Int. J. Environ. Res. Public Health. 18(3), 847. doi: 10.3390/ijerph18030847

Arpacı I, Karataş K, Baloğlu M. (2020). The development and initial tests for the psychometric properties of the COVID-19 Phobia Scale (C19P-S). Pers Individ Dif. 164, 110108. Doi: 10.1016/j.paid.2020.110108.

Atlantis E, Barnes EH, Ball K. (2008). Weight status and perception barriers to healthy physical activity and diet behavior. Int J Obes 32, 343–352.

Cheval B, Sivaramakrishnan H, Maltagliati S, Fessler L, Forestier C, Sarrazin P, et al. (2021). Relationships between changes in self-reported physical activity, sedentary behaviour and health during the coronavirus (COVID-19) pandemic in France and Switzerland. Journal of Sports Sciences. 39(6), 699-704. doi: 10.1080/02640414.2020.1841396

Coto J, Restrepo A, Cejas I, Prentiss S. (2020). The impact of COVID-19 on allied health professions. Plus One. 15(10), e0241328. https://doi.org/10.1371/journal.pone.0241328

Gourkhede DP, Ravichandran K, Kandhan S, Ram VP, Dhayananth B, Megha GK, et al. (2020). COVID-19: Mental Health Issues and Impact on Different Professions. Int. J. Curr. Microbiol. App. Sci. 9(7), 2994-3013. https://doi.org/10.20546/ijcmas.2020.907.353

Hacımusalar Y, Kahve AC, Yasar AB, Aydin MS. (2020). Anxiety and hopelessness levels in COVID-19 pandemic: A comparative study of healthcare professionals and other community sample in Turkey. Journal of Psychiatric Research. 129, 181–188. doi: 10.1016/j.jpsychires.2020.07.024

Ibrahim S, Karim SA, Oon NL, Ngah WZW. Perceived physical activity barriers related to body weight status and sociodemographic factors among Malaysian men in Klang Valley. BMC Public Health 2013, 13(275), 1-10. Doi: http://www.biomedcentral.com/1471-2458/13/275

Kücükdeveci AA, McKenna SP, Kutlay S, Gürsel Y, Whalley D, Arasil T. **(**2000). The development and psychometric assessment of the Turkish version of the Nottingham Health Profile. Int J Rehabil Res. 23(1), 31-8. doi: 10.1097/00004356-200023010-00004

Mertens G, Gerritsen L, Duijndam S, Salemink E, Engelhard IM. (2020). Fear of the coronavirus (COVID-19): predictors in an online study conducted in March 2020. J Anxiety Disord. 74, 102258. doi: 10.1016/j.janxdis. 102258

Miller RG. (1981). Simultaneous statistical inference. New York: McGraw-Hill. https://link.springer.com/book/10.1007/978-1-4613-8122-8

Özmen T, Gündüz R, Doğan H, Zoroğlu T, Acar D. (2016). Kronik Bel Ağrılı Hastalarda Kinezyofobi ve Yaşam Kalitesi Arasındaki İlişki. F.Ü.Sağ.Bil.Tıp Derg. 30 (1), 1–4. http://tip.fusabil.org/pdf/pdf_FUSABIL_1113.pdf

Papaioannou AG, Schinke RJ, Chang YK, Kim YH, Duda JL. (2020). Physical activity, health and well-being in an imposed social distanced World. Internatıonal Journal of Sport and Exercıse Psychology. 18(4), 414–419. https://doi.org/10.1080/1612197X.2020.1773195

Portaluppi F, Smolensky MH, Touitou Y. (2010). Ethics and methods for biological rhythm research on animals and human beings. Chronobiol Int. 27(9–10), 1911–1929. Doi:10.3109/07420528.2010.516381.

Republic of Turkey Ministry of Health Corona Table, (2021). Retrieved from. https://covid19.saglik.gov.tr/?_Dil=2. Accessed July 11, 2021.

Ruiz-Fernández MD, Ramos-Pichardo JD, Ibáñez-Masero O, Cabrera-Troya J, Carmona-Rega MI, Ortega-Galán AM. (2020). Compassion fatigue, burnout, compassion satisfaction and perceived stress in healthcare professionals during the COVID-19 health crisis in Spain. J Clin Nurs. 29, 4321–4330. Doi: 10.1111/jocn.15469

Srivastav AK, Sharma N, Samuel AJ. (2021). Impact of Coronavirus disease-19 (COVID-19) lockdown on physical activity and energy expenditure among physiotherapy professionals and students using web-based open E-survey sent through WhatsApp, Facebook and Instagram messengers. Clin Epidemiol Glob Health. 9, 78-84. Doi: 10.1016/j.cegh.2020.07.003

Sağlam M, Arıkan H, Savci S, İnal-İnce D, Boşnak-Güçlü M KE et al. (2010). International physical activity questionnaire: reliability and validity of the Turkish version. Percept Mot Ski. 111(1), 278-284. Doi: 10.2466/06.08.PMS.111.4.278-284

Tarsuslu Şimşek T, Tütün Yümin E, Sertel M, Öztürk A, Yümin M. (2010). Kadın ve Erkek Yaşlı Bireylerde Depresyonun Sağlıkla İlgili Yaşam Kalitesi ve Yaşam Memnuniyeti Üzerine Etkisi. F.Ü. Sağ.Bil. Tıp Derg. 24(3), 147–153. http://tip.fusabil.org/pdf/pdf_FUSABIL_755.pdf

Tabachnick, B. G., Fidell, L. S. (2001). Using Multivariate Statistics (4th ed.). Needham Heights, MA: Allyn and Bacon.

Toprak Celenay Ş, Karaaslan Y, Mete O, Ozer Kaya D. **(**2020). Coronaphobia, musculoskeletal pain, and sleep quality in stay-at home and continued-working persons during the 3-month Covid-19 pandemic lockdown in Turkey. Chronobiology International. 37(12), 1778-1785. Doi: 10.1080/07420528.2020.1815759

Ugbolue UC, Duclos M, Urzeala C, Berthon M, Kulik K, Bota A, et al. (2020). An Assessment of the Novel COVISTRESS Questionnaire: COVID-19 Impact on Physical Activity, Sedentary Action and Psychological Emotion. J. Clin. Med. 9(10), 3352. doi:10.3390/jcm9103352

WHO. (2020). Coronavirus disease (COVID-19) situation report-113. Retrieved from. https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200512- covid-19-sitrep-113.pdf?sfvrsn¼feac3b6d_2. Accessed May 13, 2020.

Yurtçiçek S, Hotun Şahin N, Miral M. (2018). Fiziksel Aktivite Engelleri Ölçeğinin Türkçe Formunun fGeçerlik ve Güvenirlik Çalışması. The Journal of Academic Social Science. 6(71), 39