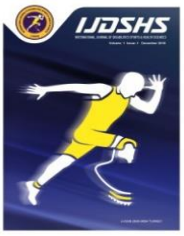

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RESEARCH ARTICLE

Determination of Factors Inhibiting the Physıcal Activity Status of Nursing Students in the Covid-19 Pandemic

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Abstract

The COVID-19 pandemic, which is accepted as a pandemic by the World Health Organization, has seriously affected life in our country as well as all over the world. Quarantine decisions taken to control the spread of the pandemic caused physical inactivity in people. Especially in the student years, if no direction or intervention is made for insufficient physical activity, it can have negative effects on the health of individuals in the following years. The study, which was designed in descriptive type, was conducted with 261 volunteer students between February and March 2021 in order to determine the factors that prevent the physical activity status of nursing students during the pandemic period. The data were collected online with a questionnaire in which the demographic information and physical activity levels of the participants were questioned, and the 'Physical Activity Barriers Scale' (PABS). Data were given together as number, percentage, median, mean standard deviation, and $p<0.05$ was accepted as statistical significance level in all statistics. It was found that the mean age of the students was 21.36±1.58, 80.8% were female, 78.2% did not do physical activity, and 47.5% gained weight during this period. The total score they got from PABS was 54.47±13.13. During this period, the students living in the village, having low income and gaining weight had higher PABS scores ($p = 0.05$). It is recommended that these students, who will serve in the field of health, be given self-skill training that they should not neglect physical activity even if their conditions change.

Keywords
Covid-19, Pandemic, Physical İnactivity, Nursing Students

INTRODUCTION

Physical inactivity is defined as 'being below the level of physical activity required to maintain a healthy life and prevent premature deaths' (Özdemir, 2020). Physical inactivity ranks fourth in the list of risk factors that cause death, accounting for 6% of deaths worldwide (Ercan and Keklicek, 2020; General Directorate of Public Health, 2021). Quarantine decisions taken to control the Covid-19 pandemic, which has affected the whole world, have caused physical inactivity in people. In our society, which does not have the habit of exercising as a result of the measures taken, individuals have lost their physical activities in their daily habits, and therefore physical inactivity has reached a high level (Ercan and Keklicek, 2020; Turan et al., 2014).

There is evidence in the literature that physical activity reduces the risk of premature death due to cardiovascular disease, protects against type 2 diabetes, facilitates glucose balance, reduces the risk of obesity by providing energy expenditure and balance, protects bone health by preventing osteoporosis, and especially reduces the incidence of breast and colon cancer (Alpözgen and Özdinçerler, 2016; Warburton et al., 2006; Lee et al., 2016; Kodama et al., 2013). At the same

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time, it is supported by studies that physical activity increases the quality of life, reduces the symptoms of depression and anxiety, that the individual should be encouraged to exercise regularly together with pharmacological treatments, and has positive effects on developing self-confidence in social relationships (Can et al., 2014). Okuyan et al. (2020) found in their study that nursing students were negatively affected by spending time at home due to the pandemic, and they felt overwhelmed and nervous. In line with these data, they concluded that it would be beneficial to increase their self-confidence for their thoughts on the future nursing profession. In their study, Yanık and Yeşilçınar (2021) concluded that nursing students were insufficient in coping with stress during the social isolation process and they experienced stress due to financial inadequacy. In addition, they reported that they could spare enough time for themselves and their hobbies, and their motivation increased. Ercan and Keklicek (2020) found in their study that during the Covid-19 period, the rate of regular physical activity of nursing students decreased, and at the same time, the rate of general physical inactivity increased.

Covid-19, which affects the whole world, has limited our activities. Due to the prolongation of the pandemic process and the increase in the measures taken, physical inactivity is also increasing. This study was planned with the aim of "Determining the Factors that Prevent the Physical Activity Status of Nursing Students in the Covid-19 Pandemic".

MATERIALS AND METHODS

Desing

The research was designed and implemented in a descriptive type by including nursing students who voluntarily agreed to participate in the research via the online form between February and March 2021 at a foundation university in the Southeastern Anatolia Region. Approval was obtained from the Non-Invasive Ethics Committee (2021/007, 19.01.2021) of the Faculty of Health Sciences of Hasan Kalyoncu University for the implementation of the study.

Sample

The sample of this study consists of 261 nursing students from Hasan Kalyoncu University Faculty of Health Sciences who volunteered to participate in the study.

Instruments

Necessary permission was obtained from the scale owner for the right to use the “Physical Activity Disability Scale” in the second part of the data collection section of the study. In data collection, nursing students' information questionnaire and "Physical Activity Barriers Scale (PABQ)" (Yurtçiçek et al., 2018) were used to measure physical activity barriers. Scale; It is prepared in a 5-point likert type and is evaluated as 5 points, I strongly agree, 4 points, I am undecided, 3 points, I disagree 2 points, and I strongly disagree 1 point. The scale consists of 3 sub-dimensions and a total of 22 statements. Scale; It consists of three sub-dimensions: Personal (14 items), Social Environment (3 items) and Physical Environment (5 items). High scores on the scale mean that the probability of creating an obstacle is high. The Cronbach's alpha reliability coefficient was found to be 0.87, and the Cronbach's alpha reliability coefficients for the sub-dimensions of the scale were found to be between 0.53 and 0.85.

Data Analysis

For the analysis of the data of this study SPSS (Statistical Package for Social Science for Windows) 25 package program as used. Socio-demographic characteristics and physical activity status of nursing students participating in the research; It was evaluated whether there was a significant difference between gender, place of residence, class level, income level, education level, physical activity status, weight change and the average scores they got from the Physical Activity Disability Scale. Descriptive statistics were given as number, percentage (%), mean±standard deviation. Since the variances did not show homogeneous and normal distribution, the "Mann-Whitney U Test" was used instead of the "Student t-Test" for the comparison of continuous numerical variables for the analysis, and the "Kruskal-Wallis H-Test" was used instead of the "One Way ANOVA" test for the comparison of more than two groups. The $p<0.05$ level was considered statistically significant in statistical decisions. Pearson Correlation Analysis was used based on the normal distribution of data. Within the scope of the research, answers to the following questions were sought;

a. What are the physical activity levels of nursing students during the Covid-19 pandemic period?

b. What are the factors that prevent the physical activity levels of nursing students during the Covid-19 pandemic period?
c. What is the relationship between BMI, age, scale sub-dimensions and total scale scores of nursing students during the Covid-19 pandemic period?

RESULTS

In this study, the socio-demographic characteristics of the nursing students participating in the research are given in Table 1. 80.8% of the students are women and 74.4% are between the ages of 20-22. 68.2% of nursing students live in the province and 23% live in the district. 32.2% of the students are 1st grade, 30.7% 3rd class 27.6% 2nd class and 9.6% 4th class. In this study, the income of 69.3% of the nursing students was found to be equal to the expenditure. Students 35.2% of the stated that they went out once a week, 23.4% of them stated that they went out more than 3 times a week. Those who did physical activity were determined as 21.8%. Students who experienced weight change during the pandemic process were determined as 73.6%. It was determined that 47.5% of the nursing students who experienced weight change gained weight. It was determined that 5.7% of the nursing students had chronic diseases, 13.8% smoked, 4.6% used alcohol and 1.9% used psychiatric drugs.

Table 1. Socio-demographical characteristics of nursing students (n=261)

Demographic features	**Mean±SD**	
Years	21.36±1.58	
	n /	**%**
Gender		
Woman	211	80.8
Male	50	19.2
Place of Residence		
Province	178	68.2
District	60	23.0
Town	4	1.5
Village	19	7.3
Class Level		
1st Class	84	32.2
2nd Class	72	27.6
3rd Class	80	30.7
4th Class	25	9.6
Income Rate		
Income less than expenses	38	14.6
Income equals expenses	181	69.3
Income more than expenses	42	16.1
Number of Going Out per Week		
1	92	35.2
2	58	22.2
3	50	19.2
More than 3	61	23.4
Physical Activity Status		
Yes	57	21.8
No	204	78.2
Weight Change		
Yes	192	73.6
No	69	26.4

Table 1. Continue

Demographic features	Mean±SD	
Years	21.36±1.58	
	n /	**%**
Weight Change Status		
I lose weight	68	26.1
I got weight	124	47.5
Chronic Disease		
Yes	15	5.7
No	246	94.3
Smoking		
Yes	36	13.8
No	225	86.2
Alcohol Use		
Yes	12	4.6
No	249	95.4
Psychiatric Drug Use		
Yes	5	1.9
No	256	98.1

The total score the students got from the Physical Activity Disability Scale was 54.47±13.13 (Table 2). As a result of the comparison of the variables of gender, place of residence and presence of chronic disease of the nursing students, it was determined that there was no statistical significance (Table 3). As a result of the comparison of the income and class level variables, a statistically significant difference was found between the physical environment sub-dimension ($p < 0.005$) and the total scale score ($p < 0.05$) averages. No difference was found among the other sub-themes.

Table 2. The average scores of the total and sub-dimensions of the nursing students from the scale (n=261)

Physical Activity Barriers Scale and Sub-Dimensions	Mean ± SD	Min.- Max.
Personal	33.12±8.31	14-59
Social Environment	7.86±2.74	3-15
Physically Environment	13.49±4.23	5-25
Total Scale	54.47±13.13	22-88

In Table 4. a simple correlation analysis of the significant relationship between the age, bki and scale sub-dimensions of nursing students was performed. A positive and significant relationship was found between age and BMI. A positive and significant relationship was determined between the social environment sub-dimension and BMI ($r = 0.212$, $p = 0.001$), years ($r = 0.131$, $p = 0.035$), and personal sub-dimension ($r = 0548$, $p = .000$). A positive and significant relationship was found between the physical environment sub-dimension and age, personal sub-dimension and social environment sub-dimension. A positive and significant relationship was found between the total scale and the sub-dimensions of personal, social and physical environment.

Table 3. Distribution and comparison of nursing students' scale sub-dimension and total scale scores according to socio-demographic characteristics (n=261)

Socio-Demographic Characteristics	Personel Environment	Social Environment	Physically Environment	Total Scale
Gender				
Woman	MW=5107.00	MW=5199.00	MW=4648.50	MW=5077.50
Male	p=0.726	p=0.873	p=0.190	p=0.681
Where he lives				
Province				
District	$\chi 2$ =0.268	$\chi 2$ =5.254	$\chi 2$ =5.476	$\chi 2$ =1.601
Town	p=0.875	p=0.072	p=0.065	p=0.449
Village				
Income rate				
Income less than expenses	$\chi 2$=3.881	$\chi 2$=1.051	$\chi 2$=22.212	$\chi 2$=6.145
Income equals expence	p=0.144	p=0.591	**p=0.000****	**p=0.046***
Income more than expenses				
Chronic Disease				
Yes	MW=1352.50	MW=1733.50	MW=1688.50	MW=1622.50
No	p=0.082	p=0.692	p=0.580	p=0.433
Class Level				
1st Class				
2nd Class	$\chi 2$=7.254	$\chi 2$=5.241	$\chi 2$=14.281	$\chi 2$=11.420
3rd Class	p=0.064	p=0.155	**p=0.003****	**p=0.010***
4th Class				

*p < 0.05 **p < 0.005 , **$\chi 2$** : Kruskall –Wallis –H testi, **MW**: Mann-Whitney-U Testi

Table 4. Simple correlation analysis between years, bmi and scale sub-dimensions of nursing students (n=261)

Variable	*n*	*M*	*SD*	1	2	3	4	5	6
1.BMI	261	0.07	1.24	-	0.158*	0.012	0.212**	0.064	0.074
2.Years	261	21.36	1.58		-	0.042	0.131*	0.047	0.016
3.Personal	261	33.12	8.31			-	0.548**	0.555**	0.927**
4.Social Environment	261	7.86	2.74				-	0.584**	0.745**
5.Physically Environment	261	13.49	4.23					-	0.796**
6.Total Scale	261	54.47	13.13						-

*Correlation is significant at the 0.05 level (2-tailed); **Correlation is significant at the 0.01 level (2-tailed)

DISCUSSION

In this study, the relationship between the factors that prevent the physical activity status of nursing students and their socio-demographic characteristics during the pandemic period was discussed according to the literature. It was determined that the personal sub-dimension, one of the sub-dimensions of the scale, constituted an obstacle to physical activity. In the answers given by the students to the items in the personal sub-dimension of the scale, it was concluded that they did not have enough energy for physical activity, the activity was difficult and tiring, they were afraid of being injured, and they could not maintain their self-discipline. Yao et al. (2021), Ibrahim et al. (2013) support the findings of their research.

In the study, it was determined that there was no statistical significance as a result of the comparison of the sub-dimensions of the physical activity barriers scale and the total scale score averages and the gender of the nursing students. Sarol (2017), Blake et al. (2016) found that there was no significant difference between the genders as a result of their research. The findings are in line with the research findings. Serrano et al. (2017), Sabharwal (2018), Martínez-Lemos et al. (2014) determined that there is a statistically significant difference between physical activity disabilities and gender. Sabharwal (2018) stated in their research that men are more encouraged to engage in physical activity, and this is due to cultural differences.

It was determined that the income and class levels of the nursing students were the factors that

hindered their activities due to the physical environment sub-dimension ($p<0.05$). The difference in these factors is due to the fact that nursing students whose income is less than their expenses and those who are in the 3rd grade do less physical activity. In their research, Akyol and Akkaşoğlu (2020) determined that 1st year students are an obstacle to participating in leisure activities due to lack of transportation and finance. In the comparison made according to the variable of income status, which is also in line with the research of Akyol and Akkaşoğlu (2020), it has been determined that the students whose monthly income is below the minimum wage constitute an obstacle to participation in leisure activities. In our study, a similarity was found between the physical environment sub-dimension items and the findings obtained in the study.

When the research findings are examined; As a result of the comparison of the variable of income levels of nursing students, a statistically significant difference was found between the physical environment sub-dimension and the total scale score averages. In the study of Ibrahim et al.(2013), it was determined that the monthly income level variable and the physical environment sub-dimension were the determining factors. As a result of this similarity; that people's physical activities are related to their income levels, due to lack of financial means; It was determined that the lack of facilities, transportation means, sports equipment/clothing and lack of skills constitute an obstacle to physical activity. Martínez-Lemos et al.(2014) concluded in their study that income levels will prevent individuals from doing physical activity.

As a result of the comparison of the sub-dimensions and total scale mean scores of the physical activity barriers scale and the grade levels of the nursing students, a statistically significant difference was found between the physical environment sub-dimension and the total scale mean score. Akyol and Akkaşoğlu (2020), it was determined in their research that 1st grade students are an obstacle to participating in physical activity activities due to lack of transportation and finance. Findings from this study show parallelism.

CONCLUSION

As a result; In the Covid-19 pandemic, the factors that prevent the physical activity level and physical activity status of nursing students were determined. It was determined that 78.2% of nursing students did not do physical activity during the Covid-19 pandemic. It has been determined that the gender, place of residence and chronic diseases of nursing students do not prevent them from doing physical activity during the Covid-19 pandemic process. It was determined that the income and class levels of the nursing students were the factors that hindered their physical activity ($p<0.05$).

Participation in physical activity with various activities reduces the risk of many chronic diseases, increases the quality of life and contributes to mental health. It is recommended that these students, who will serve in the field of health, to reduce the increased physical inactivity due to the Covid-19 pandemic, should be given self-skill training that they should not neglect physical activity even if their conditions change. At the university; Programs that will encourage students to engage in physical activity and increase their motivation should be organized in the campus area, within the faculty. In order to adopt physical activity as a lifestyle, public health action should be taken.

Acknowledment

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Conflict of interests

The authors have no conflict of interests to declare. No financial support was received for this study

Ethical Consideration

The study protocol was carried out in accordance with the Helsinki Declaration of 1975 and an approval was obtained from the Faculty of Health Sciences of Hasan Kalyoncu University, Non-Invasive Ethics Committee (Ref: 2021/007, 19.01.2021). Written informed consent forms were obtained from all participants prior to the study.

Author Contributions

Study Design, ED, TB; Data Collection, ED; Statistical Analysis, ED, TB, BT; Data Interpretation, ED, TB, BT; Manuscript Preparation, ED, BT; Literature Search, ED, TB, BT. All authors have read and agreed to the published version of the manuscript

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