

## Nutritional Habits and Lifestyle Changes of Nursing Students Before and During the Covid-19 Pandemic

### Hemşirelik Öğrencilerinin Covid-19 Pandemisi Öncesi ve Sırasında Beslenme Alışkanlıkları ve Yaşam Tarzı Değişiklikleri

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#### Abstract

**Aim:** The research was intended to determine the nutritional habits and lifestyle changes of nursing students before and during the pandemic of Covid-19.

**Method:** This research was conducted with 548 students in the nursing department of a state university in Istanbul between January 2020 and December 2021. Student Diagnosis Form and Nutritional Habits Index were used to collect the data.

**Results:** During the pandemic period, 71.2% of the students were eating three main meals, 56.9% had the habit of eating at night, 21.4% were using vitamins, 40.5% were doing physical activity, 13% were smokers, 7.7% used alcohol, and 76.5% had sleep disorders. Compared to the pre-pandemic period, it was observed that the risky eating behaviors of the students decreased during the pandemic and there were moderately risky eating behaviors. In addition, students in the fourth grade (p=0.015), non-smokers (p=0.000), non-alcoholic (p=0.030), those who did not gain weight during the pandemic (p=0.015), those who did not skip meals (p=0.002), and those who did not eat at night (p=0.030). =0.000), those who exercise (p=0.010), and those who do not have sleep problems (p=0.000) had less risky eating behaviors.

**Conclusion:** Students' physical inactivity, night eating habits, and sleep disorders have increased during the pandemic period. Those who do not smoke, do not drink alcohol, do not skip meals, do not gain weight, do not eat at night, exercise, and have less risky eating behaviors during the pandemic period.

**Keywords:** Nutrition habits, Lifestyle, Covid-19 Pandemic, Student, Nursing.

#### Özet

**Amaç:** Araştırma, hemşirelik öğrencilerinin Covid-19 salgını öncesinde ve sırasında beslenme alışkanlıkları ve yaşam tarzı değişikliklerinin belirlenmesi amacıyla yapıldı.

**Yöntem:** Bu araştırma, Ocak 2020-Aralık 2021 tarihleri arasında İstanbul'da bir devlet üniversitesinin hemşirelik bölümünde öğrenim gören 548 öğrenci ile gerçekleştirildi. Verilerin toplanmasında Öğrenci Tanı Formu ve Beslenme Alışkanlıkları İndeksi kullanıldı.

**Bulgular:** Pandemi döneminde öğrencilerin %71,2'si üç ana öğün yemek yiyordu, %56,9'u gece yemek yeme alışkanlığına sahipti, %21,4'ü vitamin kullanıyordu, %40,5'i fiziksel aktivite yapıyordu, %13'ü sigara içiyordu, %7,7'si alkol kullanıyordu ve %76,5'inde uyku bozukluğu vardı. Pandemi öncesine göre öğrencilerin pandemi döneminde riskli yeme davranışlarının azaldığı, orta düzeyde riskli yeme davranışlarının olduğu görüldü. Ayrıca dördüncü sınıf öğrencilerinin (p=0,015), sigara içmeyenlerin (p=0,000), alkol kullanmayanların (p=0,030), pandemi döneminde kilo almayanların (p=0,015), öğün atlamayanların (p=0,002), gece yemek yemeyenlerin (p=0,033, 0,003), egzersiz yapanların (p=0,010), uyku problemi olmayanların (p=0,000) riskli yeme davranışlarının daha az olduğu belirlendi.

**Sonuç:** Pandemi döneminde öğrencilerin fiziksel hareketsizliği, gece yeme alışkanlıkları ve uyku bozuklukları arttı. Pandemi döneminde sigara içmeyen, alkol kullanmayan, öğün atlamayan, kilo almayan, gece yemek yemeyen, egzersiz yapanların riskli yeme davranışları daha az olduğu belirlendi.

**Anahtar Kelimeler:** Beslenme Alışkanlıkları, Yaşam Tarzı, Kovid-19 Salgını, Öğrenci, Hemşirelik

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## 1. Introduction

Nutrition is defined as the use of nutrients in the body for the purpose of human growth, development and protection of health (Pekcan et al., 2016). It is also very important for healthy nutrition, protection from infections and development of immune response (TÜBA, 2020). Especially in the days of the Covid-19 epidemic experienced around the world, it has become very important to take the nutrients that the body needs in sufficient quantities and at the appropriate time in order to protect and improve health. The most effective way to protect from Covid-19 and manage this process is to eat regularly, sleep regularly, keep body weight in balance and try to keep physical activity in life (Naja & Hamadeh, 2020). A pandemic was declared by the World Health Organization on 11 March 2020 (WHO Director-General's opening remarks at the media briefing on COVID19 -March 2020). Consequently; Suspending physical education in schools, canceling flights, making travels with special permission, closing cafes and restaurants, imposing a curfew on certain days are among the measures taken to reduce the spread of the virüs (TÜBA, 2020; TC Sağlık Bakanlığı, 2020). In line with the measures taken due to the Covid-19 pandemic, many of the students had to return to their families with the transition to distance education. Although returning to their families had a positive effect on their eating habits, social isolation, reduced physical activity, distance education, distance from friends and increased stress brought on by the Covid-19 pandemic brought new challenges for students to maintain healthy eating behaviors (Korkut Gençalp, 2020). In addition to adapting to a new order during this epidemic, factors such as psychological factors, expensive food, unemployment in family members, reduced income, crowded family, difficulty in accessing food may reveal differences in the nutrition of students. Nutritional habits formed as a result of these differences generally affect post-university life (Korkut Gençalp, 2020; Mazıcıoğlu & Öztürk, 2003). Since the Covid-19 pandemic process is also a long one, it is more likely to acquire negative eating habits (Dilber & Dilber, 2020). If students continue their negative eating habits in this process after they graduate from university, the risk of many chronic diseases, especially cardiovascular diseases, increases in the future of the students (Demir Doğan & Tayhan Kartal, 2019). Especially when nursing students step into the profession, they should set an example for patients to adopt a healthy lifestyle that includes positive eating habits and regular physical activity. In researchs on the eating habits of university students before the Covid-19 pandemic, it was determined that students had unhealthy eating habits such as skipping meals, not drinking enough water and milk, consuming very little vegetable food, and fast food nutrition. (Aydoğan Arslan et al., 2016, Mazıcıoğlu & Öztürk, 2003). According to a study conducted during the pandemic process, it was determined that the nutritional habits of paramedic students were negatively affected by the epidemic process (Pekcan et al., 2016). In a study examining the changes in the nutritional habits of individuals in social isolation during the Covid-19 pandemic process, it was found that carbohydrate consumption, body weight, tea and coffee consumption increased in individuals under social isolation conditions; It was found that physical activity decreased and sleep disorder was experienced (Bozar and Garipoğlu,

2020). Although there are many studies on the nutritional habits of university students, limited research has been found in our country during the Covid-19 process (Korkut Gençalp, 2020; Pekcan et al., 2016.). More detailed studies are needed to evaluate the life styles of students studying in nursing and other health departments in our country and to create necessary practices for the change of negative behaviors (Aydoğan et. al., 2016). This research was planned to determine the nutritional habits and lifestyle change of nursing students before and during the Covid-19 pandemic. Increasing studies on this subject; A better understanding of the nutritional status and problems of nursing students will facilitate the acquisition of information on nutritional habits in order to produce solutions.

## 2. Method

The research is a cross-sectional and descriptive study to determine the nutritional habits of nursing students before and during the Covid-19 pandemic. In the study, all students were tried to be reached by using the whole count method. The population of the research consisted of a total of 1046 students studying at a nursing department at a state university in Istanbul between December 2020 and January 2021, and the sample consisted of 548 students who agreed to participate in the study on the same dates, and whose online consent was obtained and filled out the questionnaires completely. Inclusion criteria were: agreeing to participate in the study, being over 18 years old, and being a nursing student. 5 students who filled out the survey questions or gave incomplete answers from 553 participants were not included in the study. Since individual rights must be protected throughout the research, the Helsinki Declaration of Human Rights was adhered to. The limitations of the research are that the participants must have a smart phone/computer and internet access and a Google account because the data is collected online via Google form, and it is done in a single institution

### 2.1. Data Collection Tools

**Student Identification Form:** This form consists of 18 questions questioning the demographic characteristics of nursing students and the factors affecting their eating habits. **Nutritional Habits Index (NHI):** It was developed by Demirezen in 1999, revised in 2005 and consists of six items. The revised form of NHI was used in this study (Coşansu and Demirezen, 2005). The items included in the index are: " 1. I consume fatty and sugary foods, 2. I add salt to food, 3. More than 3 cups of coffee, cola or coffee a day I also consume tea, 4. Beef, mutton and meat products made from them sausage, salami, soudjouk etc. I eat, 5. Hamburgers, fries, pizza I eat from menus sold outside, such as 6. I consume fruits, vegetables, and dishes made with legumes such as bulgur, beans, chickpeas, and lentils." "I consume dishes made with legumes such as beans, chickpeas and lentils." According to the risk ranges formed by the total score obtained from the NHI, the risk level of eating habits is evaluated relatively. The statements in the scale are scored between 0-4 as "never, rarely, sometimes, often, always". Reverse scoring is done in the last item in the scale. According to the total score obtained from the eating habits index, the risk level of eating habits is 0 points no risk, 1-6 points mild risk, 7-12 points moderate risk,

13-18 points high risk, 19-24 points very high risk (Coşansu and Demirezen, 2005; Emirezen, 1999).

## 2.2. Data Collection Method and Analysis

Data were collected from participants based on self-report and online via Google forms. 1046 students were reached by phone and text message. A total of 548 of these students answered the questionnaire. Pre- and post-pandemic responses were collected simultaneously. The first one was asked as "answer considering the pre-pandemic period" and the second one as "answer considering the current process". Since pre- and post-pandemic nutritional behaviors were answered simultaneously, memory factors such as recall or confusion were limitations of the study. SPSS (Statistical Package for Social Sciences) package program was used to evaluate the data obtained from the study. The conformity of the variables to the normal distribution was evaluated with the Kolmogorov-Smirnov test. In addition to descriptive statistical methods (mean, standard deviation, number, percentage) in the analysis of the data, the Independent Sample t test was used between two independent groups, and the Paired Sample t and One Way Anova tests were used within the group for the comparison of normally distributed quantitative data. Significance was considered at the  $p < 0.05$  level.

## 2.3. Ethical Consideration

The written permission was received via e-mail by who is corresponding author developed this scale, to examine the validity and reliability of the Turkish version of NHI. The written permission also was received from University Institute of Health Sciences Ethics Committee (26.11.2020/174). In addition, also permission was obtained from the institution where the study was conducted. Additionally, verbal consent was obtained from students who were willing to accepted to participate in the study and school principals. The study was conducted in accordance with the principles outlined in the Helsinki Declaration.

## 3. Results

The average age of the students is  $20.23 \pm 1.60$ , 79% of them are women and 31,57% were first graders 58% of the students were following scientific publications about the Covid-19 pandemic, 54% of them did not gain and 61,9% of them lose weight during the pandemic. In addition, 87% of the students were non-smokers and 88,5% of the students did not use vitamin D. 58% of them were following the news about the Covid-19 pandemic, 92,3% of them did not consume alcohol, 92% of them did not consume Vitamin C, 91,4% of them did not consume Vitamin B12 and 97,3% of them did not consume other vitamins (A, E, Multivitamin, Magnesium, Zinc, Iron, Omega 3) (Table-1).

**Table 1. Distribution of descriptive characteristics (N=548)**

<b>Features</b>	<b>Mean± SD</b>	
<b>Age</b>	20,23 ± 1,60	
<b>The amount of weight gain in the pandemic</b>	4,55 ± 3,14	
<b>The amount of weight loss in the pandemic</b>	4,86 ± 3,40	
	<b>n</b>	<b>%</b>
<b>Gender</b>		
Female	433	79,0
Male	115	21,0
<b>Grade</b>		
First grade	173	31,57
Second grade	139	25,36
Third grade	104	18,98
Fourth grade	132	24,09
<b>Follow the Covid-19 outbreak news</b>		
Yes	510	93,1
No	38	6,9
<b>Reading scientific publications on Covid-19</b>		
Yes	318	58,0
No	230	42,0
<b>Smoking</b>		
Yes	71	13,0
No	477	87,0
<b>Drinking alcohol</b>		
Yes	42	7,7
No	506	92,3
<b>Weight gain during the pandemic</b>		
Yes	252	46,0
No	296	54,0
<b>Weight loss during the pandemic</b>		
Yes	209	38,1
No	339	61,9
<b>Using vitamin C</b>		
Yes	44	8,0
No	504	92,0
<b>Using vitamin D</b>		
Yes	63	11,5
No	485	88,5
<b>Using vitamin B12</b>		
Yes	47	8,6
No	501	91,4
<b>Using other (A, E, Multivitamin, Mg, Zinc, Iron, Omega3)</b>		
Yes	15	2,7
No	533	97,3

In during pandemic period, it was determined that 97,1% of the students living with family and relatives, 82% of them eating three meals in a day, 51,1% of them sometimes skipping meals, 56,9% of them eating at night, 78,6% of them taking vitamins, 59,5% of them did not doing physical activity, and 76,5% of them having sleep disorders was higher during the pandemic period. (Table-2).

**Table-2 Distribution of factors affecting nutritional habits (N=548)**

Features	Pre-Pandemic		During Pandemic	
	n	%	n	%
<b>Cohabitants</b>				
Family and relatives	343	62,6	532	97,1
Dormitory and other	205	37,4	16	2,9
<b>Number of meals</b>				
Two meals or less	184	33,58	158	28,83
Three meals	319	58,21	273	49,82
Four or more	45	8,21	117	21,35
<b>Skip a meal</b>				
Never	119	21,7	187	34,1
Sometimes	338	61,7	280	51,1
Frequently	91	16,6	81	14,8
<b>Eating at night</b>				
Yes	258	47,1	312	56,9
No	290	52,9	236	43,1
<b>Using vitamins</b>				
Yes	64	11,7	117	21,4
No	484	88,3	431	78,6
<b>Doing physical activity</b>				
Yes	312	56,9	222	40,5
No	236	43,1	326	59,5
<b>Frequency of physical activity</b>				
1-2 days a week	112	35,90	108	48,65
3-4 days a week	140	44,87	83	37,39
5 days or more	60	19,23	31	13,96
<b>Experiencing sleep disorders</b>				
Yes	221	40,3	419	76,5
No	327	59,7	129	23,5

It was found that the students' NHI index score during the pandemic period decreased compared to the pre-pandemic period ( $p < 0.001$ ). In addition, eating habits behaviors before and during the pandemic were found to be moderately risky (7-12 points = moderate risk (Table-3)).

**Table 3. Comparison of the total mean scores of the nutritional habits index**

NHI	Mean±SD	t	p*
Pre-Pandemic	10,82±3,19	7,701	<b>0,000</b>
During Pandemic	10,01±3,13		

\*: Paired sample t-test

During the pandemic period, risky eating behaviors of smokers and alcohol drinkers did not decrease. ( $p > 0.05$ ). In all other groups, risky eating behaviors decreased significantly during the pandemic ( $p < 0.05$ ; 0.001). In addition, risky eating behaviors of fourth graders compared to first graders, non-

smokers compared to smokers, non drink alcohol compared to drinking alcohol, and those who did not gain weight compared to those who gained weight during the pandemic were less ( $p < 0.05$ ; 0.001). (Table-4).

**Table 4. Comparison of nutritional habits by sociodemographic characteristics**

NHI Scores	Pre-Pandemic		During Pandemic		t	P <sup>1</sup>
	Mean	SD	Mean	SD		
<b>Gender</b>						
Female	10,87	3,17	9,94	3,07	7,480	<b>0,000</b>
Male	10,61	3,24	10,26	3,34	2,054	<b>0,042</b>
t;p	0,784; 0,433		-0,974; 0,331			
<b>Grade</b>						
First grade	10,79	2,89	10,42	3,15	2,608	<b>0,010</b>
Fourth grade	10,27	3,15	9,56	2,96	3,740	<b>0,000</b>
t;p	1,493; 0,137		2,442; <b>0,015</b>			
<b>Follow the Covid-19 outbreak news</b>						
Yes	10,82	3,16	10,04	3,10	7,113	<b>0,000</b>
No	10,04	3,10	9,65	3,60	3,556	<b>0,001</b>
t;p	0,071; 0,944		0,730; 0,466			
<b>Reading scientific publications on Covid-19</b>						
Yes	10,62	3,15	9,94	3,02	4,755	<b>0,000</b>
No	11,10	3,22	10,11	3,28	6,451	<b>0,000</b>
t;p	-1,747; 0,081		-0,641; 0,522			
<b>Smoking</b>						
Yes	12,15	3,34	11,52	2,79	1,887	0,063
No	11,52	2,79	9,79	3,12	7,596	<b>0,000</b>
t;p	3,810; <b>0,000</b>		4,406; <b>0,000</b>			
<b>Drinking Alcohol</b>						
Yes	11,23	3,44	11,02	3,35	0,696	0,490
No	10,79	3,17	9,93	3,10	7,757	<b>0,000</b>
t;p	0,873; 0,383		2,174; <b>0,030</b>			
<b>Weight gain during the pandemic</b>						
Yes	10,76	2,99	10,36	3,08	2,415	<b>0,016</b>
No	10,87	3,35	9,71	3,15	8,728	<b>0,000</b>
t;p	-0,425; 0,671		2,440; <b>0,015</b>			
<b>Weight loss during the pandemic</b>						
Yes	11,45	3,20	9,86	3,042	8,580	<b>0,000</b>
No	9,86	3,042	10,11	3,19	2,735	<b>0,007</b>
t;p	3,697; 0,000		-0,909; 0,364			

p= Independent sample; t test, p<sup>1</sup>= paired-sample t test

Those who occasionally and often skipped meals ( $p < 0.001$ ), those who ate at night ( $p < 0.001$ ), those who did not do physical activity ( $p < 0.05$ ) and those who had sleep disorders ( $p < 0.001$ ) exhibited moderately risky eating behaviors during the pandemic period (Table-5).

**Table 5. Comparison of nutritional habits index scores according to factors affecting nutritional habits during the pandemic**

Features	NHI Score During the Pandemic		t	p
	Mean	SD		
<b>Cohabitants</b>				
Family and relatives	10,00	3,13	-0,545	0,586
Dormitory and other	10,43	3,24		
<b>Number of meals</b>				
Two meals or less <sup>1</sup>	9,82	3,24	0,738	0,478
Three meals <sup>2</sup>	9,97	3,07		
Four or more <sup>3</sup>	10,22	3,10		
<b>Skip a meal</b>				
Never <sup>1</sup>	9,43	3,39	6,194	<b>0,002</b>
Sometimes <sup>2</sup>	10,17	3,00		
Frequently <sup>3</sup>	10,80	2,74		
	(1 vs 2) p <sup>1</sup>	<b>0,033</b>		
	(1 vs 3) p <sup>1</sup>	<b>0,003</b>		
<b>Eating at night</b>				
Yes	10,96	2,94	8,708	<b>0,000</b>
No	8,75	2,93		
<b>Using vitamins</b>				
Yes	10,15	3,15	0,534	0,593
No	9,97	3,13		
<b>Doing physical activity</b>				
Yes	9,59	3,03	-2,584	<b>0,010</b>
No	10,30	3,17		
<b>Frequency of physical activity</b>				
1-2 days a week <sup>1</sup>	9,80	3,00	1,295	0,276
3-4 days a week <sup>2</sup>	9,62	3,01		
5 days or more <sup>3</sup>	8,80	3,19		
<b>Experiencing sleep disorders</b>				
Yes	10,33	3,01	4,344	<b>0,000</b>
No	8,98	3,29		

p= Independent sample t test; One-Way Anova test, p<sup>1</sup> = Tukey HSD analysis



#### 4. Discussion

With the declaration of the Covid-19 pandemic, isolation measures were taken in our country as well as all over the world, and people could not leave their homes for a long time. Within the scope of these measures, online education has been implemented in higher education institutions. When face-to-face trainings were canceled, students who were away from their families returned to their homes. It is thought that many habits of young people who have to live in isolation at home for a long time have changed. One of the most important of these is eating habits. As it is known, the eating habits of students in the university environment are much different than when they are with their families, and most student eat fast food. In addition, it is thought that most of the people pay attention to their nutrition and care about their health during the pandemic. It is a matter of curiosity how this situation is reflected in the behaviors of nursing students, who are candidates for health professionals, and whether their eating habits and also lifestyle have changed. In this article, the results regarding the nutritional habits and lifestyle change of nursing students before and during the pandemic are presented.

According to the results of this study, it was found that the risky eating habits of the students decreased during the pandemic period and they tended to eat healthier (Table-3). Celorio-Sardà et al. (2021), it was found that food science students and professionals in Spain had an increase in healthy eating habits during the quarantine period (Celorio-Sardà et al., 2021). Di Renzo et al. (2020) also showed in their study that the Italian population aged 18-30 had healthier eating habits (Di Renzo et al., 2020). Rodríguez-Pérez et al (2020) also found in their study that the Spanish youth population had healthier eating behaviors during the covid pandemic (Rodríguez-Pérez et al., 2020). Ruiz-Roso et al. (2020) examined the changes in the nutritional habits of adolescents, it was found that there was an increase in the consumption of healthier foods, that the adolescents had an adequate and balanced diet, and that their nutritional habits were positively affected during the pandemic period (Ruiz-Roso et al., 2020). The results of our study show parallelism with the results of these studies. However, contrary to these results, Bin Zarah et al.(2020), it was reported that adults living in the USA had no change in their dietary habits and even consumed more sugary and salty snacks (Bin Zarah et al., 2020). In addition, Werneck et al. (2020) also stated in their study that unhealthy food consumption increased and the consumption of vegetables and fruits decreased during the pandemic period in Brazil (Werneck et al., 2021). It is thought that it may be very difficult to change these habits due to regional differences, cultural changes, and different dietary habits, and being in quarantine at home during the pandemic affects societies differently according to their cultures. On the other hand, in a study similar to our study conducted in our country, Akyol and Çelik (2020) also found that paramedic students had high-risk nutritional behaviors during the pandemic (Akyol and Çelik, 2020). In addition, in our study, it was observed that the risky eating behaviors of fourth grade students were significantly less (table 4). Nursing students participating in our study take the nutrition course, which includes the importance of all food groups for the body, in the first half of the curriculum. In addition, we think that the level of

nutrition knowledge is higher because of the association of nutrition with the prevention of chronic diseases in the course contents in the nursing department, the fact that nurses are trained more professionally to provide counseling to individuals on health protection and they are more conscious about this issue. Probably the main reason for this difference is that nursing students' nutritional knowledge is higher in relation to the courses taken. In addition, when we look at the data of our study, we see that the nurse students were already showing moderate risk behaviors before the pandemic, that is, there was not a great decrease in the nutritional risk.

Looking at the other results of this study, non-smokers and non-alcoholics had less risky eating behaviors during the pandemic (table 4). The vast majority of students participating in the study do not smoke or drink alcohol (table 1). Ferrante et al. In the study of (2020), it was revealed that the amount of cigarette and alcohol consumption of adults in Italy increased during the covid epidemic and that these people consumed more unhealthy food during their long stay at home (Ferrante et al., 2020). Malta et al (2020) also showed that adults in Brazil had an increase in the number of cigarettes smoked and the amount of alcohol consumed during the pandemic, and that these people had unhealthy lifestyles (Malta et al., 2020). In another study, it was reported that alcohol consumption of adolescents decreased, but there was an increase in risky behaviors in terms of health (Malta et al., 2021). In general, in these studies, unhealthy eating behaviors, smoking and alcohol consumption habits of people increased in parallel during the pandemic period. It is thought that individuals with smoking and alcohol addiction will have a higher risk of unhealthy nutrition, and that being in quarantine at home for a long time during the pandemic will trigger these bad habits as a result of the psychological effects. In another study supporting this view, it was reported that cigarette and alcohol consumption increased during the pandemic, the nutritional quality of alcohol users was low and this situation would increase in depressed people (Schäfer et al., 2022).

In this study, it was also found that the nutritional risks of those who do not gain weight, do not skip meals, do not eat at night, do physical activity, and do not have sleep disorders are less in the pandemic (table 4, table 5). It is seen that almost all of the students started to live with their families during the pandemic process. In addition, during the pandemic period, it is seen that the rate of nutrition the three main meals of the students increased, their night eating habits and the rate of skipping meals decreased (table 2). According to these data, starting to live with a family has a positive effect on the students' diet. Akyol and Çelik (2020) also found that students' three main meals nutrition rates increased during the pandemic period, but they found that all students exhibited high-risk behaviors in nutrition (Akyol and Çelik, 2020). It is not possible to make an accurate comparison as they do not assess nutritional risks based on nutritional status and weight gain. In another study, it was determined that the rate of weight gain of individuals increased during the pandemic, and the rate of people who gained weight to prefer unhealthy food increased in parallel. (Bhutani et al., 2021). Navarro-Cruz et al. (2021), the most important reason for worsening weight control during the pandemic was associated with increased

carbohydrate consumption (Navarro-Cruz et al., 2021). In addition, another study emphasizes that the causes of unhealthy diet in the pandemic are decreased physical activity, poor sleep quality and, as a result, weight gain is an inevitable result (Cheikh Ismail et al., 2020). Physical inactivity in home isolation causes an increase in calorie intake, a decrease in sleep quality, sleep problems, and an increase in the desire to eat more frequently during the day and to eat at night. All these are the most important reasons for weight gain. In our study, it was observed that very few of the students gained weight (table 1). The fact that the rate of risky behavior in nutrition is lower in those who can control weight is also supported by the results of all the studies above. We can say that those who cannot control their weight have an unhealthy diet, do not make the right food choices, live sedentary and as a result will have risky eating behaviors. In our study, almost all of the students live with their families during the pandemic. The Turkish family structure is especially aimed at encouraging and ensuring that mothers provide their children with proper nutrition. In Turkish culture, families do not have the habit of eating out. Home meals are mostly cooked at home and care is taken to eat three main meals on a regular basis. In addition, the fact that students study in the nursing department is the most important reason for their high level of nutrition and health knowledge. Considering all these, we can conclude that cultural differences and high health knowledge prevent risky behaviors in nutrition.

## 5. Conclusion and Recommendations

Our study data shows that the rate of skipping meals decreased, the rate of feeding three main meals increased, and most importantly, there was a significant decrease in risky eating behaviors as almost all of the students started living with their families during the pandemic period. In addition, it was found that those who do not smoke, do not drink alcohol, do not gain weight during the pandemic, do not skip meals, do not have the habit of eating at night, do physical activity and have no sleep disorders, have less nutritional risks during the pandemic process. Eating a healthy diet ensures strong immunity and prevents a decrease in resistance to diseases. During the pandemic period, many studies have been conducted in countries where healthy lifestyles, weight control, nutrition and bad addictions of adult individuals are examined. Almost all of them seem to have difficulties in transitioning to a healthy life during the pandemic period. In our study, as a general interpretation of all the results, it can be said that future health professionals and nursing students can easily manage risky eating behaviors and adopt a healthy lifestyle despite their young age. These results are promising for our future and our country. Making the nutritional habits of all students studying in health departments and other departments healthier can be achieved through trainings by correcting what they know wrong and presenting correct information. Creating and implementing life-long online programs for students facilitates the improvement of healthy eating habits. In addition, regular sleep, balanced nutrition and physical activity are of great importance in the pandemic. It is recommended to conduct new studies in which community-based health education is carried out in order to raise awareness on these issues and to gain proper nutrition behaviors and a healthy lifestyle.

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*It is declared that scientific and ethical principles have been followed while carrying out and writing this study and that all the sources used have been properly cited. Ethics Committee Approval 26.11.2020/174.*

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