The correlation between nursing students’ healthy lifestyle behaviors, cardiovascular disease risk factors’ knowledge level, and obsession symptoms

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Abstract:

BACKGROUND: Nursing students have a role in the awareness of risk factors in the development of healthy lifestyle behaviors. Nursing students’ awareness of disease risk factors plays a role in developing healthy lifestyle behaviors. Therefore, it was aimed to determine the relationship between the effect of nursing students’ healthy lifestyle behaviors and cardiovascular disease risk factors’ knowledge levels and obsessive–compulsive symptoms.

MATERIALS AND METHODS: This was a descriptive cross-sectional study. Two hundred and twenty-four students studying in the nursing departments of two foundation universities participated in the study between April and October 2020. Sociodemographic information form, Health Promoting Lifestyle Profile II (HPLP-II), Cardiovascular Disease Risk Factors Knowledge Level (CARRF-KL), and Maudsley Obsessive–Compulsive Inventory (MOCI) were applied to the students.

RESULTS: It was found that the nursing students’ healthy lifestyle behaviors (123.53 ± 25.78) and cardiovascular risk factors’ knowledge level (21.08 ± ± 2.70) were high. Obsessive–compulsive symptoms (16.12 ± 6.22) were moderate. In the correlation of sociodemographic characteristics, it was found that age correlated with the nutrition subdimension of CARRF-KL and HPLP-II, income level correlated with HPLP-II, place of residence correlated with HPLP-II, CARRF-KL, and MOCI, and having a health problem correlated with health responsibility. Income status, place of residence, and presence of health problems were found to be correlated with HPLP-II in all subdimensions in the regression analysis. In the regression analysis of HPLP-II with CARRF-KL and MOCI scales, it was found that it was significantly related to interpersonal relations, spiritual growth, stress management, and total score dimensions.

CONCLUSION: Healthy lifestyle behaviors of nursing students are related to cardiovascular risk factors’ knowledge level and obsession symptoms. In addition, some demographic characteristics affect healthy lifestyle behaviors.

Keywords: Cardiovascular disease risk, healthy lifestyle, nursing, obsessive–compulsive symptom

Introduction

The concept of health-promoting lifestyle behaviors has become more important with the prolonged human life as a result of increasing scientific developments in recent years. The human lifespan has been prolonged with the effect of developing technology, and the concept of health-promoting lifestyle behaviors has gained more importance. This concept has become known with Nola Pender’s definition of the health promotion model, and it is defined as the
The estimated prevalence of OCD varies around the world. Its lifetime prevalence rates are 1.5% in females and 1.0% in males. The prevalence of lifetime is reported to be 1% and 3.6% in Canada and Singapore, respectively. In Turkey, the prevalence of OCD is reported to be 3% in the general population and 4.2% in university students. Morbidity and mortality risk due to cardiovascular diseases increase in psychiatric diseases. Cardiovascular diseases cause 31% of all deaths all around the world. This can sometimes be caused by illness-related causes or the antipsychotic drugs used for illness. In a study conducted in Italy, it was found that 21.2% of OCD patients developed metabolic syndrome due to their antipsychotic use.

Nursing students, who are at the beginning of adulthood, have an important role in bringing healthy lifestyles to the society. Nursing students who have information about healthy lifestyle behaviors and diseases play a more active role in the protection and maintenance of the health of society in their professional life.

In the literature, studies have been conducted on healthy lifestyle behaviors, cardiovascular risk knowledge levels, and obsessive–compulsive symptoms. However, they just evaluate the patterns related to healthy living or consider the parameters one by one.

However, although it has been stated that acquisition of healthy lifestyle behaviors is especially important in adolescents, there has been no study to determine the obsessive–compulsive symptoms and the knowledge levels of cardiovascular diseases’ risk factors. In this study, it was aimed to determine the relationship between nursing students’ healthy lifestyle behaviors and cardiovascular diseases’ risk factors’ knowledge levels and obsessive–compulsive symptoms.

This study was conducted on nursing students with the following objectives:

1. To determine the levels of healthy lifestyle behaviors and cardiovascular diseases’ risk factors’ knowledge levels and obsessive–compulsive symptoms among nursing students.
2. To find out the association between healthy life behaviors, cardiovascular disease risk knowledge level, obsessive–compulsive symptoms, and sociodemographic variables of nursing students.

Materials and Methods

Study design and setting
This study is a descriptive and analytical cross-sectional study.

Study participants and sample
It was aimed to reach all the students studying in the nursing departments of two foundation universities in Istanbul, Turkey, between April and October 2020, without choosing a sample. Two hundred and twenty-four of 435 students who studied in the nursing departments of two universities participated in the study. 51.49% of the students who were sent the questionnaire were reached.

Data collection tool and technique
During data collection, a questionnaire prepared via Google forms was applied. At the end of the pre-form, in which the purpose of the study was explained and the consents were taken, the data collection tools were delivered to the students via e-mail or message. Statistical Package for the Social Sciences (SPSS) version 22 software (SPSS statistics for Windows version 22; IBM Corp., Armonk, NY, USA) was used to analyze the data.

An information form consisting of eight questions to determine the sociodemographic characteristics of the students (age, income, marital status, etc.) was used.

Health Promoting Lifestyle Profile II (HPLP-II) scale to evaluate healthy lifestyle behaviors, Cardiovascular Disease Risk Factors Knowledge Level (CARRF-KL) scale to measure the knowledge level of cardiovascular diseases’ risk factors, and the Maudsley Obsessive–Compulsive Inventory (MOCI) scale to measure obsessive–compulsive features were applied to the students.

Health Promoting Lifestyle Profile II
The Turkish validity and reliability study of HPLP-II was performed by Bahar et al.[18] The Cronbach’s alpha value of the scale was found to be 0.94 for the total of the scale. The HPLP-II scale examines health promotion behaviors associated with a healthy lifestyle. The scale, in a 4-point Likert structure, is scored as 4 (regularly), 3 (often), 2 (sometimes), and 1 (never). It consists of 52
items, and the score that can be obtained from the scale is between 52 and 208. The extent to which an individual performs the specified health behaviors is proportional to the score obtained from the scale. The scale itself includes six titles: stress management, physical activity, health responsibility, spiritual growth, interpersonal relationships, and nutrition. In this study, the Cronbach’s alpha value of the scale was found to be 0.96.

**CARRF-KL scale**

It is a 28-item scale consisting of 16 items from the “Heart Disease Fact Questionnaire” and four items from the “40-Item Coronary Heart Disease Knowledge Test” questionnaire that were translated into Turkish, and eight items (5, 8, 9, 10, 17, 18, 22, and 26) that are important for the researchers to know about the risk factors associated with cardiovascular diseases were added. The score that can be obtained from the scale is between 0 and 28. A high score from the scale indicates a high level of knowledge of cardiovascular disease risk factors. In the validity and reliability study, the Cronbach’s alpha value was determined as 0.768. The Cronbach’s alpha value in this study was 0.672.

**Maudsley Obsessive–Compulsive Inventory**

The scale developed by Hodgson and Rachman aims to measure the level of obsessive–compulsive symptoms. The validity and reliability of the scale in Turkish society was tested by Erol and Savaşır. Each item in the scale is marked as true or false. The score obtained from the scale varies between 0 and 37. An increase in the score obtained from the scale indicates an increase in obsessive–compulsive symptoms. It consists of 37 items in total. In the validity study of the scale, the Cronbach’s alpha score was 0.86. The Cronbach’s alpha score in this study was 0.83.

IBM SPSS 22.00 program was used for analysis of data of the research. Skewness and kurtosis (normal distribution between −1.5 and 1.5) values were used in the analysis of normal distribution. In the analysis of data, the following were used: for descriptive statistical analyses, number, percentage, mean, standard deviation, minimum and maximum tests; in intergroup comparisons, t and analysis of variance (ANOVA); in correlation analysis, Pearson correlation and multiple regression analysis; to determine from which group the difference originates, Tukey; and in the reliability analysis of the scales, Cronbach’s alpha tests. The statistical significance level in the relationships and comparisons was accepted at P < 0.05.

**Ethical consideration**

Ethics committee permissions were obtained for the study (no.: 58/03.20.2020). The purpose of the study was explained to the participants and their consent was taken. Throughout the study, the Declaration of Helsinki was adhered to.

**Results**

The mean age of the participants was 27.38 ± 5.6 years, and their body mass index (BMI) was 22.32 ± 3.71. Also, 86.6% of them are females and 74.6% of them had a medium income level. It was found that 97.3% were single, 83.5% lived at home, 85.7% had no health problems, and 53.6% had no chronic disease in their family [Table 1].

Regarding the mean scores of the participants, the mean CARRF-KL was 21.08 ± 2.70, the total MOCI score average was 16.12 ± 6.22, and the total HPLP-II mean score was 123.53 ± 25.78. The mean of interpersonal relations subgroup of HPLP-II was 24.65 ± 5.51, the mean of health responsibility subgroup was 21.25 ± 5.51, the mean of physical activity subgroup was 16.85 ± 5.05, the mean of nutrition subgroup was 16.98 ± 4.02, the mean of the spiritual growth subgroup was 25.06 ± 6.05, and the mean of the stress management subgroup was 18.73 ± 4.35 [Table 2].

There was a very weak positive correlation between the sociodemographic characteristics of the participants, age, and nutrition (r = 0.19/P = 0.00) and CARRF-KL (r = 0.14/P = 0.03). Interpersonal

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**Table 1: Sociodemographic characteristics of the participants (n=224)**

| Characteristics          | n   | %  |
|--------------------------|-----|----|
| Gender                   |     |    |
| Males                    | 30  | 13.4|
| Females                  | 194 | 86.6|
| Class                    |     |    |
| 1                        | 51  | 22.8|
| 2                        | 49  | 21.9|
| 3                        | 45  | 20.1|
| 4                        | 79  | 35.3|
| Income                   |     |    |
| Good                     | 44  | 19.6|
| Moderate                 | 167 | 74.6|
| Low                      | 13  | 5.8 |
| Marital status           |     |    |
| Single                   | 218 | 97.3|
| Married                  | 6   | 2.7 |
| You live at…             |     |    |
| Home                     | 187 | 83.5|
| Lodged Dormitory         | 37  | 16.5|
| Health problem           |     |    |
| Yes                      | 32  | 14.3|
| No                       | 192 | 85.7|

BMI=body mass index, SD=standard deviation
In the multivariate regression analysis performed to evaluate the effects of income status (good), place of residence (home), and health problem (yes) on healthy lifestyle and total scores, it was determined that HPLP-II had a significant regression with the interpersonal relationships score ($F_{(3,220)} = 4.312, P = 0.006$) and 4.3% of the variance in the dependent variable ($R^2_{adj} = 0.043$). It was determined that there was a significant regression with the health responsibility score ($F_{(3,220)} = 4.350, P = 0.005$) and 4.3% of the variance in the dependent variable ($R^2_{adj} = 0.043$). It was found that there was a significant regression with the physical activity score ($F_{(3,220)} = 5.117, P = 0.002$) and 5.2% of the variance in the dependent variable ($R^2_{adj} = 0.052$). Also, there was a significant regression with the nutrition score ($F_{(3,220)} = 7.187, P = 0.000$) and 7.7% of the variance in the dependent variable ($R^2_{adj} = 0.077$). It was determined that there was a significant regression with the spiritual growth score ($F_{(3,220)} = 3.882, P = 0.01$) and 3.7% of the variance in the dependent variable ($R^2_{adj} = 0.037$). There was a significant regression with the stress management score ($F_{(3,220)} = 5.107, P = 0.002$) and 5.2% of the variance in the dependent variable ($R^2_{adj} = 0.052$). Also, there was a significant regression with the total score of HPLP-II ($F_{(3,220)} = 6.423, P = 0.000$) and 6.8% of the variance in the dependent variable ($R^2_{adj} = 0.068$) [Table 4]. Significant values in the regression analysis are given in Table 4.

### Table 2: CARRF-KL, MOCI, and HPLP-II mean scores of the participants

| Scale and subscales | Min.-max. | ±SD |
|---------------------|----------|-----|
| Total CARRF-KL      | 8-26     | 21.09±2.70 |
| Total MOCI          | 7-37     | 16.12±6.22 |
| Total HPLP-II       | 51-193   | 123.53±25.78 |
| **Subscales**       |          |     |
| Interpersonal       | 9-36     | 24.65±5.51 |
| Health responsibility| 9-36     | 21.25±5.51 |
| Physical activity   | 8-30     | 16.85±5.05 |
| Nutrition           | 8-31     | 16.98±4.02 |
| Spiritual growth    | 9-35     | 25.06±6.05 |
| Stress management   | 8-32     | 18.73±4.35 |

CARRF-KL=Cardiovascular Disease Risk Factors Knowledge Level, HPLP-II=Health Promoting Lifestyle Profile II, MOCI=Maudsley Obsessive-Compulsive Inventory, SD=standard deviation
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Table 4: Regression of sociodemographic characteristics with HPLP-II

| Dependent variable          | Independent variable | β   | t     | P     | F    | Model (P) | R adj | Durbin-Watson |
|-----------------------------|----------------------|-----|-------|-------|------|-----------|-------|---------------|
| Interpersonal relationships | Constant             | 22.208 | 24.430 | 0.000 | 4.312 | 0.006     | 0.043 | 2.165         |
|                             | Income (good)        | 0.162 | 2.467 | 0.014 |      |           |       |               |
|                             | Living area (home)   | 0.148 | 2.263 | 0.025 |      |           |       |               |
| Health responsibility       | Constant             | 19.293 | 22.472 | 0.000 | 4.350 | 0.005     | 0.043 | 1.923         |
|                             | Income (good)        | 0.131 | 2.006 | 0.046 |      |           |       |               |
|                             | Health problem (yes) | 0.154 | 2.346 | 0.02  |      |           |       |               |
| Physical activity           | Constant             | 14.593 | 17.578 | 0.000 | 5.117 | 0.002     | 0.052 | 2.186         |
|                             | Income (good)        | 0.197 | 3.016 | 0.003 |      |           |       |               |
|                             | Living area (home)   | 0.145 | 2.218 | 0.028 |      |           |       |               |
| Nutrition                   | Constant             | 0.653 | 22.856 | 0.000 | 7.187 | 0.000     | 0.077 | 1.985         |
|                             | Income (good)        | 0.231 | 3.590 | 0.000 |      |           |       |               |
|                             | Living area (home)   | 0.163 | 2.532 | 0.012 |      |           |       |               |
| Spiritual growth            | Constant             | 1.001 | 22.799 | 0.000 | 3.882 | 0.010     | 0.037 | 2.060         |
|                             | Income (good)        | 0.177 | 2.694 | 0.008 |      |           |       |               |
| Stress management           | Constant             | 0.714 | 23.842 | 0.000 | 5.107 | 0.002     | 0.052 | 2.028         |
|                             | Income (good)        | 0.221 | 3.390 | 0.001 |      |           |       |               |
| Total HPLP-II               | Constant             | 4.197 | 26.415 | 0.000 | 6.423 | 0.000     | 0.068 | 2.054         |
|                             | Income (good)        | 0.215 | 3.319 | 0.001 |      |           |       |               |
|                             | Living area (home)   | 0.156 | 2.409 | 0.017 |      |           |       |               |

Multivariate regression analysis was performed to evaluate the effects of students’ CARRF-KL and MOCI independent variables on healthy lifestyle and total scores. It was determined that there was a significant regression with the interpersonal relations score ($F_{(3,220)} = 3.248, P = 0.041$) and 2% of the variance in the dependent variable ($R^2_{adj} = 0.020$). Also, there was a significant regression with the spiritual development score ($F_{(3,220)} = 7.283, P = 0.001$) and 5.3% of the variance in the dependent variable ($R^2_{adj} = 0.053$). It was also determined that there was a significant regression with the stress management score ($F_{(3,220)} = 4.169, P = 0.017$) and 2.8% of the variance in the dependent variable ($R^2_{adj} = 0.028$). Analysis made with the total score of HPLP-II showed that there was a significant regression ($F_{(3,220)} = 4.396, P = 0.013$) and 3% of the variance in the dependent variable ($R^2_{adj} = 0.030$) [Table 5].

### Discussion

In this study, it was aimed to determine the relationship between nursing students’ healthy lifestyle behaviors and cardiovascular disease risk factors’ knowledge levels and obsessive–compulsive symptoms. It was found that the level of knowledge of healthy lifestyle behaviors and cardiovascular risk factors of nursing students was high and their obsessive–compulsive symptoms were moderate. It was found that the highest scores were obtained in the spiritual growth and interpersonal relations dimensions of the healthy lifestyle behaviors scale and the lowest score was obtained in the physical activity dimension of the healthy lifestyle behaviors scale. In addition, it was understood that characteristics such as age, income level, place of residence (home/dormitory), and having a health problem were effective factors for healthy lifestyle behaviors, cardiovascular disease risk factors’ knowledge level, and obsessive symptoms. It was found that those with poor interpersonal relationships, spiritual growth, and stress management had more obsessive–compulsive symptoms.

University students are in an important period in the acquisition and development of lifestyle behaviors. Positive or negative behaviors acquired at these ages continue throughout life and influence health. Studies on university students have reported that supporting students in the school environment and guiding students contribute to increasing their sociocultural activities and well-being.\[21\] In the Cochrane review, it is stated that the education given to students (personal, social, health, and economic education) is effective in reducing BMI, increasing physical activity, and increasing the consumption of vegetables and fruits.\[22\] Although it is reported that university education makes such a contribution in general, it is thought that the fact that the students participating in this study are studying in the nursing department contributes to increased cardiovascular disease risk factors’ knowledge level as well as healthy lifestyle behaviors. On the other hand, in this study, it was found that although students’ healthy lifestyle behaviors were high, their physical activity scores were low. Studies have shown that the environmental conditions of the university are also important for students to develop healthy lifestyle behaviors.\[22\] The fact that the students participating in this study were not physically active may be due to unsuitable environmental conditions. According to WHO, many reasons such as exposure to violence and...
The students got the highest scores from the HPLP-II subscale in the dimensions of spiritual growth and interpersonal relations. Spirituality is defined as positive emotions, happiness, and physical and mental well-being associated with spiritually and religiously positive psychology.[23] However, in studies conducted with societies with different religious views, having a religious view is generally associated with social attitudes such as empathy, concern for others, volunteerism, benevolence, and value.[26] In Turkey, 99% of the population has a religious view and believes in Islam.[27] This belief is effective on people’s values, beliefs, and healthy life behaviors. It was found that the students got high scores in the dimension of interpersonal relations as well as spiritual growth. Socialization of students in the university environment contributes to the development of their interpersonal relationships and spiritual growth. In addition, in studies conducted with nursing students, it was reported that the problems they encounter in clinical practice improve their interpersonal communication.[24] Nursing profession, as in other health professions, is an area where communication is used intensively. Having a good interpersonal relationship is also important in solving problems quickly, understanding the patient, and managing emotions and giving care.[20] It is thought that the education that nursing students receive contributes to increasing the level of interpersonal relations. Having high interpersonal relationships will also contribute to their harmonious and comfortable work with their patients and co-workers when they step into professional life.

Sociodemographic characteristics can be effective in the development of healthy lifestyle behaviors. Especially during student years, when they are not economically independent, their vital concerns increase. In studies conducted with university students in Turkey and other countries, it was reported that income level is related to healthy lifestyle behaviors.[30][31] As a result of these findings, it is understood that it is important for students to be supported financially by their families or by the university. In this study, it was found that as the age of the students increased, their cardiovascular risk factor knowledge levels and nutrition scores increased. The more the students studying in the health department get older, the more their awareness about health increases and they start to gain their economic independence.[32] This result is parallel to the literature reports.

Another factor affecting healthy lifestyle behaviors is living conditions. In this study, students living in the dormitory had low healthy lifestyle behaviors and cardiovascular risk factor knowledge levels and a moderate level of obsessive symptoms. Living in a dormitory increases the risk of unhealthy behaviors. Lack of adequate sanitation on being away from home and being together with people from different cultures

| Dependent variable | Independent variable | $b$ | $t$ | $P$ | $F$ | Model ($P$) | $R^2$ | Durbin-Watson |
|-------------------|---------------------|-----|-----|-----|-----|-------------|-------|--------------|
| Interpersonal relationship | Constant | 21.509 | 7.319 | 0.000 | 3.248 | 0.041 | 0.02 | 2.139 |
|                     | MOCI                | -0.135 | -2.020 | 0.045 | 2.053 | 0.012 | 0.02 | 2.019 |
|                     | CARRF-KL            | 0.118  | 1.767  | 0.079 | 1.723 | 0.085 | 0.02 | 2.009 |
| Health responsibility | Constant | 17.096 | 6.128  | 0.000 | 2.121 | 0.122 | 0.019 | 2.223 |
|                     | MOCI                | -0.070 | -1.047 | 0.296 | 0.596 | 0.085 | 0.02 | 2.009 |
|                     | CARRF-KL            | 0.126  | 1.878  | 0.062 | 1.878 | 0.085 | 0.02 | 2.009 |
| Physical activity   | Constant | 16.026 | 5.899  | 0.000 | 1.656 | 0.193 | 0.019 | 2.223 |
|                     | MOCI                | -0.113 | -1.684 | 0.094 | 0.596 | 0.085 | 0.02 | 2.009 |
|                     | CARRF-KL            | 0.059  | 0.872  | 0.384 | 0.596 | 0.085 | 0.02 | 2.009 |
| Nutrition           | Constant | 15.479 | 7.165  | 0.000 | 2.008 | 0.137 | 0.009 | 0.025 |
|                     | MOCI                | -0.113 | -1.679 | 0.095 | 0.596 | 0.085 | 0.02 | 2.009 |
|                     | CARRF-KL            | 0.085  | 1.272  | 0.205 | 0.596 | 0.085 | 0.02 | 2.009 |
| Spiritual growth    | Constant | 20.482 | 6.458  | 0.000 | 7.283 | 0.001 | 0.053 | 2.070 |
|                     | MOCI                | -0.205 | -3.126 | 0.002 | 3.126 | 0.002 | 0.053 | 2.070 |
|                     | CARRF-KL            | 0.165  | 2.159  | 0.012 | 2.159 | 0.012 | 0.053 | 2.070 |
| Stress management   | Constant | 17.176 | 7.429  | 0.000 | 4.169 | 0.017 | 0.028 | 2.053 |
|                     | MOCI                | -0.172 | -2.591 | 0.010 | 2.591 | 0.010 | 0.028 | 2.053 |
|                     | CARRF-KL            | 0.103  | 1.552  | 0.122 | 1.552 | 0.122 | 0.028 | 2.053 |
| Total HPLP-II       | Constant | 107.768 | 7.876  | 0.000 | 4.396 | 0.013 | 0.03 | 2.099 |
|                     | MOCI                | -0.160 | -2.409 | 0.017 | 2.409 | 0.017 | 0.03 | 2.099 |
|                     | CARRF-KL            | 0.132  | 1.982  | 0.049 | 1.982 | 0.049 | 0.03 | 2.099 |

CARRF-KL=Cardiovascular Disease Risk Factors Knowledge Level, HPLP-II=Health Promoting Lifestyle Profile II, MOCI=Maudsley Obsessive-Compulsive Inventory

As a result of these findings, it is understood that it is important for students to be supported financially by their families or by the university. In this study, it was found that as the age of the students increased, their cardiovascular risk factor knowledge levels and nutrition scores increased. The more the students studying in the health department get older, the more their awareness about health increases and they start to gain their economic independence.[32] This result is parallel to the literature reports.
can lead to the development of unhealthy behaviors and depression.[9] In addition to depression, the emergence of obsessive symptoms also affects healthy lifestyle behaviors. The stress caused by living conditions in the dormitory can lead to obsession-specific repetitive, impulsive, intrusive, and inappropriate behaviors.[9] In this study, it was found that healthy lifestyle behaviors were positively related to cardiovascular risk factor knowledge level. This finding shows that positive health behaviors are also effective in preventing cardiovascular diseases. This finding is also supported by previous studies.[14] At the same time, HPLP-II and CARRF-KL were found to be negatively related to obsessive symptoms. Although OCD is a psychological illness, it can affect general health and quality of life. At least one metabolic or cardiovascular complication occurs in OCD. At the same time, the risk of developing obesity and circulatory system diseases increases in these people.[13] A recent study showed a dramatic association between OCD and metabolic or cardiovascular complications. Their quality of life decreases and their use of health-care resources increases for many reasons such as the etiology of the disease and the treatments used.[35] It is thought that the low knowledge level about cardiovascular risk factors in OCD leads to a higher incidence of cardiovascular diseases, and this leads to a decrease in healthy lifestyle behaviors.

It was found that those with poor interpersonal relationships, spiritual growth, and stress management had more obsessive–compulsive symptoms. Studies have shown that people with obsessive–compulsive symptoms have problematic interpersonal relationships, low coping skills, and spiritual growth problems.[33]

**Limitations and Recommendation**

Health and healthy life are a multidimensional concept. In this study, the healthy lifestyle behaviors of nursing students may have been affected by the parameters not included in the scale used. In addition, the province where this study was conducted is one of the highest socioeconomically ranked provinces of Turkey. Therefore, it may be possible to obtain different results in parameters such as healthy lifestyle behaviors, cardiovascular risk factor knowledge level, and obsessive–compulsive symptoms from different geographic areas. Therefore, it is difficult to generalize the results of the study to the whole of Turkey.

Another limitation of this study is that nursing students’ clinical and family environment experiences were not analyzed in the study. One of the limitations of the study is that it is a quantitative study. Qualitative studies allow the problem to be examined in more detail. However, the quantitative nature of this study only provides information about the scales used for the problem.

**Conclusions**

The main finding of this study is that nursing students’ healthy lifestyle behaviors are related to cardiovascular risk factor knowledge level and obsession symptoms. In healthy lifestyle behaviors, especially the scores of interpersonal relations and spiritual development were high and physical activity scores were low. In addition, characteristics such as age, income level, place of residence, and having a health problem affect healthy lifestyle behaviors. Supporting students with low income, those living in dormitories, and those having health problems can contribute to improving their healthy lifestyle behaviors. In addition, it can be suggested that nursing students should be encouraged to increase their physical activity by finding the underlying reason for their low physical activity. The last finding of this study is that students with poor interpersonal relationships, spiritual growth, and stress management have more obsessive–compulsive symptoms. It may be recommended that students with poor interpersonal relationships and poor stress management be guided by academics.

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**Conflicts of interest**

There are no conflicts of interest.

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