

# Lifestyles of nursing students from a Colombian public university

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## Lifestyles of nursing students from a colombian public university

**Objective.** To assess the lifestyles of nursing students from a Colombian public university. **Methods.** A cross-sectional study was conducted in 2014. 380 students answered by self-reporting the adapted version in Spanish of FANTASTIC Lifestyles Assessment Questionnaire of Wilson and Ciliska. **Results.** Lifestyles were poor in 9.2%, fair in 31.3%, good in 53.7%, and excellent in only 5.8% of the participants. Statistically-significant differences of the total mean score were not found when comparing with gender, age group, and course year, but were detected in two domains by gender: a) physical activity (higher score in men) and b) cigarette smoking (higher score in women). **Conclusion.** An important proportion of our nursing students has inadequate lifestyles, which means deferred risks for the development of chronic diseases. Universities should promote the training of the future professionals in nursing with knowledge and skills aimed at healthy lifestyles.

**Key words:** cross-sectional studies; life style; questionnaires; students, nursing.

## Estilos de vida de estudiantes de Enfermería de una universidad pública colombiana

**Objetivo.** Evaluar los estilos de vida de los estudiantes de Enfermería de una universidad pública colombiana. **Métodos.** Se realizó un estudio descriptivo de tipo trasversal en 2014. 380 alumnos por autorreporte contestaron el *FANTASTIC Lifestyle Assessment Questionnaire*, versión adaptada al español. **Resultados.** La puntuación de los estilos de vida fue bajo en el 9.2%; en el 31.3%, regular; en el 53.7%, bueno y solo en el 5.8%, fantástico. No se detectaron diferencias estadísticamente significativas del promedio de la puntuación total cuando se comparó con sexo, grupo etario y año de curso, pero en sí en dos dominios del cuestionario: actividad física (puntuación mayor en hombres que mujeres) y b)

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consumo de tabaco (promedio de puntuación mayor mujeres que en hombres). **Conclusión.** Una proporción importante de alumnos de Enfermería de la universidad pública estudiada tiene inadecuados estilos de vida, lo que significa riesgos aplazados para el desarrollo de enfermedades crónicas. Las universidades tienen el deber de promover en los futuros enfermeros los conocimientos y destrezas orientados a estilos de vida saludables.

**Palabras clave:** estudios transversales; estilo de vida; cuestionarios; estudiantes de enfermería.

### Estilos de vida de estudiantes de Enfermagem de uma universidade pública colombiana

**Objetivo.** Avaliar os estilos de vida dos estudantes de Enfermagem de uma universidade pública colombiana.

## Introduction

According to data from the World Health Organization<sup>1</sup> non-transmissible chronic diseases are the main cause of mortality and premature disability throughout the world, and the study of healthy lifestyles is gaining special importance. Lifestyle factors including values or beliefs are influenced by the local culture<sup>2</sup> and for Pender *et al.*<sup>3</sup> these are influenced by individual and collective constructions of health and disease, and are carried out through the individual's motivation of protecting or improving their own health and avoiding disease.

Although to provide care one must care for oneself, research shows that the lifestyles in nursing students are inadequate,<sup>4,5</sup> which means having deferred risks for the development of chronic diseases. Aggravating this situation, it has also been reported that during the course of the Nursing degree some unhealthy lifestyles in students not only worsen, but may also start.<sup>6</sup> This justifies that during the years of university training their lifestyles be assessed to design interventions aimed at improving the health conducts of the future professionals, who should

Métodos. Se realizou um estudo de corte transversal em 2014. 380 alunos por autor-reporte responderam o FANTASTIC Lifestyle Assessment Questionnaire, versão adaptada ao espanhol. **Resultados.** A pontuação dos estilos de vida foi baixo em 9.2%, em 31.3% foi regular, em 53.7% foi bom e só em 5.8% foi fantástico. Não se detectaram diferenças estatisticamente significativas da média da pontuação total quando se comparou com sexo, faixa etária e ano de curso, mas em si em dois domínios do questionário: atividade física (pontuação maior em homens de que mulheres) e b) consumo de tabaco (médio de pontuação maior mulheres de que em homens). **Conclusão.** Uma proporção importante de alunos de Enfermagem da universidade pública estudada tem inadecuados estilos de vida, o que significa riscos adiados para o desenvolvimento de doenças crônicas.

**Palavras chave:** estudos transversais; estilo de vida; questionários; estudantes de enfermagem.

serve as examples in the promotion of healthy lifestyles for the population.<sup>7</sup> The aim of this study was to assess the lifestyles of nursing students from a Colombian public university by using the FANTASTIC instrument by Wilson and Ciliska.<sup>8</sup>

## Methods

A cross-sectional study was conducted including nursing students in 2014 in the University in Antioquia, located in Medellín (Colombia, South America). Students voluntarily accepted to participate in the research through an informed signed consent. No sample was calculated, given that the whole population was studied. Researchers used the class assignment time for the data collection. After explaining the objectives, methodology, and results expected in the investigation, the students were invited to participate voluntarily in the study, and those who provided their consent filled out the FANTASTIC questionnaire through self-report.

To obtain information, a form was used which included sociodemographic data (course year, age,

gender, and marital status) and questions from the FANTASTIC Lifestyle Assessment Questionnaire.<sup>8</sup> The Spanish version of this instrument used was the adapted in Chile for youth population<sup>9</sup> and which provides information on the individual's behavior within the last 30 days. The origin of the word "FANTASTIC" (FANTASTICO in Spanish), is the acronym of the names of the 10 dimensions in which 30 items are distributed: F=*Family and friends* (2 items); A=*Activity and Associativity* (3 items); N=*Nutrition* (3 items); T=*Tobacco* (2 items); A=*Alcohol and other substances* (6 items); S=*Sleep and stress* (3 items); T=*Type of personality* (3 items); I=*Introspection* (3 items); C=*Control of health* (3 items); and O=*Other conducts* (2 items). Each item has three Likert-type response options (0 to 2). The total score corresponds to the sum of the values of the items multiplied by two; higher values indicate better lifestyles. The categorization of the total scale score was:  $\leq 46$ =*dangerous*, 47-72=*poor*, 73-84=*fair*, 85-102=*good*, and 103-120=*excellent*.

The semantic legibility validation of the questionnaire was conducted with seven nursing students. The procedure carried out was as follows: 1st, hand out a written copy of the questionnaire for each participant to fill it out; 2nd, students were asked their opinion on each of the items regarding comprehension and adequacy of the language; 3rd, with words or phrases with difficulty, students were asked to suggest synonyms or statements with their own words; 4th, the researchers evaluated the observations in this trial and compared the theoretical concepts, seeking to measure each of the items on the questionnaire with the statements proposed by the participants during the semantic validation, establishing if equivalency existed - in the case of differences, the statement for each item was determined through researcher consensus; 5th, the final version was approved through researcher consensus. The internal consistency (Cronbach's alpha: 0.7) of FANTASTIC was considered adequate.<sup>10</sup>

The information gathered was analyzed using SPSS vr. 21.00. All quantitative variables were

examined for outliers and abnormal distributions. When normality criteria were fulfilled, their average, standard deviation, and minimum and maximum values were calculated. For qualitative variables proportions were estimated. In exploring the relationship between by total and domains scores of FANTASTIC and the age group, gender, and course variables, one-way ANOVA statistic was used. When ANOVA result was statistically significant ( $p < 0.05$ ) and the independent variables had more than two categories, *post-hoc* analysis was performed to assess among which of the groups differences existed by using the Dunnett's T3 method – assuming that the variances are equal.

This study has been independently reviewed and approved by the Ethics Committee in the Faculty of Nursing at Universidad of Antioquia. The participants granted their informed consent and the survey was answered voluntarily and anonymously. Each copy of the questionnaire contained an annex that interpreted the score obtained in the FANTASTIC and it had advices about how to improve the health conducts.

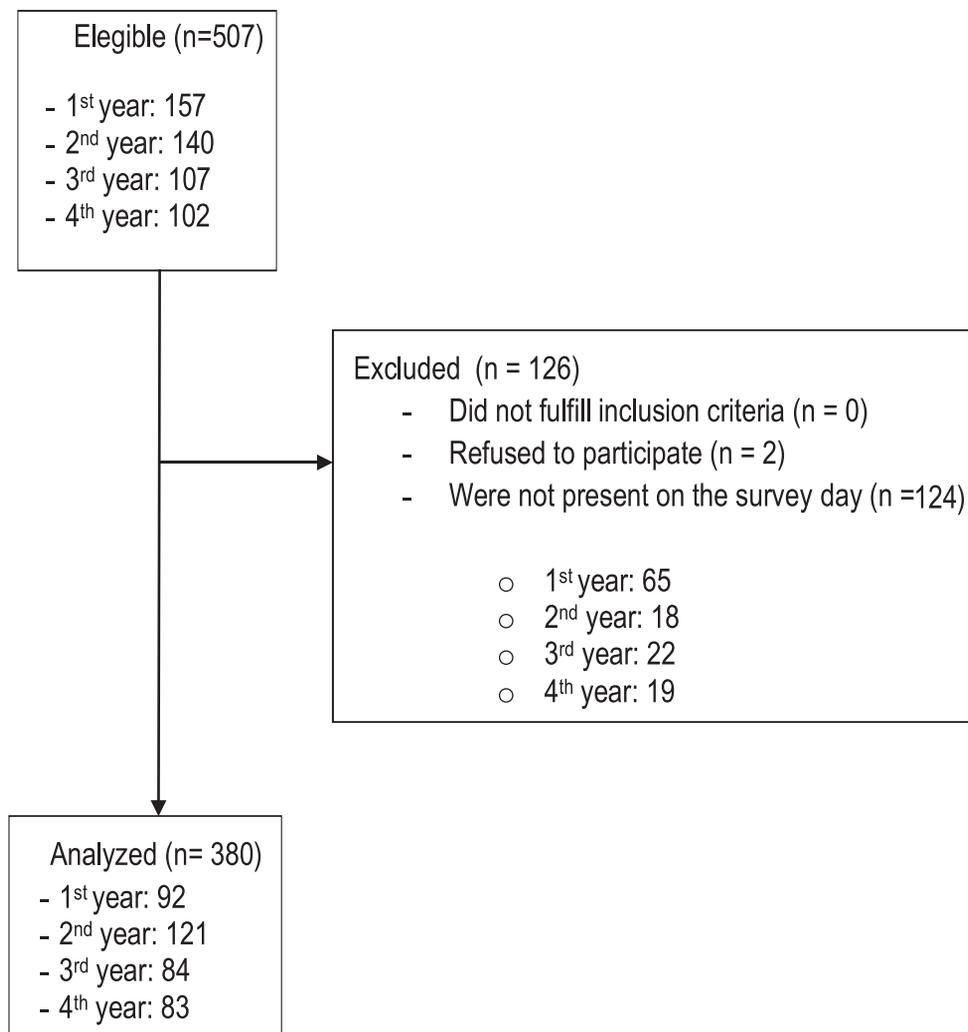
## Results

380 students of the 506 nursing students participated in the study, corresponding to 75.1% of the total population (Figure 1). The mean age of the participants was  $21.6 \pm 3.5$  years (minimum 16; maximum 37); 27.6% were less than 20 years; females prevailed (80.5%), 31.8% were in the second year of training and 89.7% were single (Table 1).

The total average of the FANTASTIC scale was  $86 \pm 10.2$  (minimum 62; maximum 114). 9.2% scored poor; 31.3% scored fair; 53.7% had a good score and only 5.8% scored excellent. Table 2 shows that no statistically-significant differences were found when comparing the average of the total score obtained by gender, age group, and course year, but significant differences were indeed found when comparing these domains for gender: in physical activity the average score

was higher in men and in cigarette smoking, the average score was higher in women. *Post-hoc* analyses of statistically-significant relationships between the scores of the domains and the study variables showed that in consumption of alcohol and other substances, the average score of those younger than 20 years of age was higher than that of those from 20 to 24 years of age ( $p < 0.001$ ); and by course, three statistically

significant differences exist: that of the first year with the third year ( $p = 0.002$ ) and with the fourth year ( $p < 0.001$ ), and that of the second year with the fourth ( $p < 0.012$ ). In sleep and stress, those younger than 20 years of age had an average score higher than those from 20 to 24 years of age. Regarding the general frequencies of the items of the domains, the following can be highlighted.



**Figure 1.** Flow chart of student participation in the survey

**Table 1.** General characteristics of the study participants

| Characteristics   | Frecuency | Porcentaje |
|-------------------|-----------|------------|
| Gender            |           |            |
| Male              | 66        | 17.4       |
| Female            | 306       | 80.5       |
| Missing data      | 8         | 2.1        |
| Age group         |           |            |
| <20 years         | 105       | 27.6       |
| 20-24 years       | 198       | 52.1       |
| 25+ years         | 63        | 16.6       |
| Missing data      | 14        | 3.7        |
| Years of training |           |            |
| 1º                | 92        | 24.2       |
| 2º                | 121       | 31.8       |
| 3º                | 84        | 22.1       |
| 4º                | 83        | 21.8       |
| Single            |           |            |
| Yes               | 341       | 89.7       |
| No                | 26        | 6.8        |
| Missing data      | 13        | 3.4        |

**Family and friends.** A good proportion of the students are supported by their families and friends, who offer them affection (81.8%) and with whom they can speak about themes that are important for their lives (73.9%).

**Activity and associativity.** Only 24.7% engage in vigorous physical activity for at least 30 minutes three or more times per week and 62.1% engage in moderate activity with the same duration and frequency. It is of concern that the remaining 13.2% engage in little physical activity. Regarding the component of associativity, it is interesting that only one in every five nursing students (20.8%) is an active member of sports or self-care groups or organizations.

**Nutrition.** Only 18.9% of the participants consume two portions of vegetables and three portions of fruit every day and 90.3% reported consuming junk food. Although most of the nursing students have inadequate eating habits, 80.0% had the perception that they were near to their ideal weight.

**Tobacco.** 16.3% of the students reported that they were current smokers, 10.0% were former smokers, and 73.7% never having smoked.

**Alcohol and other substances.** 94.7% of those surveyed have less than seven drinks of alcoholic beverages consumed during the same week, 64.5% drink more than four glasses during the same occasion, and 13.4% have used an automobile or motorbike after drinking alcohol, or have been a passenger when the driver had drunk. 11.6% of the students consume more than three cups of coffee per day. Consumption of medications without medical prescription is a common practice in 57.1% of the participants. Regarding consumption of illegal psychoactive substances (marijuana, cocaine, or others) the life prevalence was 11.1%.

**Sleep and stress.** 30% of nursing students sleep well, 40.8% feel capable of controlling the stress of daily life and only 54.7% enjoy their leisure time.

**Table 2.** Averages and SD of the total score and by FANTASTICO domain according to gender, age group, and course

| Variables<br>Domain          | Total     | Gender    |           | Age group |           |          | Course    |        |                 |                 | p         |                 |                 |
|------------------------------|-----------|-----------|-----------|-----------|-----------|----------|-----------|--------|-----------------|-----------------|-----------|-----------------|-----------------|
|                              |           | Male      | Female    | p*        | <20       | 20-24    | ≥25       | p      | 1 <sup>st</sup> | 2 <sup>nd</sup> |           | 3 <sup>rd</sup> | 4 <sup>th</sup> |
| Family and friends           | 7.0±1.4   | 6.8±1.6   | 6.8±1.4   | 0.155     | 7.0±1.6   | 7.0±1.4  | 7.2±1.3   | 0.476  | 7.0±1.6         | 7.0±1.4         | 7.2±1.4   | 7.2±1.6         | 0.653           |
| Activity                     | 6.2±3.2   | 7.2±1.7   | 6.0±3.2   | 0.002     | 6.0±3.2   | 6.2±3.0  | 6.0±3.6   | 0.701  | 6.0±3.2         | 6.2±3.2         | 6.2±3.2   | 6.0±3.2         | 0.859           |
| Nutrition                    | 7.2±2.2   | 7.4±2.0   | 7.2±2.2   | 0.903     | 7.2±2.2   | 7.2±2.0  | 7.4±2.4   | 0.799  | 7.2±2.0         | 7.2±2.2         | 7.6±2.0   | 7.4±2.2         | 0.331           |
| Tobacco                      | 7.0±1.8   | 6.2±2.4   | 7.2±1.6   | <0.001    | 7.2±1.6   | 7.0±1.8  | 6.8±2.2   | 0.274  | 7.4±1.8         | 7.0±1.8         | 7.0±1.8   | 6.8±2.2         | 0.161           |
| Alcohol and other substances | 20.4±2.6  | 22.2±2.6  | 20.4±2.8  | 0.349     | 21.2±2.2  | 20.0±2.8 | 20.6±2.8  | <0.001 | 21.4±2.0        | 20.6±2.6        | 20.0±3.0  | 19.4±2.8        | <0.001          |
| Sleep and stress             | 8.2±2.6   | 8.8±2.6   | 8.2±2.4   | 0.110     | 7.8±2.6   | 8.6±2.4  | 8.0±2.6   | 0.007  | 8.2±2.2         | 7.8±2.6         | 8.8±2.4   | 8.4±2.6         | 0.042           |
| Type of personality          | 7.8±2.2   | 8.0±2.2   | 7.8±2.0   | 0.598     | 7.8±2.0   | 7.6±2.2  | 7.8±2.2   | 0.732  | 7.8±2.2         | 7.8±2.2         | 7.6±2.1   | 7.6±1.8         | 0.773           |
| Introspection                | 7.6±2.0   | 7.4±2.0   | 7.4±1.8   | 0.874     | 7.4±2.0   | 7.6±2.2  | 7.6±1.8   | 0.610  | 7.6±1.8         | 7.2±2.0         | 7.6±2.2   | 7.6±2.2         | 0.647           |
| Control of health            | 8.6±2.6   | 8.2±2.8   | 8.6±2.6   | 0.176     | 8.2±2.8   | 8.6±2.6  | 9.0±2.6   | 0.173  | 8.2±2.6         | 8.8±2.8         | 8.8±2.6   | 8.8±2.4         | 0.241           |
| Other activities             | 7.2±1.2   | 7.0±1.4   | 7.2±1.8   | 0.531     | 7.2±1.2   | 7.2±1.4  | 7.2±1.2   | 0.834  | 7.2±1.2         | 7.2±1.2         | 7.0±1.4   | 7.2±1.2         | 0.765           |
| Total                        | 87.2±10.2 | 87.2±10.8 | 86.1±10.2 | 0.963     | 87.0±10.0 | 87.2±9.8 | 87.1±11.2 | 0.988  | 87.6±8.8        | 87.0±10.8       | 87.8±10.8 | 86.0±10.4       | 0.637           |

\* p-value for the ANOVA test

**Type of personality.** It is alarming that 84.2% of the students are always in a hurry, 73.2% feel angry or aggressive, and 16.3% never feel pleased with their work or with activities.

**Introspection.** 64.7% of the participants reported being positive thinkers, it is noteworthy that 90.5% of the subjects reported that they always feel tense and 6.8%, which although low is still of concern, state they feel depressed.

**Control of the health.** In spite of their being nursing students trained in disease prevention, only 26.8% have periodic health controls. Regarding sexual health, 52.4% talk to their partners or relatives about these themes and 88.4% worry about their self-care and about their partner's care.

**Other behaviors.** The items related to safety behaviors in transportation and pedestrians, drivers, or passengers revealed that 84.5% of the students respect traffic laws and 75.5% wear seatbelts as drivers or as passengers.

## Discussion

In our investigation the total score of the FANTASTIC scale was 86 points, without statistically-significant differences by gender. This score was less than the 94 points reported by Silva *et al.*<sup>10</sup> in Portuguese students of health sciences (84% were nursing students). The category of the FANTASTIC score was good or excellent in only 59.5% of the participants versus 82.6% in the Portuguese students. Regarding the general frequencies of the items of the FANTASTIC domains, the following can be highlighted:

In family and friends, 81.8% of the students give and receive affection. It is well known that affection is a form of expression that involving love, warmth and friendship, all of which are forms of care towards the other and to what is done; and reveals interest and importance towards the other.<sup>11</sup> Only one out of every four engages in vigorous physical activity for at least 30 minutes three or more times per week; this

finding was lower than the 48% noted in nursing students from a private university in Medellín, Colombia.<sup>5</sup> By gender, men engaged in vigorous physical activity with more often than women, a finding like that obtained by Silva *et al.*<sup>10</sup> and Chung.<sup>12</sup> Analyzing the Nutrition domain, it was noted that less than one out of every five students declared eating a balanced diet and avoiding sugar consumption and junk food, this are a cause for concern because this was a group of young adults who were being trained in Nursing. Poor nutrition can affect adversely the physical health, Reed<sup>13</sup> affirms that eating for good health is one way that nurses can reduce the impact of stressors on the body and positively influence their health, allowing them to better care for patients and themselves. As far as the perception of current weight, 80.0% of our nursing students stated being near to the ideal weight. The body weight may affect how nurses provide care to patients or how patients perceive the care a nurse provides; people are less confident in an overweight nurse's ability to provide education on diet and exercise.<sup>13</sup>

16.3% of our students were current smokers, a bigger percentage that 7% obtained in a study in Italian nursing students.<sup>14</sup> Cigarette smoking is well-documented as the principal avoidable cause of morbidity and mortality in the world, being, in fact, one of the most serious epidemics that require taking urgent control actions. In addition, smoking by health care professionals is a barrier to tobacco interventions with patients.<sup>15</sup> In the participants of this study, cigarette smoking was higher in males, a finding that contradicts that reported in nursing students in Spain's University of Seville.<sup>16</sup> 64.5% of the students surveyed have more than four drinks during the same occasion, a percentage that is higher than the 51.2% obtained in the study of Peruvian nursing students during their second year of training.<sup>17</sup> This additionally associated excessive alcohol consumption with exaggerated academic overload. In our students, no difference was noted of alcohol consumption by gender. By age, healthy behavior related to alcohol consumption was better in those under 20 years. This can also be explained by considering that most of these students were

first-year students and had better scores in this conduct than those who were 20 years and older. This could be related to a progressive increase in academic load and to confronting the practices.

It is of concern that 13.4% of the participants had driven motor vehicles after drinking alcohol, or had been passengers when the driver had drunk alcoholic beverages. It is known that alcohol affects the driver's ability and increases the risk of traffic accidents, whose consequence could be serious injuries or even death.<sup>7</sup> Lifetime prevalence of consumption of psychoactive substances (marijuana, cocaine, or others) in nursing students was 11.1%, similar to the 9.5% referred by Oliveira & Furegato.<sup>18</sup> These researchers also related the practices carried out by last-year nursing students in a Brazilian university who had an increased risk of alcohol consumption and of illegal substances. This was explained as a way of diminishing exhaustion caused by clinical and academic activities. Consumption of medication without medical prescription was a common practice in 57.1% of the participants. This is double that reported by McCabe *et al.*<sup>19</sup> in nursing students from a North American public university.

Although sleep is a vital need that must be done in the best conditions and it must be enough for it to be repairing, only 30.0% of the students sleep well and get up rested. This means that as many as 70.0% of the students feel sleepy and tired during their daily activities. This study also showed, by age group, that first-year students slept better than those from the following years. In a Spanish study conducted at the Universidad de Huelva,<sup>20</sup> it was found that 50% of the nursing students had a deteriorated sleep pattern; a situation that, besides affecting health, can negatively influence academic development. Sleeping fewer hours was explained by the students as the response to the strong academic demands from the different assignments. They also reported that to keep from sleeping, they habitually smoked or drank beverages with caffeine – a situation that was also noted in our study. Regarding stress, three out of every five of our students feel incapable of controlling daily life stress; this is almost equal to that found in

nursing students from Huelva<sup>20</sup> and which was almost always manifested with complaints related to excessive demands in theoretical and practical assignments. Pulido-Martos *et al.*<sup>21</sup> claim that nursing students nowadays endure stress because they frequently have additional family- or work-related responsibilities, in addition to an intense and complex academic load.

In the category on type of personality, our students were always in a hurry (84.2%), felt aggressive (73.2%) or tense (90.5%), and were never pleased with the work or with the activities (16.3%), or were depressed (6.8%). According to Jodas and Haddad,<sup>22</sup> nurses are prone to developing an exhaustion syndrome because they are subjected to situations of interaction with patients and family members who propitiate the development of diverse stress factors. This syndrome is a negative and persistent state of mind and it has been related to certain personality traits such as: sensitivity to criticism, lack of trust toward others, difficulty in establishing social contacts, and low psychological adjustment. In this study, 88% of students are concerned about their self-care and about caring for their partners. It is worth highlighting that three out of every five students from our study are positive thinkers. Nurses, as the center of the healthcare staff must try to collaborate in preserving a work environment that promotes healthy interpersonal relationships and to do so it is necessary for them to think positively. This will result in more effective interactions with the healthcare staff and the patients, a better resolution of conflicts, and lower levels of tension in services.<sup>23</sup>

26.8% of our students have periodic health controls and show an interest in their self-care and 88.4% are concerned about caring for their partners. This reflects the responsibility individuals feel about their health and that of their partners. It would be expected that, due to their training, nursing students would all be aware of the risks for their own health and that of others. Moving on to other behaviors related to roadway safety, our students as pedestrians, drivers, or passengers in public transportation are mostly respectful

of traffic norms. However, 24.5% not wear a seat belt when driving or riding as a passenger. This is an inappropriate conduct, given that it is estimated that this safety device diminishes the risk of the driver's death due to crashes by 40% and that of for passengers by 25%.<sup>24</sup>

The main conclusion of this study is that an important proportion of nursing students from the public university studied has inadequate lifestyles, which means deferred risks for the development of chronic diseases. Today's nursing students will be tomorrow's professionals, and to fulfill their caregiving function, they not only require knowledge but should also maintain behaviors that allow them to improve and protect their own health and that of others. It necessary to develop interventions especially aimed at the creation or the enhancement of healthy behaviors and toward the reduction of those conducts that are health risks. Particularly, the role of nurses is essential for the successful implementation of prevention strategies since they act as health advocates. There is no better time to accomplish this objective than during the students' time in the university, given that this institution not only has the responsibility of training professionals, it is also an agent which promotes the health, well-being, and quality of life of those who study and work there, thus fostering knowledge and skills aimed at healthy lifestyles.

Students are mostly young individuals who are at a stage in life in which some of the most important conducts for adult life can still be shaped. Given this, the university is a unique environment of opportunities to promote the development of the maximum health potential.

**Limitations.** The first limitation was related to the fact the responses from the participants to questions from the research were self-reported and were not verified. However, the anonymity of the questionnaires favors a greater sincerity when answering the questions. Another limitation was that the cross-sectional nature of the study does not permit the establishing of causal relationships between lifestyles and the independent variables. Nevertheless, it was possible to explore some

associations that permit the designing of future analytic studies that will indicate more precisely the significance of the relationships found. The last limitation was the difficulty of comparing the results with other investigations because it was the first research using the FANTASTIC scale in nurses.

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