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Quality of life among nursing students at a higher education institution

Qualidade de vida entre estudantes de enfermagem de uma instituição de ensino superior

Calidad de vida de los estudiantes de enfermería de una institución de educación superior

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ABSTRACT

Objective: to evaluate the quality of life of nursing students at a higher education institution and to analyze associations of mean scores in quality of life domains with sociodemographic, institutional and lifestyle characteristics. **Method:** this descriptive study of 169 nursing students was conducted in April and May 2018, in João Pessoa, Brazil, using WhoQol Bref, independent t test and ANOVA One-way, under substantiated opinion No. 2.511.065. **Results:** the highest scoring domains were Social Relations (average 3.95; SD ± 0.59), followed by Psychological (3.76; SD ± 0.48), Physical (3.60; SD ± 0.51), while the lowest scoring domain was Environment (average 3.57; SD ± 0.53) and General Quality of Life (3.91; SD ± 0.66). **Conclusion:** the students' quality of life may reflect overwork in their training in the health field. Accordingly, institutions of higher education should direct resources to improving student well-being.

Descriptors: Quality of Life; Students; Education, Higher; Nursing.

RESUMO

Objetivo: avaliar a qualidade de vida de estudantes de enfermagem de uma instituição de ensino superior e analisar as associações dos escores médios dos domínios referentes à qualidade de vida e as características sociodemográficas, institucionais e hábitos de vida. **Método:** pesquisa descritiva realizada com 169 estudantes de enfermagem entre abril e maio de 2018, em João Pessoa, por meio do *WhoQol Bref* com uso do teste t independente e a ANOVA One-way, aprovada pelo Comitê de Ética em Pesquisa da instituição. **Resultados:** relações Sociais obteve média 3,95 (DP± 0,59), seguido do Psicológico 3,76 (DP ± 0,48), Físico 3,60 (DP ± 0,51), Meio Ambiente 3,57 (DP ± 0,53) e Qualidade de Vida Geral de 3,91 (DP ± 0,66). **Conclusão:** a qualidade de vida regular de acadêmicos pode ser reflexo da sobrecarga do processo formativo na área da saúde, por isso as instituições de ensino superior devem direcionar recursos à melhoria do bem-estar estudantil.

Descritores: Qualidade de Vida; Estudantes; Educação Superior; Enfermagem.

RESUMEN

Objetivo: evaluar la calidad de vida de los estudiantes de enfermería de una institución de educación superior y analizar asociaciones de puntuaciones medias en dominios de calidad de vida con características sociodemográficas, institucionales y de estilo de vida. **Método:** este estudio descriptivo de 169 estudiantes de enfermería se realizó en abril y mayo de 2018, en João Pessoa, Brasil, utilizando WhoQol Bref, prueba t independiente y ANOVA One-way, bajo opinión fundamentada No. 2.511.065. **Resultados:** los dominios con mayor puntuación fueron Relaciones Sociales (promedio 3,95; DE ± 0,59), seguido de Psicológico (3,76; DE ± 0,48), Físico (3,60; DE ± 0,51), mientras que el dominio de menor puntuación fue Medio Ambiente (promedio 3,57; DE ± 0,53) y Calidad de vida general (3,91; DE ± 0,66). **Conclusión:** la calidad de vida de los estudiantes puede reflejar un exceso de trabajo en su formación en el campo de la salud. En consecuencia, las instituciones de educación superior deben destinar recursos a mejorar el bienestar de los estudiantes.

Descriptores: Calidad de vida; Estudiantes; Educación Superior; Enfermería.

INTRODUCTION

The term "quality of life" has recently been linked to aspects related to physical and psychological well-being, independence level, social relationships, environment, and spirituality[1]. The concept of quality of life most frequently adopted is the one recommended by the World Health Organization (WHO) "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns."[2:1405]

Quality of life from the society's perspective means valuing feelings or behavior based on the consumption of goods, considering the broader parameters of individuals[3]. Hence, the daily practice of a given profession may negatively influence one's quality of life, especially for students and health workers who deal with human suffering daily[1,4].

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For instance, undergraduate students need to be prepared and grounded on ethical principles, to identify and intervene, if necessary, providing care and promoting integral health from a humanistic, reflective, and critical perspective, while taking care of their own well being and quality of life[5].

Nursing undergraduate students' experience during college education is characterized by various changes considering the demands imposed by higher education institutions to achieve high-quality training. Besides academic demands, students have to adapt their lives to accommodate personal and occupational spheres[6].

In addition to theoretical and practical courses, nursing students take part in supervised training and extracurricular activities, become involved with research and extension projects, are supposed to meet academic requirements every semester, and deliver a final paper, even if dealing with insufficient financial resources, lack of time, or negative feeling concerning their present and future professional prospects[7].

Nursing has evolved to meet the demands for qualified and competent workers to deal with health care delivery and its daily challenges, especially with stress accruing from a shortage of labor[8]. During the undergraduate program, students have to deal with clinical and health care settings in which they are exposed to the profession's routine, including witnessing patients in the process of dying and death. Therefore, these students experience higher levels of stress when compared to other professions in the health field[9].

Academic activities coupled with personal responsibilities and being self-demanding may lead to a low quality of life and health problems that affect the individuals' well-being and lead to stress. Chronic exposure to stressors may result in poor academic performance and job dissatisfaction[10,11]. Therefore, nursing students require special attention from professors and researchers to improve the humanization process of care delivery and training[1].

Considering that quality of life refers to the perception and satisfaction of individuals with their wellbeing, low levels of quality of life may harm the daily activities of undergraduate students, negatively impacting their professional practice in the future, the following question was asked: What is the level of quality of life of the nursing students from a higher education institution?

The objective was to assess the quality of life of the nursing students from a higher education institution and identify potential associations between the mean scores obtained in domains concerning quality of life and sociodemographic and institutional characteristics and lifestyle.

METHOD

This descriptive, cross-sectional, and quantitative study was conducted in a private higher education institution located in João Pessoa, PB, Brazil. The population is composed of 287 nursing undergraduate students. The sample was calculated with a variance of 9 (SD±2.99)[12], 95% confidence level, α=0.05 (z=1.96), and expected losses of 20%, totaling 92 participants. However, because of the study period, the sample was enlarged to 169 nursing students.

Inclusion criteria were: 18+ years old and being enrolled from the 2nd to the 8th semester of the nursing program (this program's total workload is eight semesters). Students who reported not being psychologically fit and those attending the 1st semester were excluded because no nursing-specific courses are taught in the first semester.

A questionnaire was developed to collect sociodemographic and lifestyle data. Quality of life was assessed using the World Health Organization Quality of Life (WHOQOL-bref), a 26-item instrument addressing quality of life in general (two first questions) and four domains: physical, psychological, social relationships, and environment. The WHO based both the World Health Organization Quality of Life (WHOQOL-100)[13], and its abbreviated version, WHOQOL-bref[14], on the concepts of quality of life.

The instrument's domains and respective facets address objective aspects, rated on a five-point Likert scale with answers varying in intensity, capacity, frequency, and assessment[14]. The scores of questions 3, 4, and 26 were reversed. The scores concerning quality of life are classified as follows: a) 1 up to 2.9 =Quality of life needs to be improved; b) 3 up to 3.9 = Moderate quality of life; c) 4 up to 4.9 = Good quality of life; d) 5 = Very good quality of life.

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All scores are multiplied by 4 to make them comparable. Following, each domain was decreased by 4, multiplied by 100, and divided by 16 to transform the score into a 0-100 scale[14]. The 100-scale was estimated to be equivalent to the previous classification: Up to 25=Quality of life needs to be improved; b) Up to 50=Moderate quality of life; c) Up to 75=Good quality of life; and d) Greater than 100=Very good quality of life.

The items within each domain are distributed as follows: General quality of life: Questions 1 and 2; b) Physical domain: Questions 3, 4, 10, 15, 16, 17, and 18; c) Psychological domain: 5, 6, 7, 11, 19 and 26; d) Social relationships domain: 20, 21 and 22; e) Environment domain: 8, 9, 12, 13, 14, 23, 24, and 25[14].

General quality of life concerns the perception of individuals of their quality of life in general and satisfaction with health. The psychological domain concerns the extent to which life has meaning and an individual enjoys life, is able to concentrate, and is satisfied with his/her physical appearance, self-satisfaction, and negative feelings. The physical domain encompasses physical pain, medical treatments, energy level, and satisfaction with one's mobility, sleep and rest patterns, and performance in activities of daily life and occupational activities[14].

The social relationships domain concerns interpersonal relationships, sexual relationships and fraternal support, while the environment domain measures environmental and financial safety, physical health, availability of information, leisure opportunities, satisfaction with housing, and access to health services[14].

Data were collected from April to May 2018, and the self-reported instrument was applied to students in the classroom on a day and time previously scheduled in both the morning and evening courses. Descriptive analysis was performed and the explanatory variables' frequencies were determined with mean and standard deviation (SD) for each of the WhoQol Bref domains. The absolute and relative frequency was calculated for the sociodemographic, institutional and lifestyle data. The inferential analysis of the QoL domains included one-way ANOVA and the Independent t-test, performed in the Statistical Package for the Social Sciences version 20 (SPSS Inc., Chicago, USA), with the level of significance established at $p<0.05$. The study was approved by the Institutional Review Board under opinion report No. 2.511.065 and CAAE 83177518.7.0000.5179[15].

RESULTS

From the data collected, it is possible to observe, in Table 1, the participants' sociodemographic characterization.

TABLE 1: Sociodemographic characterization of the participant students (n=169). João Pessoa, Paraíba, Brazil, 2018.

Sociodemographic variables		n	f(%)
City	João Pessoa	108	63.9
	Other	61	36.1
Sex	Female	137	81.1
	Male	32	18.9
Religion	Catholic	95	56.2
	Evangelical	56	33.1
	Kardecism	5	2.4
	Afro-Brazilian religion (*Umbanda*)	7	4.1
	Others	7	4.1
Ethnicity	Caucasian	56	33.1
	Afro-descendant	31	18.3
	Asian descendant	15	8.9
	Mixed race	63	37.3
	Others	4	2.4
Monthly income	Up to one time 1 minimum wage	54	32
	2 to 3 times the minimum wage	88	52.1
	3 to 5 times the minimum wage	15	8.9
	More than 5 times the minimum wage	12	7.2
Age (years)	18-25 years old	72	42.6
	26-30 years old	42	24.9
	31-35 years old	30	17.8
	36-40 years old	16	9.5
	40+ years old	9	5.3

Source: Study's data, 2018.

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The institutional characteristics show that students are distributed over the semesters: 23 students (13.6%) were attending the 2nd semester; 51 (30.2%) the 3rd semester; 23 (13.6%) the 4th; 21 (12.4) the 5th semester; 12 (7.1%) the 6th; 12 (7.1%) the 7th; and 27 (16%) students were attending the 8th semester of the undergraduate program. Regarding participation in the ProUni (University for All Program), 161 (95.3%) did not participate in the federal government strategy, while eight (4.7%) students were included in the program. As for the FIES (Higher Education Student Financing Fund), 120 (71%) were not enrolled in the program, while 49 (29%) received government financial support to attend college. In terms of lifestyle, 162 (96%) students did not smoke, 153 (91%) did not consume alcohol, and 137 (82%) were sedentary (Data are not presented in the table). The domains' means and standard deviations are presented in Table 2.

TABLE 2: Distribution of the mean scores obtained by college students in the WHOQOL-BREF domains (n=169). João Pessoa, Paraíba, Brazil. 2018.

Domains and General QoL	Mean ± SD[(a)]	Mean± SD[(a)] (Proportional)
Physical	3.60 ± 0.51	65.19 ± 12.88
Psychological	3.76 ± 0.48	69.13 ± 12.03
Social relationships	3.95 ± 0.59	73.96 ± 14.94
Environment	3.57 ± 0.53	64.33 ± 13.42
General QoL	3.91 ± 0.66	72.78 ± 16.61

[(a)]SD – Standard deviation
Source: Study's data, 2018.

The results concerning associations between the mean scores obtained in the WHOQOL-BREF with sociodemographic, institutional, and lifestyle variables are presented in Tables 3 and 4.

TABLE 3: Mean scores regarding association between WHOQOL-BREF (n=169) quality of life domains and city, sex, religion, ethnicity, monthly income, and age. João Pessoa, Paraíba, Brazil. 2018.

Variables		WHOQOL-bref Scores (Mean±Sd)				
		Physical	Psychological	Social relationships	Environment	General QoL
City	João Pessoa	64.6 (12.3)	69.8 (11.2)	75.0 (13.5)	64.8 (12.3)	73.3 (16.6)
	Other	66.4 (14.0)	67.6 (13.3)	71.4 (17.4)	63.3 (15.3)	71.9 (16.9)
	P-value	0.401	0.259	0.195	0.504	0.606
Sex	Female	63.7 (12.9)	69.2 (12.4)	73.1 (14.8)	63.4 (13.4)	71.8 (17.4)
	Male	71.7 (10.8)	68.9 (10.3)	77.6 (15.3)	68.2 (12.8)	76.9 (12.3)
	P-value	**0.001**	0.896	0.126	0.073	0.115
Religion	Catholic	66.6 (11.6)	69.0 (10.7)	74.8 (13.9)	65.4 (11.0)	72.6 (15.6)
	Evangelical	64.6 (13.3)	69.3 (13.9)	73.2 (16.2)	63.8 (15.5)	74.1 (19.6)
	Kardecism	59.8 (16.8)	69.8 (21.9)	68.8 (14.2)	49.2 (13.1)	65.6 (18.8)
	Umbanda	64.2 (13.2)	70.2 (10.9)	69.0 (19.0)	61.2 (22.5)	68.8 (4.7)
	Others	54.6 (21.1)	67.3 (10.0)	60.5 (16.9)	65.6 (11.9)	67.9 (9.8)
	P-value	0.149	0.992	0.767	0.181	0.790
Ethnicity	Caucasian	65.5 (12.9)	69.1 (10.4)	72.2 (16.0)	63.2 (13.5)	72.0 (16.2)
	Afro-descendent	67.6 (12.7)	69.2 (12.0)	73.9 (13.6)	64.6 (15.0)	74.6 (10.9)
	Asian-descendent	63.0 (9.7)	65.5 (11.8)	76.7 (12.3)	60.4 (11.5)	73.3 (10.4)
	Mixed race	65.0 (13.0)	71.4 (10.2)	75.9 (12.3)	67.3 (10.7)	73.8 (18.3)
	Others	52.7 (12.3)	46.9 (31.8)	58.3 (40.3)	46.9 (28.5)	50.0 (35.4)
	P-value	0.257	0.001	0.148	0.020	0.081
Monthly income	Up to 1 times the MW	63.2 (12.2)	72.3 (10.6)	70.2 (14.9)	67.3 (13.3)	75.0 (17.9)
	2 to 3 times the MW	67.7 (11.2)	72.2 (13.5)	72.2 (14.9)	65.0 (16.8)	76.9 (15.2)
	3 to 5 times the MW	57.4 (14.6)	70.4 (9.7)	83.0 (11.5)	69.3 (12.6)	75.8 (19.2)
	More than 5 times the MW	79.8 (14.2)	70.2 (4.9)	77.8 (12.5)	66.3 (6.6)	91.8 (22.0)
	P-value	0.035	0.737	0.424	0.677	0.498
Age (years)	18-25 years old	66.9 (11.7)	70.7 (10.4)	78.2 (14.0)	67.6 (12.7)	77.4 (15.3)
	26-30 years old	66.8 (12.2)	69.4 (9.0)	78.4 (12.6)	66.2 (12.9)	48.5 (16.1)
	31-35 years old	69.7 (16.6)	73.9 (13.8)	75.4 (13.8)	65.8 (13.0)	72.5 (15.2)
	36-40 years old	71.2 (12.9)	64.3 (20.7)	78.0 (23.3)	74.7 (19.5)	81.5 (25.4)
	40+ years old	74.3 (11.9)	72.0 (8.8)	80.8 (10.0)	64.9 (9.9)	83.5 (23.5)
	P-value	0.650	0.322	0.027	0.598	0.773

Source: Study's data, 2018.

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Table 4: Association between the mean scores obtained in the WHOQOL-BREF (n=169) quality of life domains and program's semester, PROUNI, FIES, smoking, alcohol consumption, and physical activity. João Pessoa, Paraíba, Brazil. 2018.

Variables		WHOQOL-bref Scores (Mean±SD)				
		Physical	Psychological	Social Relationships	Environment	General QoL
Semester	P2	66.9 (12.93)	75.5 (8.3)	73.6 (13.2)	63.3 (10.2)	80.0 (9.16)
	P3	66.4 (13.4)	70.6 (9.2)	77.2 (12.9)	65.87 (13.4)	73.52 (12.66)
	P4	70.5 (10.3)	73.2 (14.1)	80.3 (13.2)	61.0 (13.68)	82.59 (11.27)
	P5	69.4 (11.5)	65.0 (17.4)	82.2 (22.7)	76.9 (17.8)	81.4 (24.5)
	P6	75.6 (13.0)	67.4 (9.4)	79.9 (13.5)	82.4 (13.3)	66.7 (16.3)
	P7	71.6 (10.5)	73.4 (10.1)	84.5 (12.7)	63.3 (7.6)	75.0 (11.9)
	P8	56.7 (13.4)	68.0 (12.7)	78.9 (16.1)	57.8 (10.5)	77.6 (24.1)
	P-value	0.017	0.049	0.818	0.006	0.273
PROUNI	Yes	66.9 (7.3)	73.4 (14.1)	69.8 (15.4)	63.3 (6.8)	81.3 (11.6)
	No	65.1 (13.1)	68.9 (11.9)	74.2 (14.9)	66.5 (13.7)	72.4 (16.7)
	P-value	0.692	0.301	0.42	0.822	0.14
FIES	Yes	73.4 (8.8)	71.9 (13.0)	75.5 (16.6)	72.2 (13.9)	74.2 (14.3)
	No	64.2 (12.8)	68.0 (11.5)	73.3 (14.2)	61.1 (11.8)	72.2 (17.5)
	P-value	<0.001	0.06	0.392	<0.001	0.469
Smoking	Yes	69.4 (8.5)	69.6 (9.2)	76.2 (16.3)	67.9 (8.4)	75.0 (16.1)
	No	65.0 (13.0)	69.1 (12.1)	73.9 (14.9)	64.2 (13.6)	72.67 (16.7)
	P-value	0.381	0.909	0.689	0.479	0.719
Alcohol consumption	Yes	62.9 (9.2)	66.7 (20.7)	79.2 (21.5)	59.2 (15.7)	67.2(25.4)
	No	65.4 (13.2)	71.1 (10.8)	74.6 (14.0)	64.9 (13.0)	73.3 (15.4)
	P-value	0.465	0.612	0.078	0.107	0.353
Physical activity	Yes	63.4 (12.7)	67.8 (9.5)	76.0 (11.2)	62.30 (10.3)	72.3 (16.4)
	No	65.6 (12.9)	69.4 (12.6)	73.5 (15.7)	64.8 (14.0)	72.9 (16.7)
	P-value	0.381	0.501	0.384	0.256	0.846

Source: Study's data, 2018.

The physical domain presented a statistical difference regarding sex (p<0.001), monthly income (p=0.035), program's semester (p=0.017), and government financial support (p<0.001). The highest means indicate a higher quality of life among men, people with a monthly income greater than five times the minimum wage, attending the 6th semester, and receiving government financial support.

Regarding the psychological domain, a significant difference was found for ethnicity (p<0.001) and semester (p=0.049), with the highest means indicating good quality of life for people of mixed race and attending the 7th semester. The social relationships domain was significantly associated with age (p=0.027) and students 40+ years old obtained the highest means. The environment domain was significantly associated with ethnicity (p=0.020), the program's semester (p=0.006), and financial support (p<0.001). Students of mixed race, attending the 6th semester, and receiving financial support obtained the highest means in this domain.

DISCUSSION

Studies show that women comprise most of the nursing students[16,17], and mixed race is also prevalent among the participants, which is a characteristic of the Brazilian population[17].

According to the Ministry of Education (MEC), ProUni was created in 2004 to grant full and partial scholarships to undergraduate students. FIES, also a program created by MEC and operationalized by FNDE (National Education Development Fund), was intended to support undergraduate students attending private institutions[18].

Lifestyle aspects such as sedentariness among undergraduate students may be justified by the heavy workload imposed by undergraduate programs[1]. One study addressing nursing undergraduates shows that most students consumed alcohol and obtained significantly lower scores in the quality of life domain compared to the students not consuming alcohol. An abusive consumption of alcohol significantly compromises physical, social and psychological aspects, leading to changes in various domains of QoL[19-21]. One study addressing the nutritional profile of students in the health field confirms that inadequate behavior in this sphere is related to age, that is, older students attending the more advanced semesters[22].

This study's results show a moderate quality of life, in disagreement with a study in which students consider their

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quality of life to be good[1]. The environment domain obtained the lowest score, followed by the physical domain, while social relationships obtained the highest score. Therefore, there is a need to discuss strategies to improve the students' physical well-being, whether by promoting regular physical activities intending to improve disposition or by improving the ambiance at the workplace, university and home.

One study addressing students from a public university[1] attending different programs in the health field (pharmacy, nutrition, nursing, medicine, and physical therapy) reports that the environment domain obtained the lowest score and social relationships obtained the highest score[22], which is in line with this study. The variables are related to leisure, financial resources, and health. The conclusion is that dissatisfaction with facets of quality of life may trigger negative feelings such as bad mood, hopelessness, anxiety, and depression during academic life.

The environment domain obtained the lowest score, which negatively influences the nursing students' lives and appears as a source of stress. It results from not having the time or having little time for leisure and resting[6].

The social relationships and psychological domains, both with the highest scores, comprise good interpersonal relationships, positive feelings, spirituality, self-esteem, appearance, and concentration. Similar studies addressing nursing[23] and medical[3] students report that social relationships are highly rated, meaning interactions within the university environment are good, contributing to distraction and improved mood.

The nursing students reported that an extensive and time-consuming workload is one of the aspects hindering quality of life, so that the environment domain becomes an important factor in decreasing quality of life. Factors considered to promote quality of life include group activities, exchanges between the scientific and academic communities, social relationships, and the enviroment[24].

In line with the physical domain results being related to sex, a similar study addressing female nursing and medical students also reports low scores in this domain. Having too many domestic chores and responsibilities seems to interfere in these students' performance, leading to a poor perception of quality of life[4,19]. Hence, the physical domain's second-worst score can be justified by the fact that the study population is composed of mostly women. Additionally, this domain is directly associated with quality of sleep and rest, that is, studies show that nursing students sleep fewer than seven hours a day, which are considered insufficient[25].

Medical students in the middle and end of the program obtained the worst means of QoL due to the increased complexity of the courses[4]. These results oppose one study[26] addressing nursing students in which those at the end of the program reported a significantly higher level of well-being than first-year students. Both studies, however, report that significant results concerning a significant satisfactory quality of life in the physical, psychological, and environmental domains varied according to the program's semester. These domains concern self-satisfaction, preserved sleep and rest, positivity, and financial security, indicating that the final periods of the program favor individuals' satisfactory quality of life in the domains previously mentioned.

Good performance in the social relationships domain among students aged above 40 may be directly linked to financial and family stability, satisfaction with partner/spouse and sexual life, and good relationships with friends and relatives[7]. One study shows that young individuals experience changes and instability regarding decisions or abusive relationships, affecting their ability to keep healthy interpersonal relationships[27].

Self-reported mixed race appears as a positive influence in one's perception of quality of life in the psychological and environment domains. Opposed to this study's results, there is a report of poor quality of life among individuals who reported being Afro-descendent or of mixed race (43.2% and 42.3%, respectively)[28].

In line with the findings of a study addressing medical students, low mean scores obtained in the physical and environmental domains were obtained by students reporting low incomes and who entered the university through affirmative action[4]. Nursing students experience moderate to high levels of stress, a factor that negatively affects quality of life[29].

Study limitations

This study's results cannot be generalized, considering that only one higher education institution was addressed, which constitutes a limitation. However, a significant sample was used and indicated that, on average, the nursing undergraduate students presented a moderate quality of life.

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CONCLUSION

Even though there are opportunities for leisure, many students spent most of their time studying, which may lead to stress considering the program's mandatory and optional workload. Quality of life in the physical domain is related to sex, income, the program's semester, and whether the student receives financial support. Ethnicity and the program's semester were associated with quality of life in the psychological domain, while age was related to the social relationships domain. Ethnicity, the program's semester, and financial support appeared associated with quality of life in the environment domain.

Higher education institutions should routinely assess students and the method used by professors to develop indicators intended to guide faculty members in implementing healthy strategies to promote quality of life among the institutional actors, resulting in personal and occupational well-being.

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