Nursing and medical students' engagement and quality of life

Engajamento e qualidade de vida dos graduandos de enfermagem e medicina

Compromiso y calidad de vida de estudiantes universitarios de enfermería y medicina

Giovana Spina[1] https://orcid.org/0000-0001-9275-4317

Maria Helena Pinto[2] https://orcid.org/0000-0003-0601-8511

Lúcia Marinilza Beccaria[2] https://orcid.org/0000-0002-6299-4130

Maria Claudia Parro[2] https://orcid.org/0000-0003-0855-609X

Kátia Jaira Galisteu[2] https://orcid.org/0000-0002-9376-8419

Adriana Pelegrini dos Santos Pereira[2] https://orcid.org/0000-0003-4237-365X

Abstract

Objective: To investigate the correlation between nursing and medical students' engagement and quality of life at a private college.

Methods: This is an observational, analytical, cross-sectional study with a quantitative approach, carried out with 219 undergraduate students, using three self-administered questionnaires: one with sociodemographic data; Study & Well-being Survey, to assess student engagement; and the Medical Outcomes Study 36 – Item Short-Form Health Survey (SF-36), to assess quality of life. Data normality was tested using the Kolmogorov-Smirnov test, and for inferential analysis, within expected standards, Spearman's correlation test between the engagement dimensions and the quality of life domains was used.

Results: A total of 171 medical students and 48 nursing students participated, 160 (73.06%) female and 59 (26.94%) male. Engagement had a mean score of 3.57 ± 0.92 and quality of life with an average greater than 50. The correlation between engagement and quality of life was considered moderate between the vigor dimension and the energy/vitality domain (r=0.505), and health mental (r=0.332) and between dedication (r=0.400) and absorption (r=0.313) dimensions with the energy/vitality domain.

Conclusion: The correlation was weak between most nursing and medical students' quality of life and engagement domains.

Resumo

Objetivo: Investigar a correlação entre o engajamento e qualidade de vida dos estudantes de graduação em enfermagem e medicina de uma universidade privada.

Métodos: Estudo observacional analítico, transversal, abordagem quantitativa, realizado com 219 graduandos, por meio de três questionários autoaplicáveis; um com os dados sociodemográficos; *Study & Well-being Survey* para avaliar o engajamento do estudante e o *Medical Outcomes Study 36 – Item Short-Form Health Survey* (SF-36) para avaliar a qualidade de vida. Testou-se a normalidade dos dados por meio do teste de Kolmorov Smirnov e para a análise inferencial utilizou-se dentro dos padrões esperados, o teste de Correlação de Spearman entre as dimensões do engajamento e os domínios da qualidade de vida.

Resultados: Participaram 171 estudantes de medicina e 48 da enfermagem, 160 (73,06%) do sexo feminino e 59 (26,94%) do sexo masculino. O engajamento apresentou média de escore 3,57± 0,92 e a qualidade de vida com média maior que 50. A correlação entre engajamento e qualidade de vida foi considerada moderada entre a dimensão vigor e o domínio vitalidade (r=0,505) e saúde mental (r=0,332) e entre as dimensões dedicação(r=0,400) e absorção (r=0,313) com o domínio vitalidade.

Conclusão: A correlação mostrou-se fraca entre a maioria dos domínios da qualidade de vida e o engajamento dos graduandos de enfermagem e medicina.

Resumen

Objetivo: Investigar la correlación entre el compromiso y la calidad de vida de estudiantes de enfermería y medicina de una universidad privada.

Métodos: Estudio observacional analítico, transversal, con enfoque cuantitativo, realizado con 219 estudiantes universitarios, mediante tres cuestionarios autoaplicados: uno con datos sociodemográficos, el *Study & Well-being Survey* para evaluar el compromiso de los estudiantes y el *Medical Outcomes Study 36 – Item Short-Form Health Survey* (SF-36) para evaluar la calidad de vida. Se probó la normalidad de los datos mediante la prueba de Kolmorov Smirnov y, para el análisis inferencial, se utilizó dentro de los estándares esperados, la prueba de correlación de Spearman entre las dimensiones del compromiso y los dominios de calidad de vida.

Resultados: Participaron 171 estudiantes de medicina y 48 de enfermería, 160 (73,06 %) de sexo femenino y 59 (26,94 %) de sexo masculino. El compromiso presentó un puntaje promedio de 3,57± 0,92 y la calidad de vida un promedio mayor a 50. La correlación entre el compromiso y la calidad de vida se consideró moderada entre la dimensión vigor y el dominio vitalidad (r=0,505) y salud mental (r=0,332) y entre las dimensiones dedicación (r=0,400) y absorción (r=0,313) con el dominio vitalidad.

Conclusión: La correlación demostró ser escasa entre la mayoría de los dominios de calidad de vida y el compromiso de los estudiantes universitarios de enfermería y medicina.

Introduction

Higher education students, when entering college, often face various difficulties, such as adapting to new routines, integrating with other people in the new college context. Above all, there is the control of their own finances and often distant from family members, which can lead to constant feelings of vulnerability to physical and psychological changes. As a result, it compromises their quality of life (QoL), well-being, satisfaction, their engagement at college and, consequently, their performance in studies.[1]

Academic engagement and QoL refer to psychological well-being and commitment to study. The state of psychological well-being is composed of the vigor, dedication and absorption constructs, which are dimensions related to engagement with studies as well as emotional intelligence and resilience, which can be considered when assessing students' performance and QoL.[2] Vigor is characterized by the will to dedicate oneself, persistence even in the face of difficulties. Dedication is manifested by enthusiasm, inspiration, pride and challenges related to the activity performed. Absorption is characterized by being fully concentrated, the task is performed with joy, pleasure.[3]

Mental health and QoL of medical students have been highlighted in the literature, with the justification that they can compromise performance and attitudes in customer service. Recent evidence highlights the importance of the educational environment as a determinant for undergraduate students' QoL. A study carried out in 22 medical schools in all regions of Brazil revealed that female medical students demonstrated a worse perception of QoL than males and were less satisfied with the teaching environment, especially in the last periods of the course.[4]

QoL is increasingly associated with the concept of health, presenting a broad concept, which includes physical and psychological state, independence level, social relationships, environment and spirituality. It is understood that students' admission to college can motivate sensations such as anguish, insecurity, fear and anxiety. Nursing students, when they come into contact with sick people, experience new experiences with performing certain procedures and care. These often have a great impact on their lives and may be associated with dropping out of their undergraduate course, unsatisfactory academic performance and health problems.[5]

To understand the factors that positively influence people's lives in their daily lives, studies on QoL become very important, both in academia and in organizations. Professional and personal relationships, working conditions, unhealthy environment and excessive workload, even in school calendars, are examples of situations of physical and emotional exhaustion, which can compromise students' QoL and engagement in studies.[6]

Some international studies have identified professor performance as the main factor of external influence in student engagement and performance

analysis.[7,8] Other research points out that internal factors such as intelligence and personality characteristics of students can affect studies and academic performance, while other authors affirm the association between satisfaction with life and academic performance.[6]

A study carried out in Spain showed significant relationships between engagement, QoL and academic performance. This study demonstrated that QoL depends on students' ability to perceive, facilitate, understand, control their own emotions and those of other people, and overcome problems related to their lives, as academic performance depends on the degree of academic engagement. In the literature, these aspects have been reported as an important factor of academic success among undergraduate students.[2]

In this way, there is a need to deepen knowledge and understand students' behavior, emotions and performance with the expectation of intervening early in the educational process, promoting student achievement and reducing academic failure.[2]

It is believed that the study of students' QoL and engagement can guide the understanding of persistent educational behaviors and problems, such as high dropout rates, boredom, student alienation and anxiety, in addition to other disorders experienced by students. Therefore, this study aimed to investigate the correlation between nursing and medical students' engagement and QoL at a private college, with the aim of obtaining subsidies to motivate these students to study and encourage the review of strategies for teaching to improve their satisfaction, involvement and performance.

Methods

This is an analytical, cross-sectional observational study with a quantitative approach, guided by the STrengthening the Reporting of OBservational studies in Epidemiology (STROBE). It was developed at a private higher education institution in the countryside of the state of São Paulo, with medical and nursing students regularly enrolled in the institution in 2019. The sample consisted of 219 undergraduate students, 31.7% of the total number of active students (691). All students were invited to participate in the research on days prior to data collection, with clarifications about the period, time of data collection, objectives and research process, emphasizing that participation was not mandatory and that the decision was individual; therefore, those who voluntarily agreed to participate in the research answered the questionnaires.

Students present in the classroom during the data collection period, regularly enrolled in the nursing or medicine course were included. Students who were away from face-to-face activities for any reason and those who did not complete the questionnaires completely were excluded.

To characterize the sample, an instrument consisting of age, sex, marital status, number of children, course and period of the course was used. The instrument that assessed participants' engagement level in the studies was the Study & Well-being Survey (UWES-s) - Brazilian version of the self-administered questionnaire, composed of 17 questions that refer to students' activities characterized by the vigor, dedication and absorption dimensions.[3,9] Each question is answered on a Likert-type scale from 0 to 6 points (0 = never, 6 = every day). The instrument's reliability was almost perfect with a Cronbach's alpha of 0.858.

Engagement level was calculated by averaging the scores for each dimension (vigor, dedication and absorption) according to the UWES manual.[3] The lower the scores in effect, the less energy for studies. Those with high scores on dedication identify strongly with the experience of studying, which is meaningful, inspiring, and challenging; and high absorption scores generally mean that students are involved and immersed in their studies and have difficulty letting go of them.[3,9,10] The interpretation of the average scores was carried out considering the frequency of feelings: when from 0 to 0.99 =1 (a few times a year), was interpreted as very low; from 1 to 1.99 =2 (once a month or less), as low; from 2 to 2.99 =3 (a few times a month) and from 3 to 3.99 = 4 (once a week), as an average; from 4 to 4.99 = 5 (a few times a week), as high; and from 5 to 6 = 6 (every day), as very high.[3,9]

The instrument used to verify students' QoL was the Medical Outcomes Study 36 – Item Short-Form Health Survey (SF-36), which is also self-administered. It assesses both positive and negative aspects of health and well-being; does not present specific concepts for a given age, disease or treatment group; considers individuals' perception, contemplating the most representative aspects of their own health status; allows comparisons between different groups of people; consists of 36 questions, divided into eight domains (functional capacity, physical role limitations, general health perceptions, bodily pain, energy/vitality, social functioning, emotional role limitations, and mental health).[11]

The answers to the SF 36 questionnaire were measured according to QoL domains, consisting of two phases, according to the recommendations of its developers. It was divided into: phase I - data weighting and phase II - raw scale calculation. Question values are transformed into scores for each of the eight domains, ranging from zero (worst health status) to 100 (best health status) for each domain.[11]

Data collection was carried out between September 8 and 18, 2019. The questionnaires were distributed to each undergraduate student, who accepted the invitation, in an unmarked envelope. Delivery took place in the last fifteen minutes of the last class in the morning, by the professor in charge of the class, for both courses (medicine and nursing), with prior clarification on the objectives, methodology and destination of the data as well as their confidentiality. Those students who accepted the invitation to participate in the study remained in the room and, after signing the Informed Consent Form (ICF), answered the instruments in the classroom in about 15-20 minutes and delivered the unidentified envelopes on the table. All answered the questionnaires completely.

The collected data were tabulated and analyzed using IBM-SPSS Statistics, version 24.0, for Windows (SPSS, Inc., Chicago, IL, USA), linked to the functionality of Excel®, version 2016.

For data analysis, normality was tested using the Kolmogorov-Smirnov test. In the inferential scope, the Mann–Whitney statistical tests were carried out within the expected standards, for bivariate analysis between the dependent variables (response variable), such as the SF-36 QL domains, and independent variables (explanatory), such as sex, age and course as well as Spearman's correlation between the engagement dimensions and the QoL domains (SF-36). The following values of Spearman's were considered: from zero to 0.30, weak correlation; above 0.30 to 0.50, moderate correlation; and above 0.50, strong correlation.[12] Significance level was considered p-value < 0.05. All tests included an alpha error of 5% and a reliability of 95%.

The research was approved by the Research Ethics Committee of *the Faculdade de Medicina de São José do Rio Preto-SP*, Certificate of Presentation for Ethical Appreciation (CAAE - *Certificado de Apresentação para Apreciação Ética* - Certificate of Presentation for Ethical Consideration) 12984319.3.0000.5415, under Opinion 3.427.534.

Results

Of the 219 participating undergraduate students, 48 (21.9%) were from the nursing course, and 171 (79.0%), from the medical course. A total of 104 (47.49%) were in the first year of the course; 48 (21.92%) were in the second year; 18 (8.22%) were in the third year; and 49 (22.37%) were in the fourth year. They had a mean age of 21.8 ± 4.05 years, and 160 (76.1%) were female, and 59 (26.9%), male. Moreover, 208 (95.0%) were single and seven (3.2%) had children. Undergraduate students' engagement level was interpreted as medium in the vigor and absorption dimensions and high in dedication, with an average total engagement score, as shown in Table 1.

Table 1. Nursing and medical students' engagement levels at a private higher education institution (n=219)

UWES dimensions	Min	Max	Md	Mean±SD	(95%)CI	Interpretation
Vigor	1.00	6.00	3.16	3.23±0.99	3.10-3.36	Average
Dedication	1.80	6.00	4.20	4.12±1.11	3.97-4.27	High
Absorption	0.83	5.66	3.33	3.46±1.02	3.32-3.60	Average
Overall score	1.76	5.58	3.58	3.57±0.92	3.45-3.69	Average

Min - Minimum; Max - Maximum; Md- Median; SD - standard deviation; CI - 95% confidence interval

The average scores of nursing and medical students' QoL domains are shown in Table 2, where the lowest scores are observed in the energy/vitality and emotional role limitations domains, considering the concept of QoL as the degree of satisfaction with life and the control one exercises over it.

Table 2. Mean values of the scores of quality of life domains (SF-36) of nursing and medical students from a private higher education institution (n=219)

Domains	Total mean (± SD)	Medicine (± SD)	Nursing (± SD)
Functional capacity	89.25 ± 14.00	90.08 ± 14.01	86.25 ± 13.64
Physical role limitations	56.74 ± 39.31	56.43 ± 39.31	57.81 ± 38.87
Bodily pain	66.52 ± 20.71	67.37 ± 20.76	63.45 ± 20.62
General health perceptions	68.12 ± 20.66	68.35 ± 20.73	67.29 ± 20.06
Energy/vitality	44.27 ± 19.98	43.68 ± 19.79	46.35 ± 29.21
Social functioning	59.08 ± 24.94	58.84 ± 24.76	53.89 ± 25.06
Emotional role limitations	35.46 ± 39.69	31.96 ± 39.61	47.91 ± 39.45
Mental health	55.85 ± 20.16	56.07 ± 20.03	55.08 ± 20.29

SD - Standard deviation

Table 3 shows a moderate correlation between the vigor, dedication and absorption dimension with energy/vitality, and vigor with mental health, while the other correlations between the dimensions of student engagement with QoL domains were weak.

Table 3. Correlation between quality of life (SF-36) and engagement of nursing and medicine students from a private higher education institution (n=219)

SF-36[a] components	Vigor		Dedication		Absorption	
	r	p-value	r	p-value	r	p-value
Domains						
Functional capacity	0.170	0.003	0.055	0.138	0.109	0.145
Physical role limitations	0.143	0.075	0.097	0.191	0.117	0.125
Bodily pain	0.158	0.039	0.081	0.280	0.093	0.295
General health perceptions	0.288	0.000	0.175	0.011	0.145	0.054
Energy/vitality	0.505	0.000	0.400	0.000	0.313	0.000
Social functioning	0.235	0.000	0.171	0.010	0.117	0.082
emotional role limitations	0.277	0.000	0.271	0.000	0.122	0.049
Mental health	0.332	0.000	0.286	0.000	0.200	0.003

r-Spearman's correlation.

Discussion

In this study, there was a predominance of female students, in agreement with other research in medical schools in Brazil and abroad. The process of increasing women in the medical profession has been remarkable since the 1960s. Between 2005 and 2015, the total number of practicing physicians in the European Union were women. With the Baltic Member States, Romania, Slovenia and Croatia the medical workforce was greater than or equal to 60% made up of women.[13,14] The fact that most participants are single, without children, reflects the current Brazilian reality, where young people have chosen to marry later, prioritizing their professional training and insertion in the labor market.[15]

Studies on engagement among higher education students is a recent construct, especially in relation to the Brazilian reality. Research with higher education students in health sciences, also carried out at a private institution, in the state of Paraná, showed data similar to the current study, adding that engaged students feel connected to the activities, perceiving them as a positive challenge, while unlike students who experience academic stress.[16]

Student engagement level is directly related to their satisfaction with life, which is influenced by the school environment, which can motivate student involvement in learning activities. It is observed that the use of information and communication technologies during classes has the potential to generate more creative and innovative environments, which encourage student engagement in higher education. From this reasoning perspective, didactic innovation, curriculum adequacy, diversification of teaching strategies and learning assessment are factors that encourage engagement and use of content by undergraduate students.[17-19]

A survey carried out in the United States highlights that, in order to maintain student engagement, it is important to balance social and psychological factors, since it is students' mental and social state that directly impacts the quality of academic activities. Factors linked to these aspects can be social and family support, performance in academic activities, help from colleagues and friends, students' personal and psychological resources, values and beliefs, coping strategies used, confidence in their actions, educational institution resources and demands, in addition to resilience.[20]

Another study carried out in Australia also showed that a nursing student's engagement level impacts their current and future learning and their performance in clinical care as well as their perma-

nence in the profession. The teaching strategy, creativity, without repetition of content can facilitate student engagement and contribute to a better academic and professional performance.[21]

The interpersonal relationship between faculty and students is a vital component of student engagement in school. Engagement in effective teaching practices considers three categories of student behavior: cognitive effort, active participation, and interaction with professors or instructors.[18,22]

The positive associations between undergraduate students' engagement and QoL are boosted by the interaction maintained with colleagues and professors, as each of these factors is associated with affective empathy, well-being aspects in the learning environment and involvement with their studies.[23]

QoL data analysis showed that medicine and nursing students had, on average, good scores in all domains considered in the SF-36 QoL instrument. The highest average value was in the functional capacity domain, data similar to the study carried out in 2016, with physiotherapy undergraduate students from a private educational institution.[24] In both courses, the average score of the energy/vitality and emotional role limitations domains was poor, below 50; the same was observed between sexes, with emphasis on males who had a lower score in the emotional role limitations domain than females.

Researchers have shown concern about medical students' emotional aspect. A two-year follow-up study of these students identified a high prevalence and incidence of emotional disorders. Students' QoL and mental health levels remained stable throughout the course and mental health problems were cyclical in nature. Base factors such as depression, anxiety, stress, low income, low leisure activity, use of psychoactive drugs, dissatisfaction with academic performance, lack of interest and dissatisfaction with the course, lack of emotional support in the academic environment and being distant from family members were associated with worse mental health.[25]

On the other hand, a study carried out with medical students, in England, demonstrated that regular group classes of physical conditioning can be a solution to improve medical students' emotional well-being and stress level. The difference was statistically significant when compared with the group that performed regular exercise on their own or that did not practice it regularly.[26,27]

Studies have shown that satisfaction with life is closely related not only to professional occupation, but to education, financial resources, leisure and relationship with family.[28] Other research highlights that QoL is an important predictor of student engagement and academic performance.[28,29]

In the analysis of the linear correlation strengths, statistical data indicate that there is no strong correlation between QoL and student engagement. Another study carried out in Indonesia found that there is a significant correlation between engaged students and satisfaction with their own lives, and brings up the reflection that the school environment can encourage students to be more engaged. The more involved students are in learning activities at school the more chance they will have of achieving academic success and life satisfaction.[30]

This study contributes to the reflection of course coordinators as well as professors, in the sense of observing and valuing the individual conditions of students' physical and psychological health during their training. Above all, continuously reviewing teaching strategies, with interactive and collaborative practices, with the involvement of students and their personal effort in learning, aspects that may be directly related to encouraging students to participate in activities inside and outside the classroom, such as organizing events, study groups, leagues, campaigns as well as group leisure activities. This can promote the mediation between academic engagement and QoL.[2] It is believed that these actions can promote greater student engagement and well-being at college by improving their perception of themselves and their potential, which can result in better performance and satisfaction with their studies.[30]

The study has limitations such as being a cross-sectional study developed in only one institution, not exploring students' family income, which is an important data that can influence QoL and student engagement at college, and not assessing the variation of responses between course periods.

Conclusion

Engagement and QoL among undergraduate students showed similar scores in both courses, with the exception of the emotional role limitations domain, in which those from nursing performed better than those from medicine. The correlation was weak between most QoL domains and engagement. Therefore, promoting greater professor-student interaction and valuing the potential of undergraduate students should be a strategy used in this institution and in other similar ones to improve engagement, QoL and, consequently, student and future professional performance.

Collaborations

Spina G, Pinto MH, Beccaria LM, Parro MC, Galisteu KJ and Pereira APS contributed to study design, data analysis and interpretation, article writing, relevant critical review of intellectual content and approval of the final version to be published.

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