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Quality of life of Portuguese undergraduate Nursing students: Relation with sociodemographic characteristics

Marinela Amparo Pinto

Registered Nurse, Hospital Centre of Trás-os-Montes and Alto Douro, Unit of Vila Real, Master in Community Health Nursing, Vila Real, Portugal, pinto.marinela@sapo.pt

Amâncio António de Sousa Carvalho

Coordinator Professor, Health School, University of Trás-os-Montes and Alto Douro (UTAD), Quinta de Prados, Complexo Desportivo, 5000-801 Vila Real, Portugal, Doctor in Child Studies, CIEC - Research Centre on Child Studies of University of Minho
Corresponding author: amancioc@utad.pt

ABSTRACT

Throughout life there are factors that interfere with an individual's Quality of Life (QoL). The admission to university constitutes one of these factors, since it demands substantial changes in one's lifestyle, implying a process of transition in young adults. Hence the importance of assessing the QoL of university students. This study aims to analyse the relationship between QoL and their sociodemographic characteristics. This is an observational, descriptive-correlational and cross-sectional study, with a sample of 289 undergraduate nursing students who received a questionnaire that included the WHOQOL-Brief scale to assess QoL. Data were processed using IBM Statistics (Version 25.0), using descriptive and inferential statistics. The significance level adopted was 5%. Of the total sample (n= 289), most were female (77.0%), in the 20-21 age group (40.5%), single (95.5%) and the largest group was classified in the middle class of Socio-Economic Level (SEL) (39.4%). The mean age was 21.29 ± 4.398 years, the minimum age 18 years and the maximum age 53 years. The mean Global QoL was 63.48±10.64 points. The mean Global QoL differed among students of different gender (Student's t: $p < 0.003$), different age group (ANOVA: $p < 0.038$) and different SEL (ANOVA: $p < 0.034$), with male students, aged 22 and over and from the upper middle class obtaining the highest mean QoL scores. However, in the case of SEL this statistically significant difference was not confirmed in Tukey's test ($p \geq 0.06$). QoL is related to gender and age group. There is a need to promote the QoL of this student community, and the health team should have a close look at female students, younger students (Newly admitted) and with lower SEL.

Key words: Quality of life; Nursing students; Demographic factors; Public Health.

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1 INTRODUCTION

The interest in the issue of Quality of Life (QoL) has increased significantly in recent decades. However, there is still no consensual definition that can fully represent it, since it involves individual and subjective aspects of each person [1].

For other authors, the concept of QoL has evolved. Initially having a materialistic basis, in which priority was given to the objective aspects of life, currently the subjective aspects are considered essential. The same authors also refer that it is currently consensual that this construct has a multidimensional nature and includes both objective and subjective components [2].

QoL can be said to be a multidimensional, complex concept, encompassing autonomy, individual and subjective perceptions, which involve the harmonization of biopsychosocial aspects. This term is conceptualised by the World Health Organization (WHO) as an individual perception of his or her position in life, in the context of the culture and value systems in which we live and in relation to the goals, expectations, standards and concerns of each one of us [3; 4].

Entering Higher Education is an important period in the lives of young adults, causing very significant transformations in the lives of these individuals, requiring an adaptive process that causes insecurity, anxiety and satisfaction of social and family needs. Therefore, we may consider ourselves to be in the presence of a critical period, of transition, causing vulnerabilities, with consequences at the level of the QoL of these young people. However, these consequences are also different according to the socio-demographic characteristics of each young person [3; 5-9].

Thus, the QoL of university students is influenced by biopsychosocial aspects, interconnected with the great demands of the training process, which may be aggravated by conflicting relationships with teachers and peers [10-12].

It should be noted that undergraduate students in the health sciences have higher levels of anxiety than those in other scientific areas. In turn, nursing students present exacerbated symptoms of stress, taking into account the more frequent exposure to ethical conflicts that trigger high-intensity stress [6, 7, 13].

The enhancement of students' well-being promotes educational and professional success, from a quinquenary prevention perspective. Promoting the QoL of these students influences the humanization process, which can be improved and have an impact on the quality of care, since feeling well is reflected in the way of caring for others [14].

Items such as functional capacity, pain, general health status, vitality, social, emotional and mental health aspects can be assessed by instruments that measure QoL. The most commonly used instruments are the so-called generic ones. Among the generic instruments, the Medical Outcomes Studies 36-item Short-Form (MOS SF-36), the EuroQol (EQ-5D) and the WHOQOL-100 are the most used. The WHOQOL-bref, a shortened version of the WHOQOL-100 was developed and recommended by the WHO, values individual perception and may assess QoL in various groups and situations, regardless of the level of education. The instrument presents satisfactory psychometric properties and requires little application time. Through this instrument, it is possible to describe the subjective perception of an individual in relation to his physical and psychological health, social relationships and the environment in which he lives [15-20].

This study arose within the scope of this phenomenon, with the general objective of analysing the relationship between QoL and the sociodemographic characteristics of undergraduate nursing students in Northern Portugal.

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There are some international studies that analyse the relationship between this phenomenon and sociodemographic characteristics, but they are practically non-existent in Portugal, including in the geographical area of this student population.

2 METHODOLOGY

The methodological component is a key aspect in any research process, since it serves as a guide during the development of research, guiding the researcher to find answers to specific questions and, thus, acquire new knowledge to base practice on evidence.

This is an observational, descriptive-correlational and cross-sectional study of quantitative approach [21].

2.1 Participants

The population of a study is defined by the inclusion criteria [21]. The inclusion criteria were: i) Sstudent's attending the school context of this study (North region of Portugal), in the 2017/2018 academic year; ii) students of both genders; iii) Being aged 18 years or more. The population was composed of 375 undergraduate nursing students.

The sample is the fraction or subset of a population selected and on which the study is performed, and should be representative of the population, being defined by the exclusion criteria [21]. We established as exclusion criteria: i) Students who were not present on the date of data collection; ii) Students who did not complete at least 80% of the questions. This is a non-probability convenience sample. After applying the exclusion criteria to the population of this study, the sample consisted of 289 undergraduate nursing students, about 77.07% of the population.

Of the total sample (n=289), most were female (77.9%), aged between 20 and 21 years (40.5%), held the marital status of single (95.5%) and belonged to the middle-class of Socioeconomic Level (SEL) (39.4%) (**Table 1**). The mean age was 21.29±4.398 years old, the minimum was 18 years old and the maximum 53 years old (data not shown in the table).

Table 1 Sociodemographic characterization of the sample (n = 289)

Variables		Af	Rf (%)
Gender	Female	225	**77.9**
	Male	64	22.1
Age group	18-19 years old	100	34.6
	20-21 years old	117	**40.5**
	≥ 22 years old	72	24.9
Marital status	Single	276	**95.5**
	Married or Cohabiting	13	4.5
Socioeconomic level	Upper class	34	11.8
	Upper Middle class	82	28.4
	Middle class	114	**39.4**
	Lower Middle class	44	15.2
	Lower class	5	1.7

Total	289	**100**

Legend**:** Af – Absolute frequency; Rf – Relative frequency.

2.2 Material

For data collection, we used a self-completion questionnaire designed for this purpose and adapted for online application. The questionnaire included an introductory note, with a brief explanation about the purpose and importance of participating in the study, the guarantee of data confidentiality, the instructions to answer the questions and the final acknowledgement for collaboration. This instrument was composed of three parts: part I included questions on sociodemographic characteristics, with the household SEL being assessed through the Graffar Scale; part II aimed to assess the level of physical activity through the IPAQ-Short (part not used in this study); part III included the WHOQOL-Bref (Portuguese version of the WHO Abbreviated Tool for Quality of Life Assessment).

The abbreviated version of the WHOQOL is composed of 26 items and is organized into four domains: Physical, Psychological, Social Relationships and Environment, also including a facet on general QoL [15]. The Likert scale used in the construction of the WHOQOL-Bref questionnaire is composed of five response options, with scores from 1 to 5 and higher values in each item reveal better QoL of the respondent [22].

The validation study of the WHOQOL-Bref into Portuguese was carried out through collaboration between researchers from the University of Coimbra [23]. The internal consistency assessed through Cronbach's alpha coefficient, when considering all items was 0.92, being very good and the Domains ranged between 0.64 in the Social Relationships domain and 0.87 in the Physical domain.

2.3 Procedures

The ethical aspects inherent to the development of any scientific research and the recommendations contained in the Declaration of Helsinki were taken into account, safeguarding human rights [21; 24]. Before starting data collection, we sent a request for authorization to the Ethics Committee of the University of Trás-os-Montes e Alto Douro (UTAD), which was approved (Opinion no. 37/2017 of 24/07/2017). A request was also addressed to the authors of the scales that were part of our data collection instrument, who authorized their use. Then, a request for authorization for data collection was addressed to the President of the School in question, who gave her agreement. Subsequently, we contacted the teachers of each class and scheduled a date for data collection in each class. On the scheduled date, we went to the school and within a period of time granted for that purpose, we applied the questionnaires to the students in each class, in the classroom. We gave a brief explanation of the study and asked them to answer all the questions sincerely and anonymously. Students were asked to sign the informed consent form. We waited for the students to complete it and collected the questionnaires immediately. The data collection period took place from October 2 to October 13 of 2017.

The data processing was made by SPSS Software (24.0). We used descriptive statistics, with absolute and relative frequency and mode calculations for all variables and the mean and standard deviation for the variables of measurement level ratio. We also used inferential statistics, having applied the t-Student test and ANOVA and, alternatively, when the variables did not comply with the assumptions for the use of parametric tests, we used the

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Mann-Whitney and Kruskall-Wallis tests. We considered the 5% as a level of significance [25].

3 PRESENTATION AND DISCUSSION OF RESULTS

The presentation of the QoL results included the percentages obtained in each response option, means and standard deviation of the score of the items of the WHOQOIL-Bref scale, followed by the mean, standard deviation, minimum and maximum scores of the domains, the general facet and global score of the same scale and the relationships between the global score of the scale and the sociodemographic variables of the students in the sample.

3.1 Quality of life

By analysing the percentage of students' answers in each of the items of the WHOQOL-Bref scale, we found that the items that most contributed to a positive perception of QoL were item 4 "What extent do you need medical care to go about your daily life? "How would you rate your mobility (ability to move around by yourself)?", item 3 "What extent do your (physical) pains prevent you from doing what you need to do?", item 5 "How much do you enjoy life?" and item 6 "What extent do you feel that your life has meaning?". These items obtained a higher percentage of answers in the 100 best QoL option. Regarding the mean, it was higher in item 4 (87.46 ± 18.296) and item 15 (84.95 ± 18.117), being above 80 points.

Conversely, we found that the items which least contributed to a positive perception of QoL were: item 26 "How often do you have negative feelings, such as sadness, despair, anxiety or depression?", item 16 "What extent are you satisfied with your sleep?", item 12 "Do you have enough money to meet your needs?", item 14 "What extent do you have opportunities to perform leisure activities?" and item 7 "How well do you concentrate?". Regarding the average, it was lower in item 26 and item 16, standing close to 60 points (**Table 2**).

Table 2 Percentage obtained in each response option, mean and standard deviation of the score of the items of the WHOQOL-Bref scale

Items	%					Mean±sd
	0	25	50	75	100	
1. How do you rate your quality of life?	**0.3**	-	**15.6**	**72.7**	**11.1**	**73.61±13.614**
2. How satisfied are you with your health?	-	2.8	14.2	63.3	19.4	74.91±17.761
3.What extent does your (physical) pain prevent you from doing what you need to do?	0.7	4.2	17	38.8	**39.4**	**78.03**±28.085
4.What extent do you need medical care to go about your daily life?	0.3	1.0	9.0	27.7	**61.9**	**87.46**±18.296
5.How much do you enjoy life?	0.7	2.8	14.2	46.4	**36**	**78.55**±20.262
6.What extent do you feel that your life has meaning?	**1.4**	4.5	15.2	52.2	**26.6**	74.57±21.293
7.How well can you concentrate?	0.7	7.3	41.2	45.7	5.2	**61.85**±18.403
8.How safe do you feel in your daily life?	0.7	0.3	17.3	64.4	17.3	74.31±16.257
9.How healthy is your physical environment?	1.0	1.0	24.2	61.6	12.1	70.37±17.138
10.Do you have enough energy for your daily life?	0.3	3.5	31.8	47.1	17.3	69.38±19.565
11.Are you able to accept your physical appearance?	**1.4**	5.2	28.0	45.0	20.4	69.46±21.941
12.Do you have enough money to meet your needs?	0.7	9.7	45.3	30.4	13.8	**61.76**±21.850
13. How easily do you have access to the information you need to organize your daily life?	-	1.0	24.9	58.1	15.9	72.23±16.566
14. What extent do you have opportunities for leisure activities?	1.0	11.1	36.3	42.6	9.0	**61.85**±21.146
15. How would you rate your mobility (ability to move around by	-	1.4	10.0	36.0	**52.6**	**84.95**±18.117

yourself)?						
16.How satisfied are you with your sleep?	**4.2**	11.4	30.8	42.6	10.7	**61.11**±24.298
17. How satisfied are you with your ability to carry out your day-to-day activities?	0.7	2.1	19.7	64.4	12.8	71.70±16.889
18. How satisfied are you with your working capacity?	0.3	2.1	25.6	61.2	10.4	69.88±16.493
19.How satisfied are you with yourself?	0.7	4.2	20.8	55.7	18.3	71.79±19.480
20. How satisfied are you with your personal relationships?	0.7	4.2	20.8	54.3	19.4	72.04±19.721
21. How satisfied are you with your sex life?	**3.8**	4.5	29.4	35.6	25.3	68.77±25.320
22. How satisfied are you with the support you receive from your friends?	0.3	1.7	21.1	55.7	20.4	73.69±17.997
23. How satisfied are you with the conditions of the place where you live?	0.7	3.5	12.5	56.7	26.0	**76.13**±19.184
24. How satisfied are you with the access you have to health services?	0.3	2.1	24.6	57.4	14.9	71.25±17.526
25. How satisfied are you with the transport you use?	1.0	4.2	19.4	55.7	19.0	72.04±19.942
26. How often do you have negative feelings such as sadness, despair, anxiety or depression?	**1.7**	9.7	45.3	34.9	7.6	**59.32**±20.754

Legend: % - percentage; dp – Standard deviation

Table 3 shows that the physical domain had the lowest mean (52.24 ±10.26), meaning that students had a lower perception of QoL in this domain. On the opposite side is the Social Relationships domain, which had the highest mean (71.49 ±17.14), meaning that students had a better perception of QoL. In the overall facet, students had a very positive perception of QoL (74.26 ± 13.03). As for the global QoL, students had a positive and reasonable perception (63.48±10.64). Taking 50% of QoL as the cut-off point, we found that most students (87.2%) had a positive perception of QoL.

Table 3 Mean, standard deviation, minimum and maximum of QoL

Domains	Mean	Standard deviation	Minimum	Maximum
Physical	**52.24**	10.26	11.57	72.86
Psychological	59.97	13.08	8.50	84.17
Social Relationships	**71.49**	17.14	8.33	100.0
Environment	70.00	12.37	28.13	100.0
General	74.26	13.03	12.50	100.0
Global	63.48	10.64	20.46	87.12

In this study, we found that the social relationships domain had the highest mean (71.49 ±17.14), in which students had a better perception of QoL. On the opposite side was the physical domain, which had the lowest mean (52.24 ±10.26), meaning that students had a lower perception of QoL in this domain. Also, a study conducted in the city of Coimbra (Portugal) [26], found that the social relationships domain obtained the highest mean (73.2 ± 16.7), but, unlike the physical domain, the environment domain obtained the lowest mean (69.9 ± 12.1). This divergence between the results of the two studies may be explained by the different origins of the students.

Our results are in line with a research entitled "Quality of life of university students and academic performance", in which 492 students participated, whose objective was to characterize the QoL of students from the areas of Human, Exact and Health Sciences, conducted at the Federal University of Juiz de Fora, Minas Gerais (Brazil) [27], applied the WHOQOL-Bref instrument and found that students from the health area had the highest mean in the social relationships domain (72.9 ± 15.2) and the lowest in the physical domain (50.0 ± 12.1), coinciding with the present study. As for the general QoL, it also presented a positive average (72.5± 18.2), higher than the present study, which can be considered good.

The results of the present study are inverted in relation to the domains, taking as standard those obtained in the study entitled "Relationship of the level of quality of life and physical activity in physical education undergraduates", carried out with 85 students of the Physical Education course, in the city of Ponta Grossa (Brazil) [28], in which they analyzed their QoL, by means of the WHOQOL-Bref and concluded that the physical domain was the one that obtained the best average (77.2 ± 10.6) and the environment domain the worst average (61.0 ± 13.1). However, they also concluded that male students obtained the highest values for the physical domain and female students for the social relationships domain, results quite aligned with those of the present study. In opposition to the present study, continue the results of a study called "Analysis of quality of life and level of physical activity in university students", with a sample of 178 university students from a public institution, in the city of Curitiba (Paraná-Brazil) [29], in which the authors found that students of both genders obtained the highest values for the physical domain (82.14±10.85) and the lowest values in the environment domain (62.50±13.99). As for the general QoL, this also showed a positive mean (74.70±13.53), much higher than that of our study, already close to a very good QoL. In general, the measures of central tendency showed a satisfactory QoL for both genders. The results concerning the domains that obtained the highest average are different from study to study and even in the opposite direction. This is the case of the study conducted in the city of Brasília (Brazil) [30]., which revealed that the psychological domain was the best assessed (69.6) and the worst was the environment domain (63.3). All these differences between the studies, including the present study, may be explained by the cultural differences between the students who participated in the different studies, with different countries of origin (Portugal and Brazil) and very different realities.

3.2 Relationship between Quality of life and sociodemographic characteristics

Analyzing Table 4, it is observed that there are no statistically significant differences between the mean global QoL score of students with different marital status (t: $p>0.892$), of students who have and those who do not have student-worker status (t: $p>0.412$), between students with and without scholarship status (t: $p>0.605$), between students with and without children (t: $p>0.115$) and students with different type of cohabitation (ANOVA: $p>0.575$).

It was found that the mean of the global QoL score presented significant differences between students of different gender (t: $p<0.003$), with males obtaining a higher mean (66.88) in detriment of females (62.41), thus presenting a better perception of global QoL.

It was also found that the mean score differed significantly between students of different age groups (ANOVA: $p<0.038$). However, by Tukey's test, which assesses between which groups the statistical difference lies, this difference between the mean score of the global QoL scale was not confirmed (Tukey: $p\geq0.060$).

The same was observed regarding the mean score of the global QoL of students framed in the different SEL classes, in which there were statistically significant differences (ANOVA: $p<0.034$) and when the Tukey test was applied, these differences were not confirmed (Tukey: $p\geq0.062$).

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Table 4 Results of the statistical tests between global QoL and socio-demographic variables

Global Quality of Life	n	Mean/ Mean rank	Test value	df	*p*
Gender					
Male	64	66.88	t =2.998	282	***p*<0.003**
Female	220	62.41			
Age group					
18-19 years old	97	61.18	ANOVA = 3.312	283	***p*<0.038** Tukey: p≥0.060
20-21 years old	116	64.46			
22 years old and more	71	64.75			
Marital status					
Single	271	63.63	t = 1.582	282	*p*>0.115
Married/Cohabiting	13	58.87			
Worker-Student status					
Yes	9	62.84	t = 0.165	282	*p*>0.869
No	275	63.43			
Scholarship					
Yes	140	62.29	t = 1.729	281	*p*>0.085
No	143	64.48			
Sons					
Sim	11	58.75	t = 1.488	282	*p*>0.138
Não	273	63.60			
Who do you live with?					
Parents	215	64.29	ANOVA = 2.402	281	p>0.068
Friends	43	61.97			
Alone	12	58.65			
Spouse and sons	12	58.62			
Socio-Economic Level					
Upper Class	34	140.16	ANOVA = 2.649	4	***p*<0.034** Tukey: p≥0.062
Upper Middle Class	79	160.15			
Middle Class	112	128.23			
Lower Middle Class	44	126.90			
Lower Class	5	62.50			

Legend: df – Degree of freedom; n – Absolute frequency; p – Probability; t – Student test

In our study, male students had better global QoL than female students, with statistically significant differences, as well as students aged 22 years and older in the psychological domain and students in the upper middle class, with a relationship between global QoL and these socio-demographic variables. These results are in line with the results obtained by other studies [31-32], both at national and international level, more often in what concerns gender. The reality in Portugal seems to indicate that the production of studies in this context and with these objectives is scarce.

4 CONCLUSION

The sociodemographic profile of the students participating in this study can be said to be female, belonging to the age group 20-21 years, single, with no student-worker status, no scholarship, no children, living with their parents and belonging to the middle-class SEL.

In turn, the domains of QoL and Global QoL of the students in the sample are very similar to those obtained in other studies and the Global QoL can be said to be good. The domain in which the students' perception is better is the social relationships domain and it is worse in the physical domain, and there is no convergence between the studies as regards the domains which obtained higher mean scores.

There was a relationship between the global QoL of students of different genders, with male students having a better perception of QoL. Thus, gender seems to be the only factor related to Global QoL.

The main limitations of this study are related to the fact that it is not a random sample, and that it is a cross-sectional study. The non-randomized sample is less reliable than the randomized one as regards the generalizability of results. Cross-sectional studies do not allow us to establish cause-effect relationships.

The implications of this study for the professional practice of Community Nursing may reside in the warning that it may constitute for the functional units of Primary Health Care, which are responsible for the educational institution where this study was conducted, about the need for intervention in this group, with the purpose of promoting the QoL and health of these students.

The results were reported to the President of the educational establishment where this study took place, so that it could act as a diagnosis of the situation, particularly in terms of students' QoL. It is important for higher education institutions to be aware of their role in training, which should not only be technical, but also a holistic training of their students.

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