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Ferrans and Powers Quality of Life Index Applied to Nursing Students during the COVID-19 Pandemic

Índice de Qualidade de Vida de Ferrans e Powers Aplicado a Estudantes de Enfermagem Durante a Pandemia de COVID-19

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Abstract

COVID-19 pandemic can have a significant impact on an individual's physical and emotional well-being. However, it is important to note that not all experiences of the pandemic are negative. This study aims to evaluate the perception of quality of life of students enrolled in a nursing course during the COVID-19 pandemic by administering a global questionnaire. A quantitative, exploratory, cross-sectional, and descriptive study to investigate perception of quality of life of students during the COVID-19 pandemic. Participants comprised 80 students graduating with a nursing qualification between 2020 and 2021. The Ferrans and Powers Quality of Life Index was used in the s tudy. The mean scores are reported as follows: health/functioning domain (22.06), socioeconomic domain (21.40), psychological/spiritual domain (23.34), and family domain (23.06), with an average general quality of life index of 22.46. After evaluating the domains, it was found that there was a higher perception of the psychological/spiritual domain and lower perception of the socioeconomic domain. The results supported the internal consistency reliability of the entire Quality of Life (QLI; alpha=0.95) and the four subscales (alpha=0.88, 0.71, 0.92, and 0.80). The study suggests that the COVID-19 pandemic did not have an impact on the perceived quality of life among students.

Keywords: Coronavirus SARS-CoV-2. Quality of Life. Nursing. Surveys and Questionnaires.

Resumo

Pandemia de COVID-19 pode ter um impacto significativo no bem-estar físico e emocional de um sujeito. No entanto, é importante notar que nem todas as experiências da pandemia são negativas. Este estudo teve como objetivo avaliar a percepção da qualidade de vida de estudantes matriculados em um curso de enfermagem durante a pandemia de COVID-19 por meio da aplicação de um questionário global. Estudo quantitativo, exploratório, transversal e descritivo para investigar a percepção da qualidade de vida de escolares durante a pandemia de COVID-19. Participaram 80 estudantes concluintes do curso de enfermagem entre 2020 e 2021. O Índice de Qualidade de Vida de Ferrans e Powers foi utilizado no estudo. Os escores médios foram relatados da seguinte forma: domínio saúde/funcionamento (22,06), domínio socioeconômico (21,40), domínio psicológico/espiritual (23,34) e domínio família (23,06), com média geral do índice de qualidade de vida de 22,46. Após a avaliação dos domínios, constatou-se maior percepção do domínio psicológico/espiritual e menor percepção do domínio socioeconômico. Os resultados apoiaram a confiabilidade da consistência interna de toda a Qualidade de Vida (QLI; alfa=0,95) e as quatro subescalas (alfa=0,88, 0,71, 0,92 e 0,80). O estudo sugere que a pandemia de COVID-19 não teve impacto na qualidade de vida percebida entre os estudantes.

Palavras-chave: *Coronavírus SARS-CoV-2. Qualidade de Vida. Enfermagem. Pesquisas e Questionários.*

1 Introduction

COVID-19, caused by the SARS-CoV-2 virus, is a disease characterized by a new strain of coronavirus that has triggered an outbreak of severe respiratory infections and compromised the physical and emotional well-being of the global population[1,2].

The World Health Organization acknowledged the disease as a public health emergency and pandemic, thus emphasizing the need for increased global surveillance to adopt preventive measures and prevent further spread[3]. One such measure was domestic isolation, in addition to social distancing, which were protocols used to avoid crowds and reduce transmission[4,5].

Several countries implemented social distancing as a preventive measure to save lives, which lead to the closure of non-essential businesses, cancellation of events, suspension of in-person school activities, and the shift to remote work and education[6].

All productive sectors of the countries that had adopted social distancing experienced direct consequences in the production chains; however, the human factor was the most affected. The high number of deaths during the pandemic, social distancing, fear of contamination, financial crises, and confinement were factors that promoted stress and triggered or exacerbated mental illness, affecting individuals' quality of life[7-9].

Quality of life is a commonly used way to assess an individual's perceptions of their daily life, including mental, physical, and social satisfaction, not just pathological

factors[10,11]. When studying an individual's health, quality of life is associated with the effects of diseases and therapeutic protocols that can influence it[12,13].

The COVID-19 pandemic significantly disrupted daily life globally, impacting functional quality, especially for health professionals[14,15]. This also impacted university students who experienced interruptions in academic and personal pursuits[16].

Through specific questionnaires that measure the perception of quality of life, it is often possible to provide a subjective evaluation of social and psychological factors that impact the population in their environment, and demonstrate their level of satisfaction with life in relation to its importance. Quality of life, when using multiplicative weights, is related to life satisfaction and overall well-being[17-19].

Therefore, the objective of this study was to evaluate the perception of quality of life among university students, enrolled in a nursing course during the COVID-19 pandemic.

2 Material and Methods

This quantitative, exploratory, cross-sectional, and descriptive study was approved by the Research Ethics Committee number 58075822.5.0000.5419. All the participants provided written informed consent.

A non-probabilistic, intentional sample of 80 university nursing students were included in the study. The inclusion criteria were as follows: both sexes, age equal to or older than 18 years, and taking courses related to the nursing curriculum between 2020 and 2021. Exclusion criteria were as follows: university students who stated that they were not in the emotional state to participate in or continue face-to-face structured interviews.

Quality of life was analyzed using the Ferrans and Powers Quality of Life Index (QLI; generic version III), which consisted of 33 items in each part. College students assigned values on an increasing scale of satisfaction and importance, which ranged from 1 to 6, and were divided into four domains: health/functioning (13 items), socioeconomic (7 items), psychological/spiritual (7 items), and family (5 items). In the first part of the questionnaire that measured the importance that students attributed to different aspects of life, the scale ranged from "very dissatisfied" (1) to "very satisfied" (6), and in the second part, which measured student satisfaction with each dimension, from "not at all important" (1) to "very important" [20].

The satisfaction items received scores that were recorded by subtracting 3.5 from the answers to each satisfaction item, with the purpose of centralizing the scale's zero. Subsequently, the recoded satisfaction scores were weighted by the corresponding importance, multiplying the recoded value by the raw value of the response to importance (1, 2, 3, 4, 5, 6). The total score was calculated by combining the weighted values of all answered items and then dividing it by the total number of answered items. To remove negative scores from the final score, 15 was added to the values obtained, resulting in the instrument's total score ranging from 0 to 30. Higher values indicated a better perception of QLI.

To facilitate the application of the questionnaire, students were instructed to analyze whether they were satisfied or dissatisfied with the question item and indicated, in each case, the degree that best corresponded to their condition, namely: "very," "moderately," or "little." Additionally, the items related to importance were answered in the same manner. Furthermore, the date and time of data collection were scheduled by the researcher responsible for administering the questionnaire.

3 Results and Discussion

The data were first entered into a Microsoft Excel spreadsheet, and subsequently, the Ferrans and Powers IQ scores (generic version III) were organized and analyzed in the Statistical Packages for the Social Sciences database (version 22.0, SPSS Inc., Chicago, IL) through the distribution of the scale domains, as well as the total score, in which the mean, standard deviation, median, minimum, and maximum values were evaluated using the descriptive statistical test (Table 1).

Table 1 - Quality of life of university nursing students according to the Ferrans and Powers Quality of Life Index

Domains	Average	Standard deviation	Median	Minimum value	Maximum value
Health/Functioning	22.06	7.66	22.88	1.50	30
Socioeconomic	21.40	7.65	22.92	0	30
Psychological/Spiritual	23.34	7.29	24.64	0	30
Family	23.06	7.95	25.20	1.20	30
General Quality of Life Index	22.46	7.63	23.91	0.67	30

Source: resource data.

Analyzing the different domains, the highest average was recorded in the psychological/spiritual domain, with a score of 23.58, considered close to the maximum level of the quality of life score. Whereas the lowest average was observed in the socioeconomic domain, with an average score of 21.40, demonstrating greater variation between the minimum (0) and maximum (30) scores, equal to the psychological/spiritual domain. Similar values were observed in the psychological/spiritual domains, with an average of 23.34, and the family domain, with an average of 23.06.

To analyze the internal consistency of the quality of life index, Cronbach's alpha coefficient was used, which could vary from 0 to 1; the higher the value, the better the reliability. The results supported the internal consistency

reliability of the entire QLI (alpha=0.95) and across the four domains (alpha=0.88, 0.71, 0.92, and 0.80). Table 2 shows the Cronbach's alpha coefficients of the domains and the correlations that comprise them.

Table 2 - The domain's Cronbach's alpha coefficient and the correlation of the items comprising the domains

Domain	Cronbach's alpha	Item	Correlation with other items	Cronbach's alpha if item is deleted
1.1.1.1.1 Health/Functioning	0.88	1	0.589	0.946
		2	0.615	0.946
		3	0.416	0.948
		4	0.553	0.947
		5	0.522	0.947
		6	0.667	0.946
		7	0.742	0.945
		11	0.531	0.947
		16	0.650	0.946
		17	0.642	0.946
		18	0.532	0.947
		25	0.592	0.946
		26	0.704	0.946
1.1.1.1.1 Socioeconomic	0.71	13	0.512	0.656
		15	0.468	0.684
		19	0.451	0.656
		20	0.692	0.626
		21/22	0.516	0.666
		23	0.491	0.666
		24	0.430	0.709
1.1.1.1.1 Psychological/Spiritual	0.92	27	0.691	0.912
		28	0.600	0.940
		29	0.646	0.915
		30	0.774	0.903
		31	0.784	0.901
		32	0.674	0.902
		33	0.672	0.909
1.1.1.1.1 Family	0.80	8	0.574	0.756
		9	0.547	0.725
		10	0.693	0.719
		12	0.654	0.733
		14	0.429	0.803

Source: resource data.

The present study evaluated the perception of quality of life among university nursing students during the COVID-19 pandemic, utilizing a global questionnaire. The results of the QLI domains illustrated that students' perceptions of quality of life were not affected when considering the relationship between satisfaction and the importance of factors that impact an individual's daily life.

When an individual begins a university course, several expectations arise simultaneously with the aim of utilizing acquired knowledge to improve the quality of life of society[21,22], and significant changes in daily life can modify the perception of quality of life during these courses[23].

During the COVID-19 pandemic, academic responsibilities became increasingly evident, especially in the domain of health, with an eminent challenge to overcome domestic isolation and social distancing[24], which in many cases resulted in delays in training, financial difficulties, social withdrawal, and unfulfilled goals[25,26], requiring university students to adapt to new global health conditions.

This study calculated the QLI of university nursing students utilizing a validated instrument that considered 33 items related to satisfaction and importance. The general QLI mean was equal to 22.46 (SD=7.63) and Cronbach's alpha coefficient was considered substantially high (0.95), suggesting that students who participated in this study had a good perception of quality of life, close to the maximum score offered by the QLI.

This may have been related to the amount of resilience that health students had, that their perception of quality of life during the COVID-19 pandemic remained unchanged[27]. The ability to adapt to difficult situations seems to play an important role in how students acquire skills in the face of adversity, which results from the proper functioning of the human adaptive system[28,29].

In the Health and Functioning domain, 13 items were considered, with a mean of 22.06 (SD=7.66) and a substantially high Cronbach's alpha coefficient (0.882). When specific actions are undertaken to promote care and improve the well-being of individuals, university students become involved in personal relationships associated with

competence and ability[30,31]. Health professionals' self-efficacy, including that of university nursing students, is considered to strongly influence the self-control of behavior that determines persistence in the face of everyday difficulties[32].

The Socioeconomic domain had the lowest average, which was 21.40 (SD=7.65), with a considerable Cronbach's alpha coefficient (0.71). In relation to the other domains, this was the domain furthest from the maximum QLI score. The socioeconomic factors associated with the COVID-19 pandemic could trigger levels of stress and anxiety; alternatively, they could be managed positively by coping with the crisis through resilience and adequate humor, thus resulting in reduced emotional destruction perception of quality of life[33].

The Psychological and Spiritual domains had the highest average score of 23.34 (SD=7.29), but close to the maximum level of the QLI score with a high Cronbach's alpha coefficient (0.92). One possible explanation for this high level of perception could be spiritual intelligence that could be an individual or collective resource to deal with the stress affecting the population. This creates strength to continue living in the situation and thus improves the perception of quality of life. This helps to reconcile the previously conflicting meaning and value of personal and social experiences, and allows for detachment from the pandemic reality, enabling quick responses to necessary adaptations to face adverse events in the human body, such as psychological events[34].

The results of this study suggest that the COVID-19 pandemic did not change the subjective perception of the sample in this study because possibly, they had found comfort and support in the face of the difficult situation, creating concrete conditions to address the complicated moments faced during the pandemic[35]. According to Cherblanc *et al.*[36], the ability to overcome challenges experienced by students in the face of life adversities may also be a consequence of spirituality related to faith, which plays an active and positive role in the perception of quality of life.

International studies have reported that nursing students during the COVID-19 pandemic have identified the perception of risk, fear, mental health status, and coping strategies, with contracting the virus and spirituality being the most commonly used coping strategies for the disease[37].

The Family domain presented an average score of 23.06 (SD=7.95), close to the average of the Psychological and Spiritual domain, with a substantial Cronbach's alpha coefficient (0.80). It is important to highlight that not all pandemic experiences may have been perceived as negative[38]. A positive skill that may have been displayed among university nursing students is hope, a construct recognized as essential in the motivational scope, which served as a protective factor in fostering feelings of potential connection with their families[39]. Furthermore, the pandemic has brought family members closer together, promoting self-knowledge and self-acceptance, suggesting a reconnection with their family and themselves[40].

The aim of this study, which covered health and function, psychological and spiritual, socioeconomic, and family domains, was to determine whether the perception of quality of life among university students in the nursing course would be modified as a result of the COVID-19 pandemic between 2020 and 2021. The results demonstrated that the students were able to maintain a stable level of perception of quality of life in relation to satisfaction and the importance of factors that could influence everyday life.

A limitation of this study is that it included a specific group of university students enrolled in a nursing course. Future studies should be conducted to examine whether students in the wider healthcare field are able to maintain a positive perception of quality of life even in adverse situations.

4 Conclusion

The results of this study suggest that the COVID-19 pandemic did not negatively affect the perception of quality of life of the sampled university students enrolled in the nursing course.

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