QUALIDADE DE VIDA NO TRABALHO DE ENFERMEIROS INTENSIVISTAS DURANTE A COVID-19

Quality of work life of intensive care nurses during Covid-19

Calidad de vida laboral de enfermeras de cuidados intensivos durante la Covid-19

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RESUMO

Objetivo: identificar os fatores associados à qualidade de vida no trabalho de enfermeiros intensivistas de Boa Vista, Roraima. **Método:** estudo descritivo-correlacional, realizado entre novembro/2022 e janeiro/2023 com 36 enfermeiros intensivistas de um hospital público. **Resultados:** predominaram profissionais do sexo feminino (66,7%), casado(a)/união estável (55,6%) e com tempo médio de atuação em UTI de 6,6 anos. A maioria foi diagnosticada com COVID-19 (91,7%), maior exigência no trabalho (97,2%), cansaço físico e mental (94,4%), insegurança quanto a proteção e EPI (58,3%), insônia (63,9%), irritação (72,2%), medo de perder amigos e parentes (91,7%), falta de apoio e reconhecimento dos superiores (69,4%). A qualidade de vida no trabalho apresentou a esfera Psicológica/Comportamental com maior pontuação (65,3) e a esfera Econômica/Política com menor pontuação (43,1). **Conclusão:** a pandemia refletiu negativamente sobre a qualidade de vida dos enfermeiros, pois é notório o elevado crescimento de profissionais que adoeceram fisicamente e mentalmente.

DESCRITORES: Qualidade de vida; Unidades de terapia intensiva; Saúde ocupacional.

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ABSTRACT

Objective: to identify factors associated with quality of life at work among intensive care nurses in Boa Vista, Roraima. Method: descriptive-correlational study, carried out between November/2022 and January/2023 with 36 intensive care nurses from a public hospital. **Results:** professionals were predominantly female (66.7%), married/in a stable relationship (55.6%) and with an average time working in the ICU of 6.6 years. The majority were diagnosed with COVID-19 (91.7%), greater work demands (97.2%), physical and mental fatigue (94.4%), insecurity regarding protection and PPE (58.3%), insomnia (63.9%), irritation (72.2%), fear of losing friends and relatives (91.7%), lack of support and recognition from superiors (69.4%). Quality of life at work had the Psychological/Behavioral sphere with the highest score (65.3) and the Economic/Political sphere with the lowest score (43.1). **Conclusion:** the pandemic had a negative impact on the quality of life of nurses, as the high increase in professionals who became physically and mentally ill is notable.

DESCRIPTORS: Quality of life; Intensive care units; Occupational health.

RESUMEN

Objetivo: identificar factores asociados a la calidad de vida en el trabajo entre enfermeros de cuidados intensivos en Boa Vista, Roraima. **Método:** estudio descriptivo-correlacional, realizado entre noviembre/2022 y enero/2023 con 36 enfermeros de cuidados intensivos de un hospital público. **Resultados:** los profesionales eran predominantemente del sexo femenino (66,7%), casados/en pareja estable (55,6%) y con tiempo promedio de permanencia en la UTI de 6,6 años. La mayoría fueron diagnosticados con CO-VID-19 (91,7%), mayor exigencia laboral (97,2%), cansancio físico y mental (94,4%), inseguridad en cuanto a protección y EPI (58,3%), insomnio (63,9%), irritación (72,2%), miedo a perder amigos y familiares (91,7%), falta de apoyo y reconocimiento de los superiores (69,4%). La calidad de vida en el trabajo tuvo el ámbito Psicológico/Conductual con la puntuación más alta (65,3) y el ámbito Económico/Político con la puntuación más baja (43,1). Conclusión: la pandemia tuvo impacto negativo en la calidad de vida de los enfermeros, siendo notable el alto aumento de profesionales que enfermaron física y mentalmente.

DESCRIPTORES: Calidad de vida; Unidades de cuidados intensivos; Salud laboral.

INTRODUÇÃO

The Intensive Care Unit (ICU) is a complex, high-tech, specialized environment designed to care for critically ill patients.1 Nurses working in this sector are constantly exposed to stressful experiences that directly affect their biopsychosocial status.[2]

The COVID-19 pandemic had a significant impact on health services, including overcrowding in ICUs, scarcity of supplies, and a shortage of health professionals. In this context, health professionals worked continuously in ICUs, which resulted in increased work overload, long shifts, lack of knowledge on the scenario and other demands, which, in addition to excessive working hours, ultimately favored the physical and mental overload of health professionals.[3-4]

Experiencing these stressors, which were exacerbated by the pandemic, can affect the professional nurse's quality of work life (QWL),[5] a trade-off that directly affects the health of the professional and the care provided to patients, since states of exhaustion and mental fatigue can favor the occurrence of occupational accidents, medication errors and absenteeism.[6]

QWL includes a set of factors aimed at the well-being of the employee obtained through his work, which consists of the support provided by the institution, safety at work, professional satisfaction and personal development.[7] Based on this concept and the context in which nurses were deployed during the pandemic, their quality of life in the ICU work environment became a concern, especially for those working directly on the front line, as in the case of intensive care.

This study is a pioneer on this topic in the state of Roraima and can contribute to the construction of interventions aimed at improving the QWL of nurses, not only in the work context, but also in the personal context. Thus, the present study aimed to identify factors associated with the quality of life at work of intensive care nurses in Boa Vista, Roraima, Brazil.

METHOD

This is a descriptive-correlational study, with a cross-sectional design and a quantitative approach, which was developed with [36] nurses working in the ICUs of a public hospital in the city of Boa Vista, Roraima,

the largest hospital complex in the state and the only one with high complexity adult care, receiving patients from its 15 municipalities, as well as patients from Venezuela and Guyana, countries that border Roraima.

Participants were conveniently recruited and fit the inclusion profile: over 18 years of age, registered in the Regional Nursing Council of Roraima (Coren-RR), and working during the most critical periods of COVID-19. Nurses who resumed their activities after the peaks of CO-VID-19 and who were on leave (maternity, unpaid, professional qualification, and others) were excluded.

Data were collected between November 2022 and January 2023 using three self-administered questionnaires. The first instrument aimed to characterize the socio-demographic and professional profile, with questions related to personal data and the work process. The second questionnaire, related to the assessment of QWL, was structured based on the Total Quality of Work Life - 42 (TQWL-42), an instrument developed and validated based on the World Health Organization Quality of Life (WHOQOL), consisting of 47 questions, of which five are intended for the knowledge of the sample and 42 divided into five spheres: Biological/Physiological, Psychological/Behavioral, Sociological/Relational, Economic/Political and Environmental/Organizational.[8] The third questionnaire was aimed to know the aspects and situations (feelings/behaviors) that were remarkable during the COVID-19 pandemic.

The data were tabulated in Excel® Microsoft 365 spreadsheets, according to the TQWL-42 manual, and processed in JAMOVI® software 2.4 version on Windows 10. In the analysis, the data were subjected to descriptive statistics and the average, standard deviation, coefficient of variation, minimum and maximum values, and amplitude of the 21 aspects and the five spheres of the TQWL-42 were calculated. In addition, the correlation between age and the scores of each TQWL-42 sphere was evaluated using Pearson's linear correlation coefficient. Differences in the averages of each sphere of the TQWL-42 according to the different predictor variables were evaluated using Student's t-test and Mann-Whitney test. The variables that reached a value of $p < 0.20$ were selected to build the multiple linear regression models that had the TQWL-42 spheres as dependent variables, and in the final adjusted models, the independent variables that reached a value of $p < 0.05$ remained.

Ethical aspects were respected at all stages of the study, in accordance with Resolution No. 466/12 of the National Health Council (CNS), which deals with research involving human subjects. The study protocol was submitted to the Research Ethics Committee of the State University of Roraima (CEP/UERR) and approved under opinion No. 5.734.174
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RESULTS

A total of 36 nurses from the four ICUs of the hospital participated in the study. Regarding the sociodemographic characteristics of the participants, the age range was wide, from 25 to 56 years. The mean age was 38.9 ± 7.2 years, which correlated with the majority being female (66.7%), married/in a stable union (55.6%), with children (66.7%), and with an average income above the national minimum (5339.0 ± 1690.4), considering that they had more than one employment relationship (69.4%). In terms of professional characteristics, the average time since graduation and the average time working in the ICU were 12.1 ± 5.4 years and 6.6 ±

6.2 years, respectively. Most of them have the maximum degree of specialist (75.0%), chose high complexity to pursue their career (61.1%), feel satisfied working in the ICU (94.4%), perceive direct patient care as the greatest demand (75.0%), and reported not receiving benefits (69.4%).

The characterization of the participants' QWL was distributed according to the aspects of the TQWL-42 instrument, as shown in Table 1. The aspects of work ability (80.90 ± 13.85) and health and social services (21.88 ± 19.68) - biological -, importance of the task (82.64 ± 16.44) and personal and professional development (33.68 ± 19.32) - psychological -, interpersonal relationships (76.04 ± 16. 19) and freedom of expression (46.88 ± 22.03) - Sociological -, job security (62.50 ± 22.16) and additional benefits (25.00 ± 17.68) - Economic -, task identity (79.51 ± 11.63) and opportunity for growth (31.94 ± 24.36) - Environmental - represented the main positive and negative means, respectively. The mean self-assessment of the participants' QoL was 59.03 ± 18.33, which was considered satisfactory with a neutral tendency.

Table 1 - Characterization of the Quality of Life of Nurses at Work according to the Distribution of Aspects. Boa Vista, RR, Brazil, 2023 - Rove.me

Aspects	Mean ± SD	Coefficient of variation	Minimum	Maximum	Amplitude
Physical and Mental Abilities	46,18 ± 17,38	37,63	25,00	87,50	62,50
Ability to work	80,90 ± 13,85	17,12	50,00	100,00	50,00
Health and social services	21,88 ± 19,68	89,96	0,00	87,50	87,50
Rest time	46,53 ± 18,81	40,42	12,50	87,50	75,00
Self-esteem	75,35 ± 17,03	22,60	25,00	100,00	75,00
Task significance	82,64 ± 16,44	19,90	37,50	100,00	62,50
Feedback	67,01 ± 15,28	22,80	12,50	100,00	87,50
Personal and professional development	33,68 ± 19,32	57,37	0,00	75,00	75,00
Freedom of expression	46,88 ± 22,03	47,01	0,00	100,00	100,00
Interpersonal Relationships	76,04 ± 16,19	21,30	25,00	100,00	75,00
Autonomy	53,47 ± 9,26	17,32	37,50	75,00	37,50
Leisure time	47,57 ± 21,09	44,34	12,50	100,00	87,50
Financial resources	40,63 ± 20,13	49,55	0,00	75,00	75,00
Additional benefits	25,00 ± 17,68	70,71	0,00	50,00	50,00
Working hours	48,26 ± 14,99	31,05	12,50	75,00	62,50
Job Security	62,50 ± 22,16	35,46	12,50	100,00	87,50
Working conditions	56,94 ± 17,54	30,80	0,00	87,50	87,50
Opportunity for growth	31,94 ± 24,36	76,25	0,00	87,50	87,50
Task variety	70,49 ± 14,38	20,40	37,50	100,00	62,50
Task Identity	79,51 ± 11,63	14,63	50,00	100,00	50,00
Self-assessment of QoL	59,03 ± 18,33	31,05	12,50	87,50	75,00

Source: The author. Research data.

The characterization of the participants according to the distribution of the spheres showed an overall mean QWL of 55.50 ± 7.12, indicating a satisfactory level with a neutral tendency, slightly lower in the self-assessment of QoL, with the highest score observed for the psychological sphere (65.33 ± 9.8) and the lowest for the economic sphere (43.16 ± 11.7) (Table 2).

Table 2 - Characterization of the Quality of Life of Nurses at Work according to the Distribution of Spheres.
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Sphere	Mean ± SD	Coefficient of variation	Minimum	Maximum	Amplitude
Biological/Physiological	47,46 ± 10,48	22,09	31,25	71,88	40,63
Psychological/Behavioral	65,33 ± 9,80	15,00	40,63	93,75	53,13
Sociological/Relational	56,15 ± 9,27	16,51	31,25	71,88	40,63
Economic/Political	43,16 ± 11,73	27,18	15,63	62,50	46,88
Environmental/Organizational	59,67 ± 10,39	17,41	37,50	84,38	46,88

Source: The author. Research data.

Based on the correlation analyses, age was positively correlated with the Biological (0.068; p=0.653), Psychological (0.034; p=0.844), Economic (0.171; p=0.319), and Environmental (0.274; p=0.099) domains, and negatively correlated with the Sociological (-0.321; p=0.056) domain. In the bivariate analyses, nurses without a partner had a lower mean QWL score in the environmental sphere than nurses with a partner (55.7 ± 7.0 versus 63.0 ± 10.9). Nurses who did not choose the ICU as their area of practice, who were dissatisfied in this area, and who held a managerial position had lower mean QWL scores in the sociological domain than nurses who chose the ICU as their area of practice, who were satisfied in this area, and who did not hold a managerial position: 50.0 ± 9.6 versus 58.0 ± 8.4, 42.2 ± 2.2 versus 56.8 ± 8.8, and 45.8 ± 12.6 versus 56.9 ± 8.5, respectively.

During the COVID-19 pandemic, the aspects and situations (feelings/behaviors) experienced by the participants were: diagnosis of COVID-19, increased demands at work, physical and mental fatigue, uncertainty regarding protective measures and PPE in the ICU, insomnia, irritation, fear of losing friends and relatives, lack of support and recognition from superiors, and lack of action in favor of physical health, mental and social skills on the part of superiors. The mean score of the environmental domain of QWL was significantly lower among nurses who reported having been diagnosed with COVID-19 (12.1 points lower) and among those who reported having developed insomnia during the COVID-19 pandemic (7 points lower). In the economic domain, the mean score was much lower among nurses who reported being afraid of losing their jobs (9.9 points lower) than among those who reported not being afraid.

The multivariate model estimated that the mean score in the biological domain of nurses who did not become more irritable and intolerant during the pandemic was 8.35 units (%) higher than those who became irritable and intolerant. In the sociological sphere, the mean score of those who did not have another employment relationship was 6.22 percentage points higher than those who had another relationship; was 18.57 higher in those who were satisfied working in the ICU than those who were not satisfied. Regarding the economic sphere, the mean score was 9.30 lower in professionals who work in the ICU due to institutional interest compared to those who reported another reason. Finally, the estimated mean score for the environmental sphere was 8.37 percentage points lower in nurses who reported having developed insomnia than in nurses who reported not having developed insomnia. The standardized coefficients (BETA) for the variable "became more irritable and intolerant" were the highest of all variables, in all five QWL domains, as well as for the variable insomnia.

Not having become more irritable and intolerant, satisfaction and reason for working in the ICU, and not having developed insomnia as a result of the COVID-19 pandemic were the predictive variables (p<0.05) for nurses' satisfaction with QoL at work. Only the variables "became more irritable and intolerant" and "satisfaction with work in the ICU" showed a significant positive correlation (β=0.769, β=2.001, respectively), in the first one, the model is explained in 16% including all variables in the biological sphere, and in the second, it is explained in 41% in the environmental sphere. While the variables "reason for working in the ICU" and "had insomnia" showed a significant negative correlation (Table 3).

Table 3 - Non-standard and standard regression coefficients of multiple linear regression equations.
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Sphere / Predictor (reference)	b	b$_{(EP)}$	BETA	p	R2 (R2aj.)
Biological/Physiological					
Reason for working in the ICU (Institutional interest)	7,34	4,00	0,676	0,076	
Safety with protective measures and PPE (No)	5,19	3,45	0,478	0,142	0,238 (0,166)
Got irritable and more intolerant (No)	8,35	3,78	0,769	0,035	
Psychological/Behavioral					
Had insomnia (No)	-4,50	3,34	-0,463	0,186	0,050 (0,022)
Sociological/Relational					
Presence of another relationship (No)	6,22	2,65	0,670	0,026	
Reason for working in the ICU (Institutional interest)	6,04	2,97	0,650	0,051	
Satisfaction with ICU work (No)	18,57	5,32	2,001	0,002	0,494 (0,410)
ICU management position (No)	-8,83	4,50	-0,951	0,059	
Increased tobacco use (No)	4,85	4,39	0,523	0,278	

Economic/Political					
Reason for working in the ICU (Institutional interest)	-9,30	4,32	-0,802	0,040	
Increased demand in the ICU (Supervision/Management)	6,72	4,87	0,580	0,178	
Prepared to handle COVID-19 cases (No)	-5,87	3,97	-0,507	0,150	0,388 (0,261)
Had insomnia (No)	-5,17	3,80	-0,466	0,184	
Was afraid of losing the job (No)	5,43	4,26	0,469	0,213	
Received support from supervisors (No)	-3,60	4,87	-0,310	0,466	
Environmental/Organizational					
Marital status (No partner)	-5,75	3,16	-0,574	0,079	
Presence of another employment relationship (No)	-1,39	3,60	-0,139	0,701	
Benefits (No)	5,62	3,31	0,561	0,100	
Diagnosed with COVID-19 (No)	-8,72	6,01	-0,870	0,158	0,412 (0,265)
Use of stimulants (No)	1,11	3,93	0,111	0,779	
Had insomnia (No)	-8,37	3,49	-0,836	0,023	
Had financial obligations (No)	0,34	3,64	0,034	0,926	

b - unstandardized regression coefficient; b(EP) - standard error of b; BETA - standardized regression coefficient; R2aj. - R2 adjusted.
Source: The author. Research data.

DISCUSSION

In the present study, the socio-demographic and professional profile of the participants was similar to other studies conducted with nurses in Alagoas, Basilia (Federal District) and Rio de Janeiro, where there are a predominance of female professionals, a characteristic due to the fact that nursing has historically been composed of women. Although male professionals are increasingly getting into the nursing profession, it is notorious that this population is small compared to that of women.[9-11]

Regarding the main aspects evaluated in each area of the respondents' QWL, the results are similar to a study conducted with nurses in public health hospitals in Maceió, Alagoas, using the TQWL-42 instrument, in which were showed positive averages for the following aspects: work ability (73. 24), interpersonal relationships (70.35), job security (65.38) and task identity (67.31), while the following aspects showed negative averages: health and social services (33.65), freedom of expression (48.56), extra benefits (43.43) and opportunities for growth (40.06). Self-assessment of QoL, as in this study, was satisfactory with a score of 52.24.[9]

Of the five spheres of the TQWL-42 studied in this study, the Psychological/Behavioral sphere had the highest mean score, while the Economic/Political sphere had the lowest mean score. These results are consistent with a study conducted among health professionals in Uberlândia, Minas Gerais, since when the results are compared, a similarity is observed in all the domains analyzed: Psychological/Behavioral (65.33 versus 61.94); Environmental/Organizational (59.67 versus 55.69); Sociological/Relational (56.15 versus 50.89); Biological/Physiological (47.46 versus 52.9); and Economic/Political (43.16 versus 47.77 points).[12]

Younger nurses showed greater satisfaction in almost all domains of the TQWL-42, with the exception of the Sociological/Relational domain, where it was negatively correlated. The unsatisfactory results in this area can be explained by the fact that during the most critical periods of COVID-19, nurses had their personal lives affected by the need to distance themselves from friends and family to avoid contamination, in addition to suffering discrimination from society, which blamed them for transmitting the disease.[6] The marital status variable also showed a direct relationship with QWL, where satisfaction was higher among married professionals. In support of this finding, the literature points to some factors that can positively influence an individual's quality of life, such as: affective bonds; marital bonds; having someone to share opinions and emotions with.[13]

The professionals were satisfied with the QWL in the ICU and, in general, they were satisfied due to the possibility of choosing this area of specialization. One of the determinants of job satisfaction is when it is freely chosen.[14] Not holding a managerial position was also statistically associated with satisfactory QWL among nurses. In support of this finding, dissatisfaction with QWL may be a reflection of high levels of stress, as there is a direct relationship between these two variables.[15] One study found that of the 43 nurse managers surveyed, occupational stress was present in 24. The multiple demands attributed to these professionals place high demands on them.[16]

Regarding the aspects and feelings experienced during COVID-19 by the professionals in this study, the results are similar to those found in the literature, where 91% of the professionals reported being stressed by the lack of protective measures, 99% reported being stressed by the contamination of friends and family, 85% felt exhausted or tired, 54% were irritated, and 89% wanted recognition from superiors.[17] In the absence of PPE, healthcare workers had to reuse this disposable equipment, increasing the risk of infection and workplace insecurity.[18]

The pandemic had a significant impact on the mental health of caregivers who provided direct care to critically ill patients, due to increased working hours, social discrimination, loss of sleep quality, and fear of contaminating loved ones and family members, leading these professionals to isolate and distance themselves from those closest to them.[19] Given the negative impact on health care workers, it is essential to develop interventions to manage psychological distress in order to improve their QWL.[18]

In terms of social support or recognition from their superiors, most of the nurses interviewed did not receive it. This data was highlighted in a study that reported that many professionals did not receive support from the institution, they sought help elsewhere, and the little support that some reported receiving consisted of laboratory tests, medical consultations, and psychotherapy.[20] A survey highlighted the importance of social and institutional support, both of which contribute to nurses' resilience and play a protective role for frontline workers.[21]

The diagnosis of COVID-19 and the development of insomnia were strongly associated with the environmental/organizational sphere. Bearing in mind that the main problem affecting health professionals who have directly assisted COVID-19 cases is the risk of becoming infected with the virus, which would lead to the removal of these professionals

from their work environment in order to minimize the risk of infecting others.[19] After the beginning of the pandemic, the increase in working hours of care workers contributed to the development of insomnia and, as a way of coping with this situation, they started taking sleeping pills, which were considered as indicators of worse perception of quality of life.[22]

The variable "was afraid of losing the job" was related to the economic/political sphere. In support of this finding, a pandemic scenario evokes feelings of vulnerability in people, such as fear of losing their livelihood.[5] During the pandemic, many workers did not have job security or stability, there was suspension of their rights and impossibility of taking vacations; these conditions, combined with the constant pressure and stress in the work environment, led to the physical and psychological illness of professionals,[23] which would be a possible justification for the unsatisfactory levels of quality of life in the economic/political sphere.

As a limitation of the study, because of its cross-sectional design, it is not possible to establish a causal relationship, considering that the research was carried out in a single institution and with a small number of respondents. In view of this, it is suggested that new studies be carried out with a larger sample and addressing different scenarios, studies aimed at better understanding the factors related to QWL, as well as the development of interventions aimed at health promotion and consequent improvement of the quality of life of nurses, both in their social and professional contexts.

CONCLUSION

The results of the present study highlight the factors related to the QWL of intensive care nurses as assessed by the TQWL-42. The overall result showed a satisfactory QWL among these professionals. All the aspects analyzed have a direct impact on the QWL of ICU nurses, especially those described as negative, such as health and social services, freedom of expression, extra benefits and opportunities for growth, showing that there are factors that affect these aspects and lead to a decrease in the quality of life and even in the quality of care provided.

The oscillation between the five spheres is notorious, with the lowest scores recorded in the economic/political and biological/physiological spheres, indicating that participants perceive themselves as having some difficulty in both. Even if they are related to the negative spheres, the professionals consider their perception of quality of life as satisfactory.

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