RESEARCH ARTICLE

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QUALITY OF WORK LIFE AMONG NURSING PROFESSIONALS IN SERVICE TO COVID-19

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ABSTRACT

Objective: to investigate the Quality of Work Life among nursing professionals in a specific inpatient unit for COVID-19 care. **Method:** descriptive and cross-sectional study. Data were collected through the instrument Total Quality of Work Life-42, whose score ranges from 0 to 100, considering that the highest value represents the best quality of work life score; and a form for social and labor characterization of the participants. Descriptive and inferential statistical analyzes were applied. **Results:** the general score for Quality of Work Life was 59.9±7.9. The highest scores were for the Psychological/Behavioral (68.8) and Environmental/Organizational (62.2) spheres; and the lowest scores were for Economic/Political (52.5) and Biological/Physiological (55.7). All spheres had positive correlations when compared to work satisfaction and there was no significance when comparing the sample characteristics with the quality of work life levels. **Conclusion:** the nursing professionals working at the COVID-19 inpatient unit had a median Quality of Work Life; and work satisfaction was directly related to their evaluation.

INTRODUCTION

Health workers of the productive segments with the greatest exposure to risks to their health, which can generate numerous physical, psychological and cognitive consequences, since work requires adaptive responses for both, immediate and prolonged periods (COSTA, 2014). Furthermore, according to the work performed, health-disease processes are routinely experienced by health professionals, directly interfering with the Quality of Work Life (QWL) (FREIRE; COSTA, 2016). QWL refers to the well-being of the worker and the relationship organizational factors have with work satisfaction, seeking a balance between workers' interests and the institution (WALTON, 1973). Thus, QWL encompasses physical, technological, psychological and social dimensions of work, corresponding to the values of a more humane and healthier institution. Work satisfaction has been presented as a key concept within the investigation field of QWL and the health area around the world, as it mayresult a better quality of life (SCHMIDT *et al..*, 2013).

For the nursing team, especially focused on the hospital area, QWL carries a peculiar characteristic, as this category is the only one that serves uninterruptedly, involving not only the patient, but also their family. Consequently, the elements that favor the nursing team quality of life are under interest for both of them, the worker's health and the quality of care (MELO *et al..*, 2020). In the COVID-19 pandemic context, declared in March 2020, working conditions and health of nursing and health workers - which are related to QWL - have been shared by the media and the scientific community (LUDWIG *et al..*, 2021). In this pandemic scenario, the main concerns with nursing professionals refer to the use of Personal Protective Equipment (PPE), following the protocols determined by responsible departments, ensuring that professionals are prepared to use PPE, good emotional conditions to provide quality of care, also to their own health, that is, factors that interfere with their QWL (DAVIDA *et al..*, 2020). In order, to face COVID-19, opening and/or redirecting beds is one of the most used strategies to meet the society demands, generating a greater workload for the nursing team. Therefore, these professionals have been required on a daily basis, in matters related to the management organization of the COVID-19

units, to provide direct care to infected patients, as well as to support family members. It is believed that investigating the QWL of the nursing staff working in care unit for those infected with COVID-19 is important, both to delineate the repercussions of the pandemic on workers' health, and to contribute to the legacy that fights for better working conditions category, regardless of this scenario. The research question was: what is the nursing professionals' quality of life working in a hospital unit providing care to COVID-19 patients? So, the aim of this study was to investigate the nursing professionals 'quality of work life in a specific inpatient COVID-19 care unit.

METHODS

Descriptive and cross-sectional study, developed in a public university hospital in Parana state, Brazil, which has an operational capacity of approximately 250 beds, exclusively used for the public system. The study took place in an inpatient unit with 30 beds focused on COVID-19 treatment. The study involved all professionals of the nursing team who used to work at the COVID-19 unit, regardless of their work shift. The following inclusion criteria were considered: acting as a nursing professional for over 30 days, at the COVID-19 unit. Exclusion criteria were: nursing team professionals absent from the sector for any reason during the period of data collection and those who did not respond to three survey attempts. The study population consisted of 37 professionals: 14 nurses, 19 nursing technicians and 4 nursing assistants. From this population, a non-probabilistic sample of 24 (65%) individuals was formed. Data collection took place between April and May 2020, through an electronic form, sent to the participants' e-mails or a messaging applicative. The subjects attested their participation in the study, through the informed consent form. A sociodemographic and labor characterization instrument was created for this study, containing the following variables: age, gender, marital status, education, profession, year of graduation, length of service in the current profession, length of service in the investigated hospital, work shift, weekly workload, type of employment contract, other employment relationships, length of service at the unit where they work, and work satisfaction. For this last variable, the participants attributed their unidimensional assessment expressed by an increasing score from 0 to 10, according to a previous study (TERUYA; COSTA; GUIRARDELLO, 2019). The QWL assessment was performed using the Total Quality of Work Life instrument (TQWL-42), created and validated in Brazil (PEDROSO et al.., 2019). The 42 questions of the instrument were used and subdivided into five main spheres: A) Biological/ Physiological; B) Psychological/Behavioral; C) Sociological/ Relational; D) Economic/Political; and E) Environmental/ Organizational, plus two questions to self-assess the QWL.

questions are objective, with answers on a five-point Likert scale, ranging from *never* to *always*, where higher values represent better QWL (PEDROSO *et al.,* 2019). The mean scores for aspects and spheres are converted into a score from zero to 100, so that it is possible to compare them with other instruments that assess quality of life, using the World Health Organization instruments as a reference(PEDROSO *et al..,* 2019). The electronically collected data automatically generated a Microsoft Office Excel® 2010 spreadsheet, which were later processed and analyzed in the Statistical Package for Social Sciences (SPSS) version 26.0, following the instructions of the specific syntax of the TQWL-42 instrument (PEDROSO *et al..,* 2019). The assumptions of the variables were analyzed using the normality (Shapiro-Wilk) and homoscedasticity (Levene) tests. Descriptive analyzes were performed for all variables, using percentage proportion measures for categorical variables and measures of central tendency and dispersion for continuous variables. Pearson correlation test was performed to assess the relationship among the spheres of the TQWL-42 instrument themselves and between work satisfaction. To analyze the magnitude of the correlation between these measures, a classification was used considering values > 0.50 as a strong correlation; between 0.30 and 0.50, as moderate and <0.30 as low correlation (AJZEN; FISHBEIN, 1998). Student's t test or Analysis of Variance (ANOVA) were used to relate the assessment of general QWL with sociodemographic and labor factors. The level of significance established was p-value $\leq$ 0.05. The reliability of the TQWL-42 instrument was assessed by the internal consistency of its items, measured by Cronbach's alpha coefficient. All current ethical recommendations, national and international, for research with human beings were met. This study is an excerpt from a matrix project entitled "Related Quality of Life health and its aspects: investigation of the positive and negative impact on the daily life of human beings" approved by the institutionalized Research Ethics Committee, under two different approvals: April 9, 2018, and May 13, 2020.

RESULTS

Among the 24 professionals investigated, 23 (95.8%) were women, with a mean age of 37, ranging from 25 to 47 years old; married (50%); 16 (66.7%) had children; 16 (66.7%) were nursing technicians, with an average 11-year-training time and the 8.2 ± 5.4 years of hospital service under this study. There was a predominance of professionals hired after a public contest (n=11; 45.8%); 20 (83.3%) of them worked exclusively for this institution (Table 1). The nursing staff overall score of the QWL assessment was 59.9±7.9. The scale presented an adequate Cronbach's alpha (α= 0.80), indicating an

Table 1. Work characteristics of study participants (n=24). Paraná, Brazil, 2020

Variables	n (%)	Mean ±S.D.	Median	Interval
Professional category				
Nurse	7 (29,2)			
Nursing technician	16 (66,7)			
Nursing assistant	1 (4,2)			
Training time* (in years)		11,2±5,5	11,0	3 a 21
Time of service in the current profession (in years)		11,9±7,4	11,0	0,11 a 26,0
Time of service at this hospital (in years)		8,2±5,4	8,0	1 a 20
Work shift				
Morning	7 (29,2)			
Evening	4 (16,7)			
Night	13 (54,2)			
Type of work contract				
Public Contest	11 (45,8)			
Simplified Selection Process	8 (33,3))			
Public call	5 (20,8)			
Other employment relationship				
Yes	4 (16,7)			
No	20 (83,3)			
Work satisfaction		7,7±1,6	8,0	5,0 a 10,0

Source: Research data; Missing data were considered: *(n=23); S.D.= Standard Deviation

These spheres are composed of ramifications named *aspects* and each sphere is formed by four aspects, which are the items properly stated so that the respondents can express themself. The TQWL-42

excellent internal consistency among its items in the studied sample. Regarding the spheres of the TQWL-42, there was a better score for the Psychological/Behavioral sphere (68.8±9.2) and worse for the

Table 2. Descriptive analysis of Total Quality of Work Life (TQWL-42) aspects, according to the study participants evaluation (n=24). Paraná, Brazil, 2020

Spheres of TQWL-42	TQWL-42 aspects	Mean±S.D.	Median	Interval
Biological/ Physiological	A1- Physical and mental disposition	54,2±13,6	62,5	25,0 a 75,0
	A2- Work capacity	72,4±9,7	75,0	50,0 a87,5
	A3- Health and social assistance service	39,1±15,8	37,5	12,5 a 75,0
	A4- Rest time	57,3±19,5	56,3	25,0 a87,5
Psychological/ Behavioral	B1- Self esteem	70,8±14,6	75,0	37,5 a 100,0
	B2- Task significance	84,4±14,9	87,5	50,0 a 100,0
	B3- Feedback	64,1±16,6	62,0	12,5 a87,5
	B4- Personal and professional development	55,7±19,8	56,3	12,5 a 100,0
Sociological/ Relational	C1- Freedom of expression	60,4±21,4	56,3	25,0 a 100,0
	C2- Interpersonal relationships	77,5±17,3	75,0	37,5 a 100,0
	C3- Autonomy	56,3±18,1	50,0	25,0 a 100,0
	C4- Time and leisure	46,9±15,3	50,0	12,5 a 75,0
Economic/ Political	D1- Financial resources	55,2±19,1	56,3	12,5 a 100,0
	D2- Extra benefits	43,8±22,7	37,5	12,5 a87,5
	D3- Workday	42,2±22,7	37,5	0,0 a87,5
	D4- Work security	68,8±15,6	75,0	37,5 a 100,0
Environmental/ Organizational	E1- Work conditions	55,7±14,3	62,5	25,0 a87,5
	E2- Growth opportunity	42,7±22,4	50,0	0,0 a87,5
	E3- task variety	69,3±16,5	62,5	37,5 a 100,0
	E4- task identity	81,3±16,1	87,5	37,5 a 100,0
Self-evaluation	F1- QWL self-evaluation	60,4±18,7	62,5	25,0 a 87,5
General score		59,9±7,9	60,1	37,5 a 74,4

Source: Research data; TQWL= Total of Quality Work Life; S.D.= Standard Deviation; QWL= Quality of Work Life.

Table 3. Spheres of Total Quality of Work Life (TQWL-42) correlations among themselves and study participants work satisfaction (n=24). Paraná, Brazil, 2020

	Biological/ Physiological	p-value	Psychological/ Behavioral	p-value	Sociological/ Relational	p-value	Economic/ Political	p-value	Environmental/ Organizational	p-value	QWL self-evaluation	p-value	General score	p-value
Biological/ Physiological	1													
Psychological/ Behavioral	0,645**	0,001	1											
Sociological/Relational	0,122	0,570	0,391	0,059	1									
Economic/Political	0,353	0,091	0,603**	0,002	-0,076	0,726	1							
Environmental/ Organizational	0,348	0,095	0,578**	0,003	0,529**	0,008	0,622**	0,001	1					
QWL Self-evaluation	0,461*	0,023	0,536**	0,007	0,166	0,438	0,468*	0,021	0,351	0,092	1			
General score	0,655**	0,001	0,876**	<0,01	0,515*	0,010	0,727**	<0,01	0,842**	<0,01	0,622**	0,001	1	
Work satisfaction	0,494*	0,001	0,621**	0,001	0,501*	0,013	0,471*	0,020	0,659**	<0,01	0,350	0,093	0,744**	<0,01

Source: Research data. Correlations obtained by Pearson correlation; QWL= Quality of Work Life.

Economic/Political sphere (52.5±13.8) (Table 2). All spheres had strong positive correlations with the general score of the scale. Table 3 shows the correlations of the spheres of the TQWL-42 instrument with each other and with the one-dimensional assessment of work satisfaction. Comparing sociodemographic and labor variables with QWL levels, none of them was considered statistically significant (Table 4).

DISCUSSION

Data similar to those of the present study regarding gender, age and marital status can be observed in investigations on the demographic and labor profile and assessment of the QWL of the nursing staff working in an emergency care unit (TEIXEIRA *et al..,* 2019), of a nursing team working in a surgical center (CARVALHO *et al..,* 2018) and the personal and professional characteristics of the nursing team working at night at a teaching hospital (SANTOS; COSTA, 2016). Although there is a growing number of male professionals in the nursing profession, it is clear that there is still a prevalence of females, contributing to a historical reality of the profession that is predominantly female (DAL BOSCOL *et al..,* 2020). Female issues such as the tendency to take responsibility for multiple functions end up impacting the mental health of these women, which can interfere with QWL. The study emphasizes this relationship with historical and cultural issues, in which women deal with daily work activities, meet the demands of their children, partners and the home, favoring the emergence of psychological changes such as stress and anxiety and consequently decreasing their QWL (DAL BOSCOL *et al*., 2020). Nursing technicians represented the professional category in greater number, similar to other studies (KOGIEN; CEDARO, 2014; SOUZA *et al.,* 2018; RABELO, 2020), justified by the fact that they constitute the largest number of professionals who are part of the Nursing team. The training time of professionals in this study was 11 years, on average. Others indicated different training times (BERLARMINO *et al*., 2017; SANTOS; COSTA, 2016; TEIXEIRA *et al*., 2019). Data referring to length of service at the hospital in question indicate that nursing professionals have worked, on average, for 8 years in the same institution, which indicates a low turnover rate, an expected characteristic among those working in Brazilian public services, with hiring carried out through competitions, as was the case of the participants in this study. The fact that there is a predominance of participants hired through a public examination, generally with better remuneration, may explain the fact that 83.3% of them have no other employment relationship. Other studies presented different data, in which most had another employment relationship (CARVALHO *et*

al., 2018; MELO *et al.*, 2020; SENA *et al.,* 2018). The better the QWL the higher the value measured by the instrument8. It could be considered, therefore, that the COVID-19 nursing team, in question, presented a median assessment for QWL (59.52), that is, greater than 50%, compared to 100, as the WHOQOL-bref, instrument that served as a reference for the construction and validation of the TQWL-42 (PEDROSO *et al.*, 2014).

Table 4. Comparison of categorical variables with the levels of study participants Quality of Work Life (n=24). Paraná, Brazil, 2020

		QWL	
Age (years)	n (%)	Mean±S.D.	p-value
≤30	5 (20,8)	57,1 ± 14,3	0,232**
31-40	10 (41,7)	58,1 ± 4,2	
41-50	9 (37,6)	63,5 ± 5,8	
Sex			
Female	23 (95,8)	59,3 ± 7,44	0,059*
Male	1 (4,2)	74,4 ± -	
Marital status			
Married / stable union	12 (50,0)	58,7 ± 5,7	0,637**
Single	10 (41,7)	60,5 ± 10,5	
Divorced	2 (8,3)	64,3 ± 5,1	
Children			
Yes	16 (66,7)	60,4 ± 6,0	0,697*
No	8 (33,3)	59,0 ± 11,2	
Educational level			
High school	10 (41,7)	59,4 ± 9,8	0,979**
Undergraduate degree (incomplete)	2 (8,3)	60,4 ± 1,3	
Undergraduate degree (complete)	1 (4,2)	56,5 ± -	
Graduate degree (complete)	8 (33,3)	60,0 ± 7,2	
Master's degree (incomplete)	2 (8,3)	63,1 ± 16,0	
Master's degree (complete)	1 (4,2)	64,3 ± -	
Professional category			
Nurse	7 (29,2)	62,2 ± 9,4	0,560**
Nursing technician	16 (66,7)	58,7 ± 7,4	
Nursing assistant	1 (4,2)	63,7 ± -	
Work shift			
Morning	7 (29,2)	61,8 ± 6,5	0,731**
Evening	4 (16,7)	60,3 ± 9,1	
Night	13 (54,2)	58,8 ± 8,6	
Form of contract			
Public contest	11 (45,8)	58,8 ± 4,2	0,776**
Simplified Selection Process	8 (33,3))	61,5 ± 8,1	
Public call	5 (20,8)	59,8 ± 13,8	
Other employment relationship			
Yes	4 (16,7)	53,6± 11,4	0,078*
No	20 (83,3)	61,2 ± 6,7	

*p value obtained by the ANOVA test;
**p value obtained by t-Student test;
QWL= Quality of Work Life; TQWL= Total Quality of Work Life; S.D.= Standard Deviation.

Among the spheres of the TQWL-42 instrument, those with the best ratings were Psychological/Behavioral and Sociological/Relational, indicating a satisfactory QWL, according to the instrument's classification scale. The "Task significance" component was highlighted, with the best score. It is believed that this result was because the study was carried out at the beginning of the pandemic in which professionals were able to choose to work at the COVID-19 unit, where they were vehemently called "heroes", by colleagues and by the general population, for accepting to be on the front line in assisting those infected by the new corona virus. It is also observed that the self-esteem of health professionals and the recognition of the significance of the tasks performed are important in their daily lives, as they indicate that nursing professionals are aware of the importance of their work, playing an essential role in all types of services and, mainly, in emergent situations, as they are the main actors of care. The second sphere with the best evaluation was "Environmental/Organizational", in which the components belonging to this sphere are: Working conditions, Variety and Identity of the task and Opportunity for growth. Some authors bring different data, in which the working conditions experienced by nursing professionals during the COVID-19 pandemic need to be rethought and adapted, with improvement in the organization and working conditions,

provision of PPE in adequate quantity and quality (SILVA *et al.,* 2020; TEIXEIRA *et al.,* 2020; SOARES; PEDUZZI; COSTA, 2020). The spheres with the worst ratings were "Economic/Political" and "Biological/Physiological". In a study that investigated the quality of life among nurses and the relationship with the level of complexity of health work, it presented similar data with the present data, emphasizing that inflexible work schedules and high workload can negatively influence in the QWL of nursing professionals27. In addition to the findings of this investigation, other studies also identified that the devaluation of the worker, inadequate remuneration and lack of investment by employers in the workplace generate a feeling of frustration and impotence, leading to physical and mental exhaustion, compromising QWL (PEREIRA *et al.*, 2020; SPAGNOL *et al.*, 2020). It is noteworthy that the Health Service and Social Assistance component had the lowest average. It is believed that the unprecedented nature of the pandemic and its implications may have contributed to the biopsychic illness. A study on the mental health of medical workers in Wuhan, China, points out that the local government has implemented policies, provided online platforms with medical advice to share information and to deal with professionals' health problems (KANG *et al.*, 2020). In view of the associations made, all spheres obtained positive correlations from moderate to strong among themselves, indicating that they represent the QWL, which the instrument intends to assess.

The assessment of the instrument's general score indicated a high positive correlation with job satisfaction, that is, the higher the job satisfaction, the higher the QWL. A study that investigated the QWL of nursing professionals in the workplace presented information that corroborates the present study, demonstrating that the level of satisfaction of nursing professionals was related to quality of life (FREIRE; COSTA, 2016). The Sociological/Relational sphere was strongly correlated with the Environmental/Organizational sphere, as well as with the general score, corroborating a study that analyzed the association between the quality of life and work environment of nurses (SANTOS *et al.*, 2018). The QWL assessment revealed a group of professionals with a good level of satisfaction, regarding the Psychological/Behavioral and Sociological/Relational spheres, considering that self-esteem and recognition of the significance of the task performed, combined with adequate working conditions and opportunity for growth among others, they contribute to professional satisfaction. Some nursing interventions can be carried out with the intention of collaborating with the QWL of nursing professionals, such as: developing strategies to overcome difficulties in order to improve the work environment, holding a workshop with nursing professionals to listen to them about the problems identified by them as causing interference in QWL, propose new studies regarding the aspects that represented the worst evaluations for QWL. Some limitations in the study should be mentioned, such as: the number of professionals who joined this investigation and the research's unique characteristic, in addition to the research's cross-section.

CONCLUSION

It is concluded that nursing professionals working in the inpatient unit for COVID-19 assessed their QWL as median, using the TQWL-42 instrument. The assessment of QWL was directly related to job satisfaction.

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