

## Life Quality: The Night Shift Work Challenge To Nursing Team

Qualidade de Vida: O Desafio do Trabalho Noturno Para a Equipe de Enfermagem

Calidad de Vida: El Reto de Trabajar en La Noche Para El Equipo de Enfermería

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### ABSTRACT

**Objective:** Our goal herein has been to gain further insights regarding the life quality and its association with sociodemographic characteristics of nursing professionals working at night shift. **Methods:** It is an analytical research type with quantitative approach. The research was performed in a hospital of *Montes Claros* city, *Minas Gerais* State, Brazil, over the year of 2014 and had 145 workers participants. The survey has been done by applying a sociodemographic questionnaire and the Abbreviated Instrument for the Assessment of the Life Quality (WHOQOL-bref) in August 2014. The descriptive analysis and student's t-test was used in order to check for possible associations. **Results:** The majority of the workers were female, aged up to 35 years old, having intimate partner and children. The following dimensions had shown the worst scores: environment and physical. The comparison of average scores within the four dimensions has revealed that the most significant covariates were as follows: sex, physical activity, additional job, civil status and working time. **Conclusion:** In the present study was observed that the workers require greater attention to the environmental and physical dimensions, and also in the sociodemographic characteristics that interfered in their life quality.

**Descriptors:** Life quality, Nursing, Night shift work.

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## RESUMO

**Objetivo:** Avaliar a qualidade de vida e sua associação com as características sociodemográficas dos trabalhadores da enfermagem do período noturno.

**Métodos:** Pesquisa do tipo analítico, com abordagem quantitativa, com 145 trabalhadores, realizada em 2014 em uma instituição hospitalar de Montes Claros, Minas Gerais-Brasil. Foram aplicados um questionário sociodemográfico e o Instrumento Abreviado de Avaliação da Qualidade de Vida, em agosto de 2014. Realizou-se a análise descritiva e o teste t student para verificação de associações. **Resultados:** Predominaram trabalhadores do sexo feminino, com idade de até 35 anos, com companheiro(a) e filhos. Os domínios meio ambiente e físico apresentaram piores escores. Na comparação dos escores médios nos quatro domínios, as covariáveis mais significativas foram: sexo, atividade física, outro vínculo, estado civil e tempo de trabalho.

**Conclusão:** Os trabalhadores demandam maior atenção nas dimensões ambientais e físicas, e nas características sociodemográficas que interferiram na qualidade de vida.

**Descritores:** Qualidade de vida, Enfermagem, Trabalho noturno.

## RESUMEN

**Objetivo:** Evaluar la calidad de vida y su asociación con características sociodemográficas de los trabajadores de la enfermería durante la noche.

**Método:** Un estudio de tipo analítico, con un enfoque cuantitativo, con 145 trabajadores, que se celebró en 2014 en un hospital de Montes Claros, Minas Gerais Gerais-Brasil. Se les aplicó un cuestionario sociodemográfico y el abreviado Instrumento de Evaluación de la Calidad de Vida (WHOQOL-bref), en 2014 agosto. El análisis descriptivo y la prueba t de student para comprobar para las asociaciones. **Resultados:** La mayoría de los trabajadores era una mujer, a la edad de 35 años, con compañero(a) y los niños. Las esferas física y medio ambiente tuvo las peores puntuaciones. La comparación de puntuaciones medias en cuatro zonas, las covariables fueron: El sexo, la actividad física, otro bono, el estado civil y el tiempo de trabajo. **Conclusión:** Los trabajadores requieren una mayor atención en las zonas con menor puntuación y las características que interfieren con la calidad de vida.

**Descritores:** Cualidad de vida, Enfermería, Trabajo nocturno.

## INTRODUCTION

The concept proposed by the World Health Organization (WHO) and the Pan American Health Organization (PAHO) defines life quality (LQ) as the individual's perception of their position in life, in the context of their culture, in the values in which they live and in relation to their expectations, their standards and their concerns that encompass, not only health, physical, social, cultural, environmental and psychological aspects.<sup>1-2</sup>

The term LQ also encompasses several segments of society that are singled out by both common sense and the scientific milieu. It can be related to innumerable human feelings and the way in which LQ is defined by society can induce human development and behavior.<sup>2</sup> Regarding the health professionals, the LQ, especially in nursing, is related to factors intrinsic to one's own profession, such as living with pain, suffering and death. Although they are part of the work routine, these fee-

lings, reconciled with the new roles that nursing has been assuming in society and the long working day, cause the worker an internal and external imbalance.<sup>3</sup>

In hospitalization, the nursing team remains in the work place for 24 hours, and thus provides a significant amount of dedication and care to the client and his/her caregivers. Therefore, nursing workers are susceptible to change in LQ, especially night workers. This is because the psychophysiological wear is greater, compared to those who work during the day, because they carry out their activities at the moment when the functioning of the organism is diminished.<sup>3-4</sup>

The wear and tear of nighttime workers comes from the stress generated by the perception of stimuli that provoke emotional arousal and disturbance of homeostasis, which contributes to a process of adaptation characterized by psychological and physiological disorders.<sup>5</sup>

The human organism is endowed with circadian rhythm, which regulates the period of rest and activity, and the fact of being exposed to enlightenment during work and sleep deprivation directly influences the physiology and behavior of the human organism, consequently will reflect in a series of diseases.<sup>4</sup> Among the occupational diseases related to nursing night work, alterations in the digestive, cardiocirculatory, gastrointestinal, neurological and musculoskeletal systems may be listed, as well as a low capacity to reconcile normal sleep. This leads to fatigue, decreased alertness, poor performance, irritability, stress, headache, nausea, moodiness and depression.<sup>5</sup>

Currently, the burnout syndrome has been highlighted in studies related to LQ because this syndrome appears as a response to chronic stress and is frequently observed in professionals who have a constant and direct relationship with other people. It is worth mentioning that it increases even more when this relationship is helpful, such as nursing professionals.<sup>6</sup>

In this scenario, it can be seen that there are innumerable situations that influence the LQ of nursing workers due to the night shift, since it affects the lifestyle and the balance between the biological and psychic components of the personality, as well as the social and environmental factors. Thus, such assumptions indicate the need to carry out investigations to subsidize studies involving nursing workers in a variability of discussions related to LQ. Therefore, it is justifiable to elaborate the present study, which contains the following guiding question: Is there an association between the life quality of night shift nursing workers and sociodemographic variables?

## OBJECTIVE

The study's goal has been to evaluate the life quality and its association with sociodemographic characteristics of nursing professionals working at night shift.

## METHODS

It is an analytical research type with quantitative approach.

The research was carried out in a general hospital, located in the city of *Montes Claros*, in the North of the State of *Minas Gerais (MG)* - Brazil. The institution is reference for the North region of *Minas Gerais* and South of the Bahia State, composed by 320 philanthropic beds and 80 destined for private hospitalization and covenants. Considering all the workers in the whole institution, 65% are from the nursing area. The research was carried out in all sectors in which the nursing team works: Hospitalization ward; Entrance door sectors (emergency and prompt care); General Intensive Care Unit (ICU), also cardiology and neonatal; Surgical and obstetric block; Central of material sterilization; Nursery, maternity and pediatrics.

The study target population was constituted by 197 nursing professionals, who work in night shift at the institution. After applying the inclusion and exclusion criteria, 145 participants were selected for research. The inclusion criteria were the following: to act in the nocturnal period; being a nurse, auxiliary and/or nursing technician; working time in the night shift greater than 60 days in the institution. Exclusion criteria were applied: being on vacation, leave or any other reasons for leaving during the period of data collection; returning either blank or incomplete questionnaires.

The pre-test was applied to four nursing workers from another hospital in the same city, aiming to improve the consistency of the variables present in the sociodemographic questionnaire. Each participant took, on average, 10 minutes to respond to the instrument.

Data collection was performed in August 2014, during two weeks, and was performed in two moments. In the first, the researchers distributed the questionnaires at the beginning of the shifts along with a presence list, which included the name of the sector and the research participant. At the second moment, the researchers went to the site to collect the completed questionnaires. The questionnaires were self-applied in the work sectors at a pre-established time, so as not to interfere in the professional activities. Pretest respondents were not part of the survey population.

Two instruments were used to collect data, a semi-structured sociodemographic questionnaire containing 19 questions, which would influence the quality of life. Also, as a second instrument, the WHOQOL-bref, a validated Portuguese Questionnaire for Life Quality Assessment, was applied. It considers the last two weeks of the participant's life and has satisfactory psychometric characteristics, considering the final scores of each domain. The WHOQOL-bref has 26 questions, two general questions about LQ and another 24 questions that represent each of the 24 facets that make up the instrument. In turn, the facets are divided into the physical, psychological, social and environmental domains.<sup>3</sup>

The physical domain includes the dimension of pain and discomfort, energy and fatigue, sleep and rest, activities of daily living, dependence on medication or treatments, work

capacity. The psychological domain focuses on positive feelings such as thinking, learning, memory and concentration, self-esteem, body image and appearance, negative feelings, spirituality, religiosity and personal beliefs. The social relationship domain includes personal relationships, support/social support, and sexual activity. As regards the environment, it addresses: physical security and protection, home environment, financial resources, health and social care, availability and opportunities to acquire new information, opportunities for recreation or leisure, physical environment, pollution, noise, traffic, climate and transportation.<sup>7</sup>

After three attempts to collect data, data collection was terminated. Considering a total of 197 questionnaires, 145 were filled out. Six incomplete questionnaires were excluded, 13 blank, 16 that were not delivered on the days of collection, 17 that did not meet the inclusion criteria, which totaled 52 workers not included in the survey.

The data were organized into a database, in the statistical program Statistical Package for the Social Sciences (SPSS) version Windows 18.0. For the categorical variables, a descriptive analysis was used, from the frequency calculation, both in absolute terms and in percentages. For the numerical variables, descriptive measurements of centrality (mean, median and fashion) and dispersion (standard deviation, coefficient of variation, maximum and minimum values) were calculated.

The cutoff point of the quantitative variables, age and working time, occurred close to the average. While, for the qualitative variables, similar categories were added, so that, in order to perform the mean difference test, these variables resulted in two distinct attributes, such as, for example, white and non-white, have and have no religion, baby or does not drink, does or does not practice physical activity.

The bivariate analysis consisted in performing the student t test for independent samples, in order to compare the scores in each domain in relation to sociodemographic covariables. The t-test, as it is known in the literature and inherent in this study, applies when variables are at the level of continuous measurement - such as the scores of the respondents - and when the factors are dichotomized - as with sociodemographic variables. In addition, there were no marked deviations in the symmetry of scores that made it impossible to use the test. The level of significance adopted in the calculations was  $p \leq 0.05$ . In the WHOQOL-bref, each domain was analyzed in isolation, using the syntax provided by the WHO, according to which the scores range from 0 to 100, and the closer to 100, the better the life quality.

The research followed the ethical principles, according to Resolution No. 466/2012 of the National Health Council of the Ministry of Health. The research project was approved by the Research Ethics Committee of UNIMONTES, through the Legal Opinion No. 648.889/2014, Certificate of Presentation for Ethical Assessment No. 30803214.1.0000.5146 and Project Evaluation Committee of the hospital scenario of this study, through the Agreement Term of the Institution

for Participation in Research. All participants have read and signed the Informed Consent Term.

## RESULTS

From the 197 workers who were invited to participate in the survey, 145 answered the questionnaire, resulting in a response rate of 73.6%. The data described in Table 1 show that in the sociodemographic dimension 58.6% are female, 60.7% are aged up to 35 years, 63.4% live with a partner, 67.6% have children, 66.9% do not study currently, 82.8% are self-declared non-white and 94.5% have religion. It is also possible to note that 59.3% work for a maximum of nine years, where 67.6% are night workers for six years or less. When asked about the reason for their professional activities at night, 68.3% said they needed availability for the family and studies in general, while 31.7% justified this choice due to another employment relationship or salary reason.

In economic terms, the data show a family income of at most three minimum wages (60.0%), whose greatest use (88.3%) is to help support the family. Additionally, 79.3% of the respondents reside in their own property. Regarding healthy habits and leisure time, among the observed proportions 97.9% were non-smokers, 91.7% non-users of alcoholic beverages, 64.8% practicing physical activities and 77.9% use their free time to stay at home with family members.

**Table 1.** Sociodemographic characteristics of nursing professionals in a general hospital. *Montes Claros-MG, Brazil, 2014 (n = 145)*

Variable	n	%
<b>Sex</b>		
Male	60	41.4
Female	85	58.6
<b>Age group</b>		
Up to 35 years old	88	60.7
More than 35 years old	57	39.3
<b>Civil status</b>		
With partner	92	63.4
Without partner	53	36.6
<b>Children</b>		
No	47	32.4
Yes	98	67.6
<b>Studying</b>		
Yes	48	33.1
No	97	66.9
<b>Self-declared skin color</b>		
White	25	17.2
Non-white	120	82.8
<b>Job position</b>		
Nurse	10	6.9
Either nursing technician or auxiliary	135	93.1
<b>Working time in the institution</b>		
Up to 9 years	86	59.3
10 years or more	59	40.7
<b>Working time at night shift</b>		
Up to 6 years	98	67.6
7 years or more	47	32.4
<b>Motivation for choosing night shift working</b>		
Wage or other employment relationship	46	31.7
Availability for the family, studies in general	99	68.3
<b>Additional job</b>		
Yes	37	25.5
No	108	74.5
<b>Economically help their relatives</b>		
Does help the family	17	11.7
Does not help family	128	88.3
<b>Family income</b>		
Up to 3 minimum wages	87	60.0
More than 3 minimum wages	58	40.0
<b>Real estate</b>		
Does own	115	79.3
Does not own	30	20.7
<b>Smoking</b>		
Does not smoke	142	97.9
Does smoke	3	2.1
<b>Alcoholic consume</b>		
Does drink once or more per week	12	8.3
Does not drink or drink occasionally	133	91.7
<b>Free time</b>		
Stay home	113	77.9
Goes out	32	22.1
<b>Religiousness</b>		
Yes	137	94.5
No	8	5.5
<b>Physical activity</b>		
Does practise	94	64.8
Does not practise	51	35.2

Data concerning the overall life quality (Table 2) indicate that the workers considered their LQ (66.2%) as being good, and also considered to be satisfied with their personal health (60.7%).

**Table 2.** Overall life quality scores of nursing professionals in a general hospital. *Montes Claros-MG, Brazil, 2014 (n = 145)*

Variable	n	%
<b>Life quality</b>		
Good	96	66.2
Bad	49	33.8
<b>Satisfied with their health</b>		
Satisfied	88	60.7
Unsatisfied	57	39.3

**Source:** Research data, 2014.

Regarding the mean scores in Table 3, the domains of social and psychological relationships presented the highest values, as follows: 70.8 and 70.4, respectively. This suggests that, in these two dimensions, there is greater LQ. The physical domain is, quantitatively, smaller with an average value of 65.4; while the perspective regarding the environmental domain is the one with the lowest mean score (53.6).

In the domains, the dispersion of the individual scores around the mean value can be considered acceptable in this study, since the coefficients of variation (CV) are all less than 25%, which suggests greater homogeneity or similarity in the measurements of night workers' scores of nursing. The data also show that the minimum value present in the sample is 22 in the environmental domain, while the maximum is 100 in the psychological and social relationship domains.

**Table 3.** Mean scores, standard deviations, coefficients of variation, minimum and maximum values, according to domains of the nursing professionals of a general hospital. *Montes Claros-MG, Brazil, 2014* (n = 145)

Domain	Mean score ± SD*	CV**	Minimum	Maximum
Physical	65.4 ±13.3	20.3%	25	96
Psychological	70.4 ±13.7	19.4%	33	100
Social Relationship	70.8 ±16.0	22.5%	25	100
Environmental	53.6 ±12.8	23.8%	22	84

**Source:** Research data, 2014. \*SD = Standard Deviation; \*\*CV = Coefficient of Variation in %.

Table 4 presents the results from the statistical test for comparison of the mean scores in the four domains. Thus, it is possible to notice that, in the physical domain the significant variables were the following: sex (p = 0.001), another job (p = 0.049), family income (p = 0.048), and physical activity (p = 0.030). In other words, men have a higher average score than women, as well as those with a different employment relationship. In the same way, professionals who earn rents above three minimum wages also have a higher average score, as well as those who practice some physical activity.

As for the psychological domain, the data show a significant relationship between the mean scores and the sociodemographic variables: sex (p = 0.011), color (p = 0.042) and physical activity (p = 0.015). These meanings allow us to infer that male workers tend to have a higher mean score when compared to women. The color variable indicates that nonwhites have higher scores, as do physical activity practitioners.

In the social relations domain, only the variable marital status presented statistical significance (p = 0.026). That is, workers with partners have higher scores when compared to those without such companies.

The significant environmental domain data were: age group (p = 0.047), institution work (p = 0.018), night work time (p = 0.036) and family income (p = 0.012). Thus, those with lower age and lower working time in the institution have a higher mean score. Just as those who are less on time at night work and those who have family incomes above three minimum wages also exhibit better average scores.

**Table 4.** Test on the domains average differences, from the categories of sociodemographic variables related to the sample of the nursing professionals of a general hospital. *Montes Claros-MG, Brazil, 2014* (n = 145)

Variable	Category	Physical	Psychological	Social Relationship	Environmental
Sex	Male	69.58*	73.68*	72.78	55.21
	Female	62.50*	68.09*	69.31	52.50
Age group	Up to 35 y/o	65.86	71.26	70.36	55.33*
	More than 35 y/o	64.77	69.08	71.64	50.99*
Civil status	With partner	66.08	71.33	73.10*	54.89
	Without partner	64.31	68.79	66.98*	51.42
Children	No	64.27	68.00	69.33	55.05
	Yes	65.99	71.56	71.60	52.93
Studying	Yes	66.06	70.31	70.49	53.65
	No	65.12	70.45	71.05	53.61
Self-declared skin color	White	63.83	65.33*	66.67	55.88
	Non-white	65.76	71.46*	71.74	53.15
Job position	Nurse	65.83	65.42	62.50	58.75
	Either nursing technician or auxiliary	65.40	70.77	71.48	53.24
Working time in the institution	Up to 9 years	66.18	70.35	69.57	55.70*
	10 years or more	64.34	70.48	72.74	50.58*
Working time at night shift	Up to 6 years	65.56	70.37	70.49	55.17*
	7 years or more	65.16	70.48	71.63	50.40*
Motivation for choosing night shift working	Wage or other employment relationship	67.93	71.56	71.20	54.35
	Availability for the family and studies	64.27	69.87	70.71	53.28
Additional job	Yes	69.14*	71.85	69.37	56.25
	No	64.16*	69.91	71.37	52.72
Economically help their relatives	Does help the family	62.75	66.18	71.57	56.99
	Does not help family	65.79	70.96	70.77	53.17
Family income	Up to 3 minimum wages	63.65*	69.68	69.25	51.44*
	More than 3 minimum wages	68.10*	71.48	73.28	56.90*
Real estate	Does own	66.09	70.87	71.30	54.27
	Does not own	62.92	68.61	69.17	51.15
Smoking	Does not smoke	65.67	70.36	70.54	53.85
	Does smoke	54.17	72.22	86.11	42.71
Alcoholic consume	Does drink once or more per week	62.85	64.24	68.75	47.40
	Does not drink or drink occasionally	65.66	70.96	71.05	54.18
Free time	Stay home	65.30	70.98	70.65	54.34
	Goes out	65.89	68.36	71.61	51.07
Religiousness	Yes	65.82	70.47	71.05	54.01
	No	58.85	69.27	67.71	46.88
Physical activity	Does practise	67.20*	72.43*	72.43	54.16
	Does not practise	62.17*	66.67*	67.97	52.63

## DISCUSSION

In this study has been verified that there is predominance of female workers, with average age of 35 years old and married. According to other studies<sup>5,8</sup>, the increasing participation of women in the health professions, especially nursing, can be justified by feminization in the labor market from historical and social characteristics. Add to this the age stage, where generally, people in this age group have already formed a family and are married.<sup>5,8</sup> This explains why they are developing their professional activities at night, because the study in question points that workers choose for this shift due to greater availability to the family and dedication to studies.

Researches carried out in university hospitals in Vitória (ES)<sup>3</sup> and in the North region of Paraná<sup>9</sup> have shown that the interest in studies among nursing workers has been increasing, since they are seeking more and more qualification, which can reflect in the improvement of patient care and confer visibility to the worker and the institution. Regarding the age, they showed that among 52 workers, 44 (84.6%) were over 35 years old and have more than one employment relationship, although the

ability to work may decrease with age, especially after 35 years old.<sup>3,9</sup>

Thus, it is observed that the age is similar to that of the participants of this study who still receive family income of a maximum of three minimum wages, whose greater use is to help in the family's support. It is possible to infer that workers suffer from low-paid problems, and therefore need other employment(s) to complement and/or increase their income. This fact deserves attention, because nursing is an exhausting profession due to work overload.<sup>5,9</sup>

Regarding the general assessment of LQ and health, the findings of this study are similar to those verified in another research, with 90 nurses from the health macro-region of the South triangle of *Minas Gerais*, where the majority classified the LQ as good (92%) and was satisfied with their health (66.7%).<sup>10</sup>

The results concerning the LQ domains among the workers in this study resemble those of a study done at a university hospital. Similarly, the social (71.37) and psychological (71.62) domains presented mean values of close values, and the environment domain obtained the lowest mean (63.12). However, there was disagreement regarding the physical domain, which stood out with a higher score (73.05).<sup>3</sup>

The social domain, in this study, obtained a more satisfactory result, corroborating with the results of a systematic review<sup>8</sup> on WHOQOL-bref, in which the highest score for this domain was 94.03, while the lowest score was 63.71. It is explained that in sharing pain, successes and failures with co-workers, nursing workers reinforce the bonds of friendship that later translate into social support networks of friends and family, which promote strengthening of interpersonal relationships and of interiority itself, which exerts positive influence and strengthening of LQ.<sup>8</sup>

The studies evaluated in the aforementioned systematic review revealed that the psychological domain did not obtain higher scores among the domains evaluation, since the lowest average score was 60.8 and the highest 74.0<sup>8</sup>, which resembles the results of the present research. Thus, it can be inferred that the workers participating in this study, possibly, presented positive feelings and some characteristics, such as: good self-esteem; acceptance of physical appearance; spirituality; religiosity and personal beliefs, in other words, factors that favor their LQ in the psychological dimension.<sup>8,11</sup>

According to other researches, which also used the WHOQOL-bref, the physical domain stood out with scores between (71.7) and (73.05), differently from this study that presented a lower score that suggests an unsatisfactory LQ. Such a finding may be related to the diversity of roles associated with the profession, together with overwork and sleep deprivation, causing fatigue and pain,

and, from this, corroborates the fact that the workers are physically more worn.<sup>3,12</sup>

Research with health professionals reveals that the worst scores were recorded in the environment domain with mean scores of (49.4) to (63.12), as well as the results of the present study. The fact can be explained because the hospital does not have a qualified and modern structure, with places suitable for rest so that its workers can enjoy. In addition to not offering benefits such as health insurance, transportation service, refresher courses, day care for children and offer lower wages than the labor market, and can contribute to worsening quality of life in this area.<sup>3,8</sup> In addition, while the worker sleeps or works during the day, the family develops their daily activities, the routine of children and the family can generate noise and impair sleep. In this case, not only the work environment, but the whole family is involved in this aspect.<sup>13</sup>

Regarding the association with the sociodemographic variables, this research presented statistical significance within the physical domain, in which men present better LQ compared to women. Several studies<sup>8-10</sup> that present similar results explain that this event can be attributed to the gender issue. Because they are mostly female workers, women accumulate household chores and care for their children. This characterizes the double or even the triple working day when one keeps multiplying. Excessive work leads to fatigue, physical and mental exhaustion, so this way, psychological suffering, dissatisfaction, job loss, lack of sleep and musculoskeletal pain can be developed.

In addition to the impact to LQ, according to a study related to night work shift as a risk factor in carcinogenesis, where women who work night shift may have a risk factor for the appearance of breast, endometrial and colon cancer after prolonged periods during the night. The change in circadian rhythm due to exposure to light at night may be related to various diseases such as gastric, cardiovascular, sleep disorders and cancer. The deregulation of this rhythm in the human organism can alter the delicate balance between the factors that promote and inhibit cell division.<sup>4</sup>

Regarding the income of the participants of this study, there is a statistically significant difference between those who earn incomes above three minimum wages, as well as those who have another employment relationship, since they exhibit better scores in the physical domain. Possibly, this result may be related to the fact that the professional with a good economic situation feels good in several aspects, including physically more willing to work and activities of daily life.<sup>5,14</sup>

However, different results have been found in other studies that indicate that nursing workers with more than one job are more prone to stress because they do not rest long enough between workdays. Associated with this reality the short time to dedicate themselves to self-care and leisure; in other words, the workers with the greatest

number of employment bonds, have worse LQ compared to those with less.<sup>3,9</sup>

Physical activity and male gender had a significant association with the physical and psychological domains. It characterizes a better LQ in those dimensions. According to an evaluation study of LQ of public officials related to physical activity, in which the WHOQOL-bref was also used, the practice of physical activity represents a positive impact on LQ regardless of age, sex and health status.<sup>15</sup> This is because it acts in the main domains of life and contributes to health and well-being with physical, psychological and social benefits.<sup>15-17</sup>

Research carried out in health units in Coimbra-Portugal<sup>6</sup> and *Minas Gerais*<sup>10</sup> pointed out that married or those who have partners have better LQ, as well as the results of this study, in which workers with a partner have higher scores when compared to those without partners in the field of social relationship. Because having a partner suggests greater comfort and emotional support, since responsibility for home, children, spouse, among others, contributes to better deal with problems that may occur. This context can be configured as a possible facilitating factor for a better relationship, such as stability, sexual activity and family relationships, in other words, a greater social support.<sup>6,10</sup>

The data of this research related to the time less than nine years of work in the institution and the time less than six years of work at night, were also significant with high score in the environmental domain. It is possible to say that the professional with less time of contact with the work routine and its stressors possesses better LQ in the environment dimension.

The results of the present study related to the skin color variable non-white and lower age group had a statistically significant difference, in which the non-white skin color had a better LQ in the psychological dimension, and the participants younger than 35 years old presented better LQ in the environmental domain. However, there were no other studies with significant associations between these variables correlated to LQ.

The results of this study should be analyzed considering some limitations. The design was transversal, which prevents statements of cause and effect. Although it is a representative sample, the allocated participants were limited to the restricted setting of a single hospital, which may compromise the generalization of the findings. Furthermore, despite the association with the characteristics of the workers, the life quality was evaluated with a generic instrument, not specific to the singularities of the nursing workers who work in the night shift.

## CONCLUSIONS

This study allowed the evaluation of LQ and its association with the sociodemographic characteristics of nursing

professionals working at night shift. It was possible to observe the predominance of a positive self-assessment of the LQ and a good satisfaction with personal health. There was better LQ in the dimensions represented by the social and psychological domains, but lower LQ in the environment and physical domains.

It should be noted that important aspects negatively influenced the LQ. Female workers, who are over 35 years old, do not practice physical activity, work in more than one place, receive less than three minimum wages, do not have intimate partner and also work longer, they all have presented their LQ impaired and then shown lower LQ in such areas.

In this context, it is suggested more attention of the workers with their LQ. It is also expected that the present study will provide inputs in order for the institution to provide means that can positively influence the health and LQ of these workers in a way that will favor better health conditions for them. Also, improvements in the quality of assistance to the population assisted by them, since the worker with good LQ can improve his productivity and quality of care provided. Thus, it is believed that this research added greater knowledge about the impact of night work on the quality of nursing workers. Further studies on the topic and more specific aspects are required, in order to investigate the relationship of nursing night workers associated with color and age characteristics.

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