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Factors associated with stress, anxiety and depression in nursing professionals in the hospital context

Fatores associados ao estresse, ansiedade e depressão em profissionais de enfermagem no contexto hospitalar

Factores asociados al estrés, la ansiedad y la depresión en profesionales de enfermería en el contexto hospitalario

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ABSTRACT

Objective: to determine the factors associated with stress, anxiety and depression, concomitantly, in nursing professionals who work in the hospital context. **Methods:** a quantitative and cross-sectional study with 353 nursing professionals from a hospital. A sociodemographic questionnaire and the Depression, Anxiety and Stress Scale-21 were used. Data were subjected to descriptive statistical analysis, difference and correlation tests. **Results:** the main factors associated with stress, anxiety and depression, concomitantly, were being female, compromised family and social support, lack of autonomy at work, hostile relationship with colleagues, lack of professional recognition and satisfaction, feeling of being overwhelmed and insecurity. **Conclusions:** demographic, physiological, social and work factors impact the levels of stress, anxiety and depression in nursing professionals. The adoption of coping strategies for modifiable factors should be considered, in order to provide better quality of life for these professionals.
Descriptors: Stress Psychological; Anxiety; Depression; Hospitals; Nursing.

RESUMO

Objetivo: determinar os fatores associados ao estresse, ansiedade e depressão, concomitantemente, em profissionais de enfermagem que atuam no contexto hospitalar. **Métodos:** estudo quantitativo e transversal, com 353 profissionais de enfermagem de um hospital. Empregou-se um questionário sociodemográfico e a Escala de Depressão, Ansiedade e Estresse-21. Os dados foram submetidos à análise estatística descritiva, testes de diferença e correlação. **Resultados:** os principais fatores associados ao estresse, ansiedade e depressão, concomitantemente, foram sexo feminino, suporte familiar e social comprometidos, falta de autonomia no trabalho, relação hostil com os colegas, falta de reconhecimento e satisfação profissional, sentimento de estar sobrecarregado e insegurança. **Conclusões:** fatores demográficos, fisiológicos, sociais e laborais impactam os níveis de estresse, ansiedade e depressão nos profissionais de enfermagem. A adoção de estratégias de enfrentamento dos fatores modificáveis deve ser considerada, a fim de proporcional melhor qualidade de vida desses profissionais.
Descritores: Estresse Psicológico; Ansiedade; Depressão; Hospitais; Enfermagem.

RESUMEN

Objetivo: determinar los factores asociados al estrés, la ansiedad y la depresión, de forma concomitante, en los profesionales de enfermería que laboran en el contexto hospitalario. **Métodos:** estudio cuantitativo y transversal, con 353 profesionales de enfermería de un hospital. Se utilizó un cuestionario sociodemográfico y la Depression, Anxiety and Stress Scale-21. Los datos fueron sometidos a análisis estadístico descriptivo, pruebas de diferencia y correlación. **Resultados:** los principales factores asociados al estrés, la ansiedad y la depresión, concomitantemente, fueron el género femenino, el apoyo familiar y social comprometido, la falta de autonomía en el trabajo, la relación hostil con los compañeros, la falta de reconocimiento y satisfacción profesional, la sensación de abrumamiento e inseguridad. **Conclusiones:** factores demográficos, fisiológicos, sociales y laborales inciden en los niveles de estrés, ansiedad y depresión en los profesionales de enfermería. Se debe considerar la adopción de estrategias de afrontamiento de factores modificables, con el fin de brindar una mejor calidad de vida a estos profesionales.
Descriptores: Estrés Psicológico; Ansiedad; Depresión; Hospitales; Enfermería.

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INTRODUCTION

Health professionals, especially nursing professionals[1], are susceptible to considerable levels of stress[2], anxiety[3] and depression[4-5], especially those who work in tertiary health care, a level that concentrates greater technological density and specialized and critical care, and, therefore, psychological distress tends to be greater[2].

Studies carried out in several countries[6-8] showed a high prevalence of anxiety, depression and stress among nursing professionals who perform their activities in a hospital context. Among Australian nurses, the prevalence rates of depression reach 32.4%, and anxiety and stress, 41.2%[9]. Another study, carried out in Malaysia, showed that 14.4% of professionals presented stress[7], 39.3% anxiety and 18.8% depression. In Italy, the rates were 19.3% for anxiety and 5.1% for depression[1].

The most common causes of these emotional disorders in nursing professionals, at this level of health care, may arise due to adverse contexts in the work environment, such as: complexity of health care; lack of human resources; work overload; need to adapt to constant changes in the treatment and conduct of patient care[10-11]; need to deal more frequently with the process of death and dying; interactions with patients and their families; and alternating work shifts[12].

Therefore, impacts such as absenteeism, sick leave and decreased productivity are common in nursing professionals who experience anxiety, depression and stress. These emotional disorders impair professionals' cognitive function, memory and attention skills to deal with the workload. Thus, the occurrence of adverse events and compromised quality of patient care is imminent[13].

Some factors may be associated with a higher probability of nursing professionals to trigger anxiety, depression and stress. The literature indicates that sex[2,7], marital status[6-7], age[2], sleep[2], family and social support[2], multidisciplinary relationship[2,8] and job satisfaction[8] may be associated with stress. Work overload is also mentioned as a possible factor associated with anxiety[8]. Relationships with co-workers and sex are also referred to as factors associated with depression rates[2,7-8]. However, the approach to assess the three concomitant emotional disorders is still in its infancy, in addition to associating them simultaneously with demographic, physiological, social and labor factors among nursing professionals in the hospital context.

When considering, then, the high levels of stress, anxiety and depression in this population, the question is: what are the factors associated with stress, anxiety and depression, concomitantly, in nursing professionals who work in the hospital context? Considering that the worsening of these conditions can negatively impact quality of life, the answer to this question will help in the establishment of therapeutic approaches that promote improvement in the mental health of these professionals and prevention of injuries.

OBJECTIVE

To determine the factors associated with stress, anxiety and depression, concomitantly, in nursing professionals working in the hospital context.

METHODS

Ethical aspects

The study complies with the Guidelines and Regulatory Norms for Research Involving Human Subjects (CNS Resolution 466/12) and was approved by the proponent institution approval date: April 12, 2018.

All participants who agreed to participate in the study signed the Informed Consent Form (ICF) in two copies, one retained by the participant and the other by the researcher. The completed questionnaires were properly filed in a safe place by the researchers and will remain filed for five years.

Study design, period and place

This is a quantitative and cross-sectional study, carried out between September and November 2019 in a public hospital in Minas Gerais, Brazil. To guide the presentation of information, the guidelines for observational studies (Strengthening the Reporting of Observational Studies in Epidemiology - STROBE) were considered[14].

Population and sample; inclusion and exclusion criteria

The sample was established by simple random sampling for a finite population, with an estimated 41.2% stress, anxiety and depression in the population of interest[9]. From the population of 872 nursing professionals, 95% power and 0.05 margin of error, a minimum sample of 260 individuals was obtained.

Participants were selected according to the following criteria: being a member of the hospital's nursing staff; act in patient care or nursing management services; and availability of time of approximately 30 minutes to complete the survey instruments during the work shift. This strategy was adopted in order to address the largest number of professionals, but without compromising the work. Individuals who were on any type of leave during the data collection period and those who did not fully fill in the data in the data collection instruments were excluded.

Study protocol

The research protocol used comprised the application of an instrument with sociodemographic information, developed by the researchers from the literature[15], which supported the definition of the variables as follows: sex; age; education; marital status; if they have children; life habits (sleep, alcohol use, smoking, family and social support); monthly income; time working at the hospital; sector of activity; work shift; number of jobs; perception of autonomy at work; interpersonal relationship; professional recognition; job satisfaction; overload; and insecurity at work. The age variable was processed as continuous, and the others as categorical. This instrument underwent a refinement process by three nurses who were PhD in nursing, and all proposed suggestions were accepted.

The Depression, Anxiety and Stress Scale-21 (DASS-21) was also used to assess professionals' levels of depression, anxiety

and stress[16]. This instrument was selected because it allows simultaneous assessment of the three constructs of interest, because it has adequate internal consistency[17] and because it is an instrument that is easy and quick to apply.

The DASS-21 is based on the tripartite model, in which affect disorder is caused by ongoing anxiety, depression and stress[16]. This is a self-administered questionnaire, which has been translated and validated for Brazilian Portuguese[16]. Each of the three subscales assesses symptoms in the last week through seven questions, with four response options (0 = not applied at all; 1 = applied to some degree or for a short time; 2 = applied to a considerable degree or for a good part of the time; 3 = applied a lot or most of the time). The sum of each subscale, multiplied by two, provides the total score for each construct[16]. Cronbach's alpha was 0.945 in this sample, indicating a high reliability of the instrument[17].

Through the scale, stress, anxiety and depression can be classified as normal, low, moderate, severe and extremely severe. The cut-off points for depression are: 0-9 (normal); 10-13 (low); 14-20 (moderate); 15-19 (severe); and ≥ 20 (extremely severe). Anxiety can be classified as normal (0-7), low (8-9), moderate (10-14), severe (15-19) and extremely severe (≥20). Stress is considered normal between 0 and 14, low, between 15 and 18, moderate, between 19 and 25, severe, between 26 and 33 and extremely severe, from 33 points[16].

For data collection, the printed instruments were given to each professional in their work sector, when they were also instructed to answer the questions in the next 30 minutes, in order to ensure participation.

Analysis of results, and statistics

The Statistical Package for Social Sciences (SPSS - version 20.0) software was used for the statistical analysis of the data. To verify data distribution, the Shapiro-Wilk test was used, which evidenced the presence of non-normal distribution of scalar variables. Thus, quantitative variables were described using medians and interquartile ranges (p25-p75). Relative frequency was used to describe categorical variables. In the bivariate analysis, the existence of an association was verified using Mann-Whitney, Kruskal-Wallis and Spearman correlation coefficient tests. The force of the correlations were analyzed considering correlation coefficients < 0.4 (weak magnitude correlation), ≥0.4 to < 0.7 (moderate magnitude) and ≥0.7 (strong magnitude)[18]. All analyzes considered the significance level of 0.05.

RESULTS

The eligible sample for the study was 842 nursing professionals, as 30 individuals were on leave or on leave from their activities. When considering the minimum number adequate for the sample calculation, data collection was carried out with 372 subjects, in which 19 subjects did not properly fill in the instruments and, therefore, did not make up the study sample. Thus, the final sample consisted of 353 nursing professionals.

Most professionals were nursing technicians (75.9%), female (89.2%) and married (52.1%). The median age was 37 years (32-43) (Table 1).

Table 2 presents the psychosocial and work characteristics of nursing professionals.

The prevalence of depression was 47.02%, anxiety, 49.61% and stress,56.66% among nursing professionals in the hospital context (Table 3).

Table 4 shows the association of sociodemographic, physiological, social and work factors with levels of stress, anxiety and depression. It is observed that the female sex, worse sleep quality, compromised family and social support, lack of autonomy at work, hostile relationship with co-workers, lack of recognition and professional satisfaction, feeling of overload and insecurity at work were statistically and concomitantly associated with the investigated triad.

In the correlation analysis, a weak negative correlation was identified only between stress and the variables age and number of employment, as shown in Table 5. There was no significant correlation between age, number of jobs and hours worked with stress, anxiety and depression, concomitantly.

Table 1 - Sociodemographic characteristics (N=353), Belo Horizonte, Minas Gerais, Brazil, 2019

Sociodemographic characteristics	*n*	Percentage (%)
Sex		
Female	315	89.2
Male	38	10.8
Education		
Nursing technicians	268	75.9
Nurses	85	24.1
Marital status		
Single	121	34.3
Married/stable union	184	52.1
Widow	43	12.2
Divorced	5	1.4
Children		
Yes	220	62.3
No	133	37.7

Table 2 - Psychosocial and labor characteristics of nursing professionals working in a hospital context (N=353), Belo Horizonte, Minas Gerais, Brazil, 2019

Psychosocial and work characteristics	*n*	Percentage (%)
Sleep well		
Yes	155	43.9
No	198	56.1
Drink alcoholic beverages		
Yes	106	30
No	247	70
Smoker		
Yes	16	4.5
No	337	95.5
Good family support		
Yes	325	92.1
No	28	7.9
Good social support		
Yes	322	91.2
No	31	8.8
Monthly income (minimum wage)		
One wage	69	19.5
Two to three wages	221	62.6
Four to five wages	44	12.5
Six to seven wages	15	4.2
Eight to ten wages	3	0.8
Above ten wages	1	0.3

To be continued

Table 2 (concluded)

Psychosocial and work characteristics	*n*	Percentage (%)
Time working at the hospital		
Less than a year	35	9.9
1 to 5 years	189	53.5
6 to 10 years	97	27.5
Over 10 years	32	9.1
Sector where they operate		
Open	211	59.8
Closed	126	35.7
Administrative/organizational	32	9.1
Work shift		
Full time	167	47.3
Morning	27	7.6
Afternoon	11	3.1
Night	148	41.9
Number of jobs		
One	238	67.4
Two	113	32
Three or more	2	0.6
Have autonomy at work		
Yes	217	61.6
No	135	38.4
Have a good relationship with co-workers		
Yes	342	96.6
No	11	3.1
Feel professionally recognized		
Yes	186	52.7
No	167	47.3
Feel professionally satisfied		
Yes	232	65.7
No	121	34.3
Feel overwhelmed at work		
Yes	265	75.1
No	88	24.9
Feel insecure at work		
Yes	70	19.8
No	283	80.2

DISCUSSION

Through this study, we evidenced demographic (female), physiological (impaired sleep), social (compromised family and social support) and labor (lack of autonomy at work, hostile relationship with co-workers, lack of recognition and satisfaction) factors professional, feeling of overload, insecurity at work) associated with levels of stress, anxiety and depression, concomitantly, in nursing professionals who work at the tertiary level of health care. These findings show the importance of thinking about strategies that can act on modifiable factors in order to improve levels of stress, anxiety and depression in this population.

The prevalence of stress, anxiety and depression found in this study among nursing professionals in the hospital context was 56.66%, 49.61% and 47.02%, respectively.

As for the severity of emotional disorders, we found that more than 50% of professionals had normal and low levels of the three investigated emotional disorders. However, a study in China identified a high level of occupational stress in 68.3% of nurses working in hospitals[2]. This fact may be related to the work overload exercised in Chinese culture, in which professionals demand more time to improve their education, conduct research and guide interns[2].

Regarding depression, the literature shows a variation between 8%[4] and 13%[8] of severity in the investigation of depression among nursing professionals, while our findings showed 19.83% of severe level and extremely severe from depression. The difference between the lowest rate[4] for that found in our study can be explained by the difference in the labor sector. While our investigation took place in all sectors of the hospital environment, that of the Australian study[4] was carried out only with midwives, which may present lower rates when compared to other sectors.

Table 3 - Prevalence of nursing professionals in each subscale of the Depression, Anxiety and Stress Scale-21 (N=353), Belo Horizonte, Minas Gerais, Brazil, 2019

Tríade	Normal n (%)	Low n (%)	Moderate n (%)	Severe n (%)	Extremely severe n (%)	DASS_21 Median (interquartiles)
Depression	187 (52.97)	40 (11.33)	56 (15.86)	31 (8.79)	39 (11.04)	8 (4-18)
Anxiety	178 (50.42)	24 (6.80)	50 (14.16)	27 (7.65)	74 (21)	6 (2-16)
Stress	153 (43.34)	35 (9.91)	54 (15.30)	63 (17.85)	48 (13.60)	18 (8-28)

Table 4 - Association of sociodemographic, physiological, social and work factors with levels of stress, anxiety and depression in nursing professionals working in a hospital context (N=353), Belo Horizonte, Minas Gerais, Brasil, 2019

Variable	Stress Median (interquartiles)	*p* value	Anxiety Median (interquartiles)	*p* value	Depression Median (interquartiles)	*p* value
Sex[1†]		0.000*		0.004*		0.032*
Women	20(10-28)		8(2-18)		8(4-20)	
Men	8(1.50-16.50)		4(0.00-8)		6(1.50-12)	
Education[1]		0.318		0.118		0.317
Technician	18(8-28)		7(2-18)		8(4-20)	
Nurse	8(1.50-16.50)		4(0.00-8)		6(1.50-12)	
Marital status[2]		0.956		0.423		0.809
Single	18(8-26)		4(2-16)		8(4-18)	
Married/stable union	16(8-28)		8(2-18)		8(2.5-18)	
Divorced	16(6-28)		8(2-16)		8(4-22)	
Have children[1]		0.495		0.786		0.578
Yes	16(8-28)		8(2-16)		8(4-20)	
No	20(8-26)		6(2-17)		8(4-18)	

To be continued

Table 4 (concluded)

Variable	Stress Median (interquartiles)	*p* value	Anxiety Median (interquartiles)	*p* value	Depression Median (interquartiles)	*p* value
Sleep well[1†]		**<0.001***		**<0.001***		**<0.001***
Yes	12(4-22)		4(0.00-10)		6(2-14)	
No	22(12-32)		10(4-20)		10(6-22)	
Drink alcoholic beverages[1]		0.557		0.511		0.773
Yes	12(8-28)		8(2-18)		8(4-18)	
No	18(8-28)		6(2-16)		8(4-20)	
Smoker[1]		0.302		0.214		0.244
Yes	18(8-28)		6(2-16)		8(4-20)	
No	18(8-27)		6(2-16)		8(4-18)	
Good family support[2†]		**<0.001***		**<0.001***		**<0.001***
Yes	16(8-26)		6(2-16)		8(2-18)	
No	28(20.5-36)		18(12-25.5)		22(12.5-29.5)	
Good social support[1†]		**<0.001***		**<0.001***		**<0.001***
Yes	16(8-26)		6(2-16)		8(2-16.5)	
No	28(16-36)		18(6-24)		22(12-30)	
Monthly income[2] (minimum wage)		0.729		0.668		0.615
One wage	29(20-28)		8(3-20)		10(3-20)	
Two to three wages	10(8-27)		6(2-16)		8(4-18)	
Four to five wages	21(10.5-8)		7(2.5-15.5)		9(4-20)	
Six to seven wages	12(6-26)		6(2-16)		4(0-20)	
Eight to ten wages	10(8-10)		6(4-6)		6(4-6)	
Above ten wages	16(16-16)		2(2-2)		4(4-4)	
Time working at the hospital[2]		0.274		0.767		0.121
Less than a year	2(6-26)		6(2-16)		4(2-10)	
1 to 5 years	18(8-27)		8(2-16)		8(4-18)	
6 to 10 years	20(8-28)		8(2-18)		10(-20)	
Over 10 years	14(4.5-25.5)		6(0.0-13.5)		8(2.5-17.5)	
Sector where they operate[2]		0.508		0.582		0.377
Open	18(8-28)		8(2-18)		8(4-18)	
Closed	16(8-26)		4(2-14.5)		8(2-18)	
Administrative/organizational	23(18.5-27.5)		7(4-20.5)		14(5-20)	
Work shift[2]		0.050*		0.500		0.031*
Full time	20(10-28)		8(2-20)		10(4-20)	
Morning	18(10-24)		6(2-14)		8(2-14)	
Afternoon	12(8-24)		8(0.0-14)		8(2-18)	
Night	14(6-26)		6(2-14)		8(4-18)	
Have autonomy at work[1†]		**<0.001***		**<0.001***		**<0.001***
Yes	14(6-24)		4(2-12)		6(2-14)	
No	24(12-30)		12(2-20)		14(6-24)	
Have a good relationship with co-workers[1†]		**<0.001***		0.050*		0.005*
Yes	16(8-26)		6(2-16)		8(4-18)	
No	36(26-42)		18(18-22)		18(14-28)	
Feel professionally recognized[1†]		**<0.001***		**<0.001***		**<0.001***
Yes	14(6-24)		4(2-14)		6(2-12.5)	
No	32(10-30)		8(2-20)		12(6-22)	
Feel professionally satisfied[1†]		**<0.001***		**<0.001***		**<0.001***
Yes	14(6-25.5)		4(2-14)		6(2-14)	
No	22(14-32)		12(4-22)		14(6-22)	
Feel overwhelmed at work[1†]		**<0.001***		0.019*		**<0.001***
Yes	20(10-28)		8(2-18)		10(4-20)	
No	10(4-24)		4(0.5-12)		4(0.5-10)	
Feel insecure at work[1†]		**<0.001***		**<0.001***		**<0.001***
Yes	26(14-32)		16(6-22.5)		17(6-26.5)	
No	16(8-26)		4(2-14)		8(2-16)	

*Note: [1] Mann-Whitney test; [2] Kruskal-Wallis test; *p<0.05; [†] Variables statistically associated with stress, anxiety and depression.*

Table 5 - Correlation between the variables of age, number of jobs and hours worked 24 hours a day and levels of stress, anxiety and depression in nursing professionals working in a hospital context (N=353), Belo Horizonte, Minas Gerais, Brasil, 2019

Variable		Stress	Anxiety	Depression
Age[1]	*r*	-0.162	-0.069	-0.016
	p value	0.002*	0.198	0.762
Number of jobs[1]	*r*	-0.133	-0.080	-0.098
	p value	0.012*	0.136	0.065
Hours worked per day[1]	*r*	-0.022	0.015	0.016
	p value	0.674	0.773	0.761

*Note: [1]Spearman's correlation test; *p<0.05.*

Given the results obtained, it is necessary to highlight the impact that the high prevalence of stress, anxiety and depression can have on the health system. The main consequence is the absenteeism rate, which can compromise both patient safety and at the organizational level, predisposing to loss of management quality and financial resources for the institution[19].

With regard to the assessment of the investigated demographic factors, participants' sex showed a significant association with the levels of depression, anxiety and stress, demonstrating that women are at greater risk of having emotional changes. This finding is in line with the results of other research on the same topic[3,11,20].

Several factors can be elucidated as triggers of stress in women, such as the fact that women perform both work and domestic activities. Care for the elderly, care for sick or disabled family members, care for children associated with the scarcity of institutions/daycare centers with available hours of service compatible with those who work in 12-hour shifts[11,20] are some examples of extra work demands that many women experience.

The quality of sleep considered as unsatisfactory is a physiological factor identified as one of the determining agents of emotional disorders and which was also evidenced in the present study, corroborating similar findings by other authors. In a Chinese study[2], depression presented by nurses was associated with poor sleep quality, and it was found that they were also more predisposing to anxiety symptoms[2]. This circumstance may be related to shift work, especially at night[2], which compromises the quality of sleep and the number of hours slept per night. It is noteworthy that, in this sample, 41.9% of participants have a night work shift.

Social support is a factor that has been associated with the manifestation of anxiety, depression and stress. The importance of having and increasing the social support network in the workplace is highlighted. However, in this context, it is essential to recognize the care and management functions performed by the nursing team, as well as their individual characteristics and, based on them, the adoption of interventions to promote improvement in the social support network[1].

As an important labor factor, the lack of professional autonomy was also associated with emotional disorders. In this context, in a profession that has high responsibilities in caring for the other, limiting nurses' autonomy can reduce the capacity for decision and action at times when eminent and important resolutions are required[21]. The favoring of autonomy at work should be considered in discussions between managers in institutions, so that policies aimed at guaranteeing support and freedom for decision-making are adopted and benefit nursing professionals[10,21].

With regard to job satisfaction, it is known that this is another important work factor that is related to emotional disorders in nursing professionals[6-7]. The literature points out that it is necessary to act on the improvement of personal and labor resources for job satisfaction. The promotion of interpersonal and professional relationships, the development of a social and management support network are key factors to reduce the emotional burdens of most employees and thus promote better professional satisfaction[12].

Likewise, feelings of insecurity, work overload and not having a good relationship with colleagues were labor factors presented by professionals and which are associated with the investigated emotional disorders. The literature corroborates these findings and shows that professional insecurity[22], work overload, due to the amount of overtime to improve monthly income[11], associated with the conflicting relationship with co-workers[11] and with the lack of recognition from family members and patients[11], are factors that also are related to higher levels of emotional disorders.

Therefore, it is advisable to intervene, through initiatives based on operative groups and psychological support, to promote resilience. The adoption of these measures aims to help nurses to better deal with excessive demands and reduce emotional fatigue in the professional sphere[12].

There was no significant and concomitant association between the investigated triad and age, number of jobs and hours worked per day. However, we identified an association between age and the level of stress of professionals, showing that the older the person, the lower the stress level. Although no study on this association was found, this result can be justified by the fact that older professionals tend to have more experience and, therefore, acquire greater confidence in the activities they perform, which is, therefore, a factor of protection against stress.

Likewise, there was a negative association between the number of jobs and level of stress. This result can be explained by the fact that having more than one job provides a better financial situation and, consequently, a lower level of stress. This finding can be compared to a study carried out in Iran, which showed that wage inadequacy was associated with the emergence of occupational stress among nurses[23].

Study limitations

As a limitation of this study, we highlight the recruitment of professionals in a single institution, which may not reflect the levels of prevalence and associated factors in a global aspect, mainly because they are emotional disorders strongly impacted by the work characteristics of workers in each institution.

However, the results presented here provide a comprehensive overview, which can help in the development of prevention and management strategies for these emotional disorders, so that an important step would be to work on modifiable factors, such as physiological and occupational.

For future studies, it is therefore suggested to carry out a longitudinal follow-up of these professionals, to find out how levels of stress, anxiety and depression behave over time, identify when there is an intensification or improvement of emotional disorders, in addition to quantifying the magnitude of the impact of sociodemographic, physiological and work factors on levels of stress, anxiety and depression. Such responses may help to establish therapeutic measures that improve professionals' mental health.

Contributions to nursing

The high prevalence rates of depression, anxiety and stress evidenced in this study point to the need for constant clinical evaluation of nursing professionals working in hospital institutions. It is believed that the monitoring of these emotional disorders and associated factors can support social, political and assistance

changes in worker health care in the Brazilian scenario, with the aim of favoring actions that support a healthier work process.

On the other hand, it is noteworthy that the presence and aggravation of these emotional disorders also demand specific interventions for this audience, such as the adoption of monitoring, prevention and treatment measures for these symptoms. For prevention and treatment, non-pharmacological techniques can be offered in hospital institutions in order to provide workers with greater care and care for their health. Furthermore, the adoption of measures, such as reducing workload and improving the multidisciplinary relationship, should be considered in institutional policy as strategies for reducing stressors, optimizing the care provided and providing a better quality of life for nursing professionals.

CONCLUSIONS

Demographic, physiological, social and labor factors play an important role in the levels of stress, anxiety and depression, concomitantly, in nursing professionals who work at the tertiary level of health care. Specifically, female sex, impaired sleep, compromised family and social relationships, lack of autonomy at work, hostile relationship with colleagues, lack of recognition and job satisfaction, feeling of being overwhelmed and insecurity were factors associated with stress, anxiety and depression, simultaneously, in this population. We believe, therefore, that the adoption of coping strategies that can act on the modifiable factors investigated must be considered, in order to provide a better quality of life for this population.

SUPLPLEMENTARY MATERIAL

In compliance with Open Science, the database for viewing is available at: https://doi.org/10.48331/scielodata.NJEQXN.

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