Mental health of nursing in coping with COVID-19 at a regional university hospital

A saúde mental da enfermagem no enfrentamento da COVID-19 em um hospital universitário regional
La salud mental de enfermería en el enfrentamiento de la COVID-19 en un hospital regional universitario

ABSTRACT
Objective: to identify prevalence and factors associated with anxiety and depression in nursing professionals who work to cope with COVID-19 at a university hospital. Methods: a cross-sectional observational study using a sociodemographic questionnaire and Hospital Anxiety and Depression Scale, with 88 nursing professionals. Data were analyzed using absolute and relative frequency and Statistical Package for the Social Sciences. Results: there was prevalence of anxiety (48.9%) and depression (25%). The majority of the sample consisted of women over 40 years old, married or in a common-law marriage, white, with higher education or graduate degree, with an income above 3,000.00 reais, public servants, working 40 hours a week and working in the hospital from 1 to 5 years. Conclusion: we must consider the impact on mental health nursing caused by COVID-19 and intervene with coping strategies to minimize the suffering of professionals.

Descriptors: Pandemics; Stress Psychological; Nursing; Adaptation Psychological; Mental Health.

RESUMO
Objetivo: identificar a prevalência e fatores associados à ansiedade e depressão em profissionais de enfermagem que atuam no enfrentamento da COVID-19 em hospital universitário. Métodos: estudo observacional transversal, com questionário sociodemográfico e Escala de Medida de Ansiedade e Depressão, com 88 profissionais de enfermagem. Os dados foram analisados por meio de frequência absoluta e relativa, utilizando o software Statistical Package for the Social Sciences. Resultados: houve prevalência de ansiedade (48,9%) e de depressão (25%). A maioria da amostra foi composta por mulheres, com mais de 40 anos, casadas ou em união estável, de cor branca, com educação superior ou pós-graduação, com renda superior a R$3,000,00, concursadas, com regime de trabalho de 40 horas semanais e tempo de atuação no hospital de 1 a 5 anos. Conclusão: deve-se considerar o impacto na saúde mental da enfermagem acarretado pela COVID-19 e intervir com estratégias de enfrentamento para minimizar o sofrimento dos profissionais.

Descritores: Pandemias; Estresse Psicológico; Enfermagem; Adaptação Psicológica; Saúde Mental.

RESUMEN
Objetivo: identificar la prevalencia y los factores asociados con la ansiedad y la depresión en profesionales de enfermería que trabajan para hacer frente a COVID-19 en un hospital universitario. Métodos: estudio observacional transversal, con cuestionario sociodemográfico y el software Statistical Package for the Social Sciences, con 88 profesionales de enfermería. Los datos se analizaron utilizando la frecuencia absoluta y relativa, utilizando el paquete estadístico para el software de ciencias sociales. Resultados: hubo prevalencia de ansiedad (48,9%) y depresión (25%). La mayoría de la muestra estaba compuesta por mujeres, mayores de 40 años, casadas o en una relación estable, blancas, con educación superior o educación de posgrado, con ingresos superiores a 3,000,00 reais, licitadas, con un régimen laboral de 40 Horas semanales y tiempo en el hospital de 1 a 5 años. Conclusion: se debe considerar el impacto en la salud mental de la enfermería causado por COVID-19 e intervenir con estrategias de afrontamiento para minimizar el sufrimiento de los profesionales.

Descritores: Pandemias; Estrés Psicológico; Enfermería; Adaptación Psicológica; Salud Mental.
INTRODUCTION

Work is not only characterized as a means of material survival, but a configuration of socialization and identity construction. In this context, it is considered that work can favor the expression of people's subjectivity and rescue or promote health according to the organization and the work process. Therefore, a person's physical and mental health condition cannot be disconnected from their professional activity and work context, paying attention to the conditions and determinants involved in the relationship between health and work⁶.

It is known that in hospital units, nursing activities are the largest number of health professionals. This a human being-centered care work, involving a direct link between professional/patient and experience of several factors. Such factors are potential for negative psychosocial and psychosomatic impacts, leading to decreased productivity, increasing the rate of work accidents and ineffective nursing care⁵.

In turn, the work of the nursing team requires technical and scientific competence, knowledge, skill and emotional control over the practice. Assistance presents situations of risk, physical and emotional exhaustion, responsibilities with people's lives, coping with fears and suffering. The situation in which professionals are exposed can lead to the occurrence of psychological stress, high stress, anxiety, and depression. Such diseases can negatively impact job satisfaction, resulting in impaired care, quality of care and patient safety⁶.

Currently, it is common to identify symptoms of anxiety and depression and the great impact they have on health workers' well-being and daily activities. In nursing, there is a large index of psychic manifestations among professionals. Some studies have investigated these symptoms among the nursing staff, residents and undergraduate students⁶-⁷.

Anxiety is conceptualized as a vague and unpleasant feeling of fear, concern, with characteristics of tension or discomfort derived from anticipating danger, from something unknown or strange. Some authors⁶-⁷ define anxiety as an emotional state that affects psychological, social and physiological components and that is a condition of human beings. It can become pathological when it is considered excessive and affects the person's psychosocial environment in the face of the situation, affecting social issues, family life, work performance, among others.

Depression, on the other hand, is characterized by slowness of psychic processes, depressed and/or irritable mood, reduced energy, partial or total inability to feel joy or pleasure, in addition to disinterest, apathy or psychomotor agitation, difficulty concentrating, thinking negative, loss of planning capacity and altered judgment of truth⁶.

Among nursing professionals, in line with the literature, the triggering factors for depression may be related to the work process, such as the shift; the relationship between professional-patient, professional-family and professional-professional; work overload; wear; social support; conflict of interest and coping strategies developed⁸-⁹.

It is noteworthy that all stressors related to the performance of nursing tend to be exacerbated in the face of a calamity scenario like the one that has been installed in recent months. The world is currently experiencing a period of turbulence due to the pandemic caused by the new coronavirus.

Initially, on December 31, 2019, the World Health Organization (WHO) received information on an outbreak of disease of unknown etiology in workers and regulars at a seafood market based in Wuhan city, Hubei province, China. The patients had respiratory symptoms similar to other diseases, however, during the investigation, the presence of a virus never seen before in humans was attested. The virus was called by the WHO coronavirus, SARS-CoV-2, which causes COVID-19 disease⁹.

Brazil presented the first suspected cases in early February, in the city of São Paulo. A little over a month later, the first confirmed cases and deaths resulting from COVID-19 began to be identified, mainly in southern Brazil and in its major capitals¹⁰.

In the State of Paraná, until the middle of April 2020, there were 804 confirmed cases, 40 deaths, 7,119 discarded and 377 under investigation. In the 3rd Health Regional, which covers the cities of Ponta Grossa, Arapoti, Carambeí, Castro, Ipiranga, Ivaí, Jaguariaíva, Palmeira, Pirai do Sul, Porto Amazonas and Sengés, there were 10 confirmed cases, zero deaths, 208 discarded and 01 under investigation. Ponta Grossa, which is reference for the 3rd Health Regional, had at the same time 06 confirmed cases, zero deaths, 130 discarded and zero under investigation¹¹.

Concerning hospital health services, Hospital Universitário Regional dos Campos Gerais (freely translated as Regional University Hospital of Campos Gerais, abbreviated HURCG) of Universidade Estadual de Ponta Grossa became a reference in treating suspected and confirmed cases of COVID-19. It aims to serve the 12 cities that make up the 3rd Regional Health. In line with the Ministry of Health (MoH), HURCG has joined forces and prepared to receive suspected patients, acquiring medical supplies, personal protective equipment (PPE). HURCG is empowering the team and offering psychosocial support in order to offer excellent care to patients and maintain the physical and mental integrity of professionals¹¹.

Therefore, for the Federal Nursing Council (Conselho Federal de Enfermagem, abbreviated COFEN), the main concerns with nursing professionals are the use of PPE; training for the protocols determined by MoH; ensuring that professionals are prepared to use PPE; good emotional conditions to provide quality care and care in relation to their own mental health. Thus, COFEN provided a 24-hour service channel, every day of the week, so that nursing professionals can seek emotional help in the midst of a pandemic situation by COVID-19¹².

Considering this new experience perceived by the aforementioned pandemic, there is a gap in terms of harmony between internal needs and external requirements (work, environment, among others) of workers at the forefront in the fight against COVID-19. Focus is placed on those who are for 24 hours in direct care to patients like nursing professionals. Thus, for this study, the following guiding question emerged: how are the levels of anxiety and depression in nursing professionals working in coping with COVID-19 at a regional university hospital?

Considering that nursing professionals may present symptoms of anxiety and depression due to the impact that COVID-19 can have on the mental health of these health workers, this research aims to:
OBJECTIVE

Identify the prevalence and factors associated with anxiety and depression in nursing professionals who work to cope with COVID-19 at a regional university hospital.

METHODS

Ethical aspects

The Research Ethics Committee of Universidade Estadual de Ponta Grossa approved this study. The ethical precepts of voluntary and consented participation of each participant were respected, according to Resolution 466/2012 (13) of the Brazilian National Health Council (Conselho Nacional de Saúde).

Design, period, and place of study

This is a cross-sectional observational study guided by STROBE, carried out with nursing professionals working at a regional university hospital of reference for coping with COVID-19 in Paraná. Data collection took place in the interstice between March and April 2020, a period when the hospital was already adjusting and modifying care due to the pandemic.

This institution is characterized as public and teaching, with 172 beds, with an average hospitalization of 900 patients/month, in 2019.

Population or sample; inclusion and exclusion criteria

Sample was selected for convenience in order to obtain a census of the situation of nursing professionals working to combat COVID-19. Nursing professionals active in their role were included in the study. Workers who were on sick leave or on vacation, who were on leave and those who did not acquiesce in participating in the study were excluded. Data collection was developed with nursing professionals due to their free acceptance to participate in the study.

Study protocol

A structured questionnaire was developed, containing sociodemographic characteristics, professional performance and professional categorization, through the variables: sex; age; marital status; race/color; income; position and sector that works; employment relationship; professional practice and presence of another employment relationship. In addition, participants were asked to answer a questionnaire to assess anxiety and depression with instruments used by the Ministry of Health in the situational health diagnosis of Brazilians. In line with COVID-19 protocols and updates on prevention and management, data collection was carried out entirely through Google Forms. They were made available to the public of interest on the hospital’s internal social networks.

The instrument used to identify stress and anxiety among workers was the Hospital Anxiety and Depression Scale (HAD) by Zigmond and Snaith (14), validated by Botega and collaborators (15). This instrument consists of two subscales, one for identifying anxiety (HAD-A) and the other for depression (HAD-D). Each had seven multiple choice questions, whose score ranges from 00 to 21 points for each subscale, with the following cutoff points: up to 07 points, considered as a discarded case and above 08 points, considered as a probable case of anxiety and/or depression.

After explaining by internal electronic media to nursing professionals about the objectives, means of collecting, analyzing and resulting information, workers, when in agreement spontaneously participated in the project by accepting the research through the Informed Consent Form attached to the questionnaire.

Analysis and treatment of data

Initially, data were analyzed descriptively by means of absolute and relative frequency. The occurrence of anxiety and/or depression was considered as a dependent variable. This variable was created from the analysis of responses stratified as anxiety and depression scores. Sociodemographic characteristics, professional performance and professional categorization were considered as independent variables.

To test the association between the dependent variable “presence of anxiety and depression” and the independent variables, a bivariate analysis was initially performed using the chi-square test. The variables that presented p value ≤0.05 in analysis were classified as significant difference. Data were analyzed using Statistical Package for the Social Sciences 20 (SPSS®).

RESULTS

Among the 476 nursing professionals who make up the active staff of the regional university hospital, 88 agreed to participate in the research, constituting the total sample. Losses result from refusal to participate in the study, vacation and medical leave, of nursing professionals (n=388).

Prevalence of anxiety among nursing professionals in this study was 48.9%, whereas depression was 25%. The majority of the sample consisted of women, over 40 years old, married or in a common-marriage law, white, with undergraduate or graduate degree, with income above 3,000.00 reais (reais is the Brazilian currency. Three thousand reais correspond to about 600 US dollars), public servants and working 40 hours a week. The sociodemographic characteristics associated with anxiety are assessed according to the result obtained by HAD and questionnaire application, which are described in Table 1.

Concerning depression, data are described following the same anxiety assessment model as shown in Table 2.

Table 1 - Sociodemographic profile of nursing professionals with anxiety at a regional university hospital, Ponta Grossa, Paraná, Brazil, 2020

<table>
<thead>
<tr>
<th>Variables</th>
<th>Yes n(%)</th>
<th>No n(%)</th>
<th>Total n(%)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence of anxiety</td>
<td>43 (48.9)</td>
<td>45 (51.1)</td>
<td>88 (100)</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>39 (90.7)</td>
<td>40 (88.9)</td>
<td>79 (89.8)</td>
<td>0.78</td>
</tr>
<tr>
<td>Male</td>
<td>4 (9.3)</td>
<td>5 (11.1)</td>
<td>9 (10.2)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-30</td>
<td>17 (39.5)</td>
<td>20 (44.4)</td>
<td>37 (42.0)</td>
<td>0.09</td>
</tr>
<tr>
<td>31-40</td>
<td>20 (46.5)</td>
<td>12 (26.7)</td>
<td>32 (36.4)</td>
<td></td>
</tr>
<tr>
<td>Over 40 years old</td>
<td>6 (14.0)</td>
<td>13 (28.9)</td>
<td>19 (21.6)</td>
<td></td>
</tr>
</tbody>
</table>

To be continued
### Table 2 - Sociodemographic profile of nursing professionals with depression at a regional university hospital, Ponta Grossa, Paraná, Brazil, 2020

<table>
<thead>
<tr>
<th>Variables</th>
<th>Yes n(%)</th>
<th>No n(%)</th>
<th>Total n(%)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence of depression</td>
<td>22 (25.0)</td>
<td>66 (75.0)</td>
<td>88 (100)</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>20 (90.9)</td>
<td>59 (89.9)</td>
<td>79 (89.8)</td>
<td>0.83</td>
</tr>
<tr>
<td>Male</td>
<td>2 (10.1)</td>
<td>17 (10.2)</td>
<td>19 (10.2)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-30</td>
<td>10 (45.5)</td>
<td>27 (40.9)</td>
<td>37 (42.0)</td>
<td></td>
</tr>
<tr>
<td>31-40</td>
<td>9 (40.9)</td>
<td>23 (34.8)</td>
<td>32 (36.4)</td>
<td>0.57</td>
</tr>
<tr>
<td>Over 40 years old</td>
<td>3 (13.6)</td>
<td>16 (24.2)</td>
<td>19 (21.6)</td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>8 (36.4)</td>
<td>24 (36.4)</td>
<td>32 (36.4)</td>
<td>0.39</td>
</tr>
<tr>
<td>Single</td>
<td>8 (36.4)</td>
<td>32 (48.5)</td>
<td>40 (45.5)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>6 (27.3)</td>
<td>10 (15.2)</td>
<td>16 (18.2)</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>18 (81.8)</td>
<td>55 (83.3)</td>
<td>73 (83.0)</td>
<td>0.87</td>
</tr>
<tr>
<td>Other</td>
<td>4 (18.2)</td>
<td>11 (16.7)</td>
<td>15 (17.0)</td>
<td></td>
</tr>
<tr>
<td>Occupation position</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing assistant</td>
<td>8 (36.4)</td>
<td>23 (34.8)</td>
<td>31 (35.2)</td>
<td></td>
</tr>
<tr>
<td>Nursing technician</td>
<td>12 (54.5)</td>
<td>32 (48.5)</td>
<td>44 (50.0)</td>
<td>0.67</td>
</tr>
<tr>
<td>Management and/or administration</td>
<td>2 (9.1)</td>
<td>11 (16.7)</td>
<td>13 (14.8)</td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to 5 minimum wages</td>
<td>18 (81.8)</td>
<td>49 (74.2)</td>
<td>67 (76.1)</td>
<td>0.47</td>
</tr>
<tr>
<td>More than 5 minimum wages</td>
<td>4 (18.2)</td>
<td>17 (25.8)</td>
<td>21 (23.9)</td>
<td></td>
</tr>
</tbody>
</table>

**DISCUSSION**

The prevalence of anxiety among nursing professionals was greater than the variability found (22.6% - 36.3%) in a systematic review and meta-analysis(16) of 12 studies conducted with 31,756 health professionals in Wuhan and Singapore. This fact is attributed to the heterogeneity between the studies, since there are differences between the populations studied and the instruments used to verify anxiety.

Regarding the sociodemographic profile of nursing professionals with anxiety (48.9%), it was found that there was a predominance of women (90.7%), aged between 31 and 40 years (46.5%) and married (41.9%). These results are similar to a survey(17) carried out in the state of Bahia, where 84.5% of nursing professionals were female and 64.4% were married. Another study(18) also points out that anxiety is more common in women, where 3.6% of the population, at some point in life, will be affected by this psychic manifestation. This fact was observed in a similar study developed in Wuhan, China, the epicenter of COVID-19, in which more severe degrees of anxiety and other symptoms related to mental health were observed in nurses working to combat the pandemic in units hospital.

Furthermore, it is worth noting that the predominance of women in nursing is related to historical and cultural issues. They deal with work activities in their day-to-day lives, meet the demands of children, partners and the home, favoring the emergence of psychic changes such as stress and anxiety.(17-18)

Nursing professionals with anxiety, in this study, are mostly technicians in care positions (44.2%), work in critical sectors (55.8%), are tendered (44.2%) and work in the health field more than 10 years ago (27.9%). A research(19) revealed that sectors of professional activity and environmental situations can cause anxiety, with emphasis on closed sectors with highly complex procedures, as well as instability or worsening of patients’ health status.

Another relevant point is that a large part of the patients affected by COVID-19 have severe symptoms, especially respiratory syndromes. They need intensive care, which justifies a higher prevalence of anxiety in workers in critical sectors(20). In addition, health care in relation to COVID-19 demands other potentially...
stressful factors such as exposure to the risk of infection by the virus, physical and mental fatigue, the need for continuous use of PPE and distancing from the family.

Regarding employment relationship, a study points out the occurrence of anxiety among nursing professionals in private hospitals, due to working conditions such as low wages, lack of job stability and sudden changes in function. In public hospitals, on the other hand, professionals have stability in their jobs and dismissals are practically nonexistent, which would justify less occurrence of anxiety.

As for professional practice length, a similar survey shows that 36% of nursing professionals have been working in the training field for more than 10 years. This study also demonstrated that years of work can be considered a risk factor for anxiety, as it provides an intense daily life with patients and staff. It is also noteworthy that the workload should allow nursing professionals moments of leisure and rest, otherwise the lack of leisure may contribute to anxiety disorder.

Concerning the sociodemographic profile of nursing professionals with depression (25.0%), there was a predominance of women (90.9%), aged between 21 and 30 years (45.5%) and single (36.4%). A similar study shows that 31.0% of nursing professionals have a depressive condition, which is justified by the nature of the work, that is, dealing with pain, suffering and death daily.

The prevalence of depression observed in this research was in line with an international study. Such study was compiled through systematic review and analyzed, showing a combined prevalence of depression of 22.8% among health professionals working in the midst of a pandemic. In addition, another review study on the theme showed a higher prevalence of depression among nursing professionals when compared to other health professionals.

The daily exposure of nursing professionals to stressful situations such as assistance to critically ill patients, intensive and direct care, bureaucratic functions and work overload contribute to the development of anxiety and depression.

Another study points out that physical, emotional and mental exhaustion to which nursing professionals are exposed during their work shift can trigger apathy, irritability, discouragement, anxiety and depression.

Regarding the profile of nursing professionals with the presence of depression, the literature finds that most are women, relating to the act of caring and a high burden of stress. A research also shows that depression mostly affects women, since adolescence, being considered by society as weak and submissive sex. In this context, since nursing is mainly composed of young women, a study portrays an imbalance in the burden between work and domestic life, triggering exhaustion, which can lead to severe depression and Burnout Syndrome.

The nursing professionals with depression in this study are mostly technicians in healthcare position (54.5%), working in critical sectors (54.5%) and with a temporary contract (36.4%). A research carried out in a medium-sized hospital in São Paulo on depression among nursing professionals shows that most (62%) are nursing technicians in healthcare position, confirming the data presented in this study.

With regard to critical sectors, the literature shows that in the hospital there are sectors where the depression rate among nursing professionals is higher such as Intensive Care Unit, Emergency Room, and Surgical Center. In these sectors, professionals need to always be attentive and work quickly. Finally, there is still an overload and precariousness of health, exposing professionals to risks. It is noteworthy that with so many attributions and responsibilities, nursing professionals can develop a mental imbalance, generating depression.

As for the time of practice in the hospital, the majority (31.8%) of nursing professionals with depression work around 1 out of 5 years in the field, confirming the research data. Most, 69%, refer to a shorter period, of up to five years and in relation to the length of professional practice in nursing, 46% have had it for less than five years. Such data indicate a considerable percentage of professionals with little practice in the profession.

Finally, anxiety and depression can present several manifestations in nursing professionals, with a direct reflection on personal and professional life, weakening them. Therefore, it is essential that workers prioritize their health as a way of minimizing professional exhaustion, using strategies that can minimize this exhaustion that is typical of the health field.

Study limitations

The limitations of this study were evidenced by the sample size, in view of the accentuated losses due to not accepting to participate in the study; issues of work overload; lack of time to participate; leave due to the expertise resulting from the COVID-19 pandemic. Such expertise imposed withdrawal from work to groups at risk and professionals already sick, making it impossible to participate in this research.

Contributions to nursing and mental health

Research that deals with this recent subject that is currently in vogue is relevant but scarce. It is believed that the data evidenced in this study will contribute to the promotion of Brazilian literature on the mental health of nursing professionals in coping with COVID-19 as well as intensification of preventive practices and treatment of psychic manifestations such as anxiety and depression, focusing on promoting mental health in occupational environment.

CONCLUSION

Nursing acts directly in a continuous and integrated work in the prevention, promotion, protection and treatment of health problems in the population, collaborating with other health professionals for the quality of this assistance.

Daily pressures at work, such as conflict of interest and overload, the technical responsibility that the profession requires, the tireless search for quality in care, among many other demands, can contribute to the emotional imbalance of nursing professionals.

The COVID-19 pandemic can further impact the mental health of nursing workers as it leads to the challenge of facing the unknown. In this study, we sought to identify the prevalence and factors associated with anxiety and depression of professionals working in coping with COVID-19 at a regional university hospital. The results show important aspects of the nursing work process.
in the face of the referred pandemic and signs of anxiety and depression, indicating psychological distress in addition to that already intrinsic to the profession.

It is noteworthy that the relationship between threat and challenge can change in the course of an encounter with a conflicting situation such as the COVID-19 pandemic. A situation that is initially assessed as threatening can be assessed as challenging due to coping efforts, which allow a more positive view of the situations, and thus individuals make better use of the available resources.

Therefore, it is essential that nursing professionals prepare to face this threat, seeking information about risk and protective factors in relation to the pandemic and what it entails in their routine. They should seek coping strategies such as specialized psychological support, telephone service that provides differentiated, confidential and free listening, complementary integrative practices such as Yoga, Reiki, among others. Relaxation exercises are as well recommended, in addition to looking for public mental health services available, in order to improve their working conditions and physical and mental health.

REFERENCES


