Nursing and stress in the treatment of patients with coronavirus at hospital: a literature review

Enfermagem e estresse no tratamento de pacientes com coronavírus no hospital: uma revisão da literatura

Oswaldo Jesus Rodrigues da Motta
PhD student and Master in Bioethics, Applied Ethics and Public Health. Universidade Federal do Rio de Janeiro. CNPq Research Group on Clinical Bioethics - Ethics and Health Care (UFRJ). Address: Rua Horácio Macedo S / N, Cidade Universitária, Rio de Janeiro-RJ.
E-mail: oswaldojrm@hotmail.com

Arthur Santana de Paulo
PhD student and Master in Bioethics; in Applied Ethics and in Public Health. Universidade Federal do Rio de Janeiro. Address: Rua Marechal Deodoro 88, Centro, Petrópolis - RJ
E-mail: arthur.paulo@mprj.mp.br

ABSTRACT
Purpose: This is a systematic review that investigates the scientific production related to the nurse's stress in the assistance to the patient with coronavirus at hospital in the PubMed database.
Methods: The keywords coronavirus, nursing, hospital and stress from 2015 to 2020 were used in the PubMed database. Five articles were found, read in full to collect the title, publication journal, year of publication, method and main findings. The journal that most published articles was Asian Nursing Research (two publications, 2016 and 2017). The other publications were Journal of Infection and Public Health (an article in 2018), Archives of Psychiatric Nursing (an article in 2018) and Zhejiang Da Xue Xue Bao Yi Xue Ban (Journal of Zhejiang University, one article in 2020). Results: The most used method in the research was the qualitative model (40%). The articles varied on the subject: nurses' stress (60%), nurses' mental health (20%) and nursing care (20%). Conclusion: the results demonstrate that stress causes damage to the nurse's mental health, which prevents more adequate assistance to the patient. It is a subject that needs to be better explored with new research.

Keywords: coronavirus, nursing, hospital and stress.

RESUMO
Objetivo: Trata-se de uma revisão sistemática que investiga a produção científica relacionada ao estresse do enfermeiro na assistência ao paciente com coronavírus no hospital no banco de dados PubMed. Métodos: As palavras-chave coronavírus, enfermagem, hospital e estresse de 2015 a 2020 foram utilizadas na base de dados PubMed. Foram encontrados cinco artigos, lidos na íntegra para coletar título, periódico, ano de publicação, método e principais conclusões. A revista que mais publicou artigos foi a Asian Nursing Research (duas publicações, 2016 e 2017). As outras publicações foram Journal of Infection and Public Health (um artigo em 2018), Archives of Psychiatric Nursing (um artigo em 2018) e Zhejiang Da Xue Xue Bao Yi Xue Ban (Journal of Zhejiang University, um artigo em 2020). Resultados: O método mais utilizado na pesquisa foi o
modelo qualitativo (40%). Os artigos variaram sobre o tema: estresse do enfermeiro (60%), saúde mental do enfermeiro (20%) e assistência de enfermagem (20%). Conclusão: os resultados demonstram que o estresse causa danos à saúde mental do enfermeiro, impedindo uma assistência mais adequada ao paciente. É um assunto que precisa ser melhor explorado com novas pesquisas.

Palavras-chave: coronavírus, enfermagem, hospital e estresse.

1 INTRODUCTION

Nursing as a profession of direct care for hospitalized patients, finds numerous situations of risk and stress during professional activity. One of them is the exposure to infectious pathogens that can cause serious pathologies, causing stress and impairing health care.

One of these emerging diseases is Coronavirus. It is a viral disease transmitted by the airways that generates acute respiratory infections (ARI) that are important causes of morbidity and mortality worldwide. Viruses are considered to be the predominant etiologic agents or primary pathogens in individuals to secondary bacterial infections. Serious clinical manifestations associated with diseases of the lower respiratory tract are frequently observed in individuals with risk factors such as: heart disease, pneumopathy and other chronic conditions such as diabetes, obesity and asthma¹.

Given the concern about nursing stress in the face of patients with coronavirus in a hospital environment, this study aims to investigate the scientific works published in the PubMed database with the keywords coronavirus, nursing, hospital and stress, covering the period from 2015 to 2020.

2 METHODS

To achieve the proposed objective, a bibliographic survey was conducted in the PubMed database (https://www.ncbi.nlm.nih.gov/pubmed/) with the keywords coronavirus, nursing, hospital and stress, in the period from 2015 to 2020. On March 19, 2020, the proposed website was accessed, in which the search for articles with the keywords coronavirus, nursing, hospital and stress was undertaken.

Five articles emerged from the search, of which they were selected, based on the following inclusion criteria: having coronavirus, nursing, hospital and stress as descriptors; be written in English; have been published in the last five years and are available online in full. From there, these five articles were selected from the specified database.

The procedure for data collection followed the following script: after reading in full, a form was prepared consisting of the title of the article, publication period, year of publication, method and main findings. After the analysis, from the referential survey, the number of articles found in
the database was verified, in order to verify how the stress influences nursing care for patients with coronavirus in the hospital.

Following the qualitative analysis carried out by reading the articles, the following categories emerged: nurse stress, mental health of the nurse and nursing assistance. The data were presented and worked from the absolute frequency \((y)\) in percentages \(\%\).

### 3 DATA OBTAINED

Regarding the publication of the five articles, it was found that they were distributed in four different journals, with Asian Nurs Res (Korean Soc Nurs Sci) having the most publications (2016; 2017) with the keywords coronavirus, nursing, hospital and stress.

**TABLE 1 - Distribution of articles located in the PubMed database (2015-2020)**

| Journal                                      | \(y\) | %  |
|----------------------------------------------|------|----|
| Asian Nurs Res                               | 2    | 40 |
| *J Infect Public Health*                     | 1    | 20 |
| Arch Psychiatr Nurs                          | 1    | 20 |
| Zhejiang Da Xue Xue Bao Yi Xue Ban           | 1    | 20 |
| **Total**                                    | **5**| **100**|

It is important to note that all of the five articles were published in english. Regarding the year of publication of the articles, it was found that they were published in the following years: 2016 (one article), 2017 (one article), 2018 (two articles) and 2020 (one article). As for the method used in the articles, it was found that the majority (40\%) was developed through qualitative research (Table 2).

**TABLE 2 - Distribution of articles according to the method used**

| Journal                        | \(y\) | %  |
|-------------------------------|------|----|
| Qualitative research          | 2    | 40 |
| Descriptive study             | 1    | 20 |
| Longitudinal analysis         | 1    | 20 |
| Questionnaire application     | 1    | 20 |
| **Total**                     | **5**| **100**|

As for the synthesis of publications found in the analyzed database, it was possible to group them, distributing them as shown in Table 3.
TABLE 3 - Number of publications located, according to the topic addressed, mentioned in the PubMed database (2015-2020).

| Summary of Publications            | y | %  |
|------------------------------------|---|----|
| Nurse Stress                       | 3 | 60 |
| Mental Health of the Nurse         | 1 | 20 |
| Nursing Assistance                 | 1 | 20 |
| **Total**                          | 5 | 100|

4 DISCUSSION

The discussion presented according to the classification of the articles, as shown in Table 3. This classification was chosen for associating articles with similar subjects.

5 NURSE STRESS

The articles selected for this category were those that present nursing stress. Oh Nand others (2017)\textsuperscript{2} describe that the objective of the study was to examine the levels of stress and professionalism of nurses who provided nursing assistance during the 2015 Middle East respiratory syndrome.

A self-administered questionnaire was designed to assess levels of stress and professionalism of nursing according to the participants' experiences during the outbreak. The previous experience of nursing in outbreaks was associated in an important way with the intention of providing assistance to patients with an infectious disease emerging in the future, considering stress and professionalism. It is necessary to collect information about the nurses' epidemic experience and to regularly assess work stress and professionalism.

Almutairi\textsuperscript{3} and others (2018) assessed nursing stress in the summer of 2015 in a 1000-bed Saudi tertiary hospital that suffered a severe outbreak among patients with middle eastern respiratory syndrome (mers); during which some health professionals contracted the virus, but none died. The outbreak caused not only fear and stress, but also professional, emotional, ethical and social conflicts and tensions between health professionals and patients.

Through semi-structured and face-to-face interviews, seven survivors (health professionals) were individually interviewed. Each interview lasted up to 90 minutes and the data were analyzed using the thematic analysis technique. Survivors are vulnerable, it is your organization's responsibility to provide a system that embraces healthcare professionals during and after disastrous events.
Kim and Choi\textsuperscript{4} assessed that nurses working in the emergency department of eight specific hospitals to treat patients exposed to the coronavirus of the Middle East respiratory syndrome (MERS-CoV) in Korea, which can subsequently lead to burnout (is a long-term consequence of prolonged exposure to certain job demands and a reaction that appears when a person can no longer endure the stress they have been undergoing\textsuperscript{5}). Nurses were evaluated during the MERS-CoV outbreak and influencing factors were identified in order to obtain information for reducing and preventing the level of "burnout".

The evaluated nurses who care for patients infected with MERS-CoV are aware that "burnout" is greater for nurses who work in the emergency than in other sectors of the hospital. Efforts are needed to prepare nurses for assistance and reduce wear and tear. Particular care should be taken with stress management at work, providing working conditions that can reduce tension and stress, as well as resources for the treatment of MERS-CoV need to be implemented. As well as implementing support measures for the patient's family and friends.

5.1 MENTAL HEALTH OF THE NURSE

Parks and others\textsuperscript{6} demonstrated that during an epidemic of a new infectious disease, several health professionals are affected in their mental health. The objectives of the study were to test the following hypotheses: stigma and resistance have direct and indirect effects on mental health through stress in nurses who work in a government-designated hospital during a coronavirus epidemic. A total of 187 professionals participated in the survey.

The direct and indirect effects related to the hypotheses of the study were calculated with a reliability of around 95%. The influences of stigma and resistance to mental health were partially mediated by stress in nurses who worked in a hospital during a coronavirus epidemic. Mental health was more influenced by direct than indirect effects.

5.2 NURSING ASSISTANCE

When we talk about nursing care, many questions arise that need reflection. The selected article\textsuperscript{7} demonstrates that anxiety and fear were common in patients with coronavirus. Therefore, psychological assessments were necessary for crises to be avoided. Traditional Chinese medicine has been integrated to promote patient rehabilitation.

Nursing care was optimized so that nursing care could promote patient rehabilitation. Quarantine for patients who were discharged was necessary, as was regular follow-up for two weeks. As it is a recently emerging pathology, further studies are needed.
6 CONCLUSIONS

The results demonstrate that, among the themes addressed in the articles found, those related to assistance stand out, with approaches directed to nursing actions related to the care of critically ill patients with coronavirus, the stress of nurses in the care of patients and the consequent effect to the mental health of the nurse. Furthermore, they demonstrate that the relationship between coronavirus, nursing care, the patient, and all other professionals involved (such as the patient’s family), is a subject that needs to be further explored.

It is also noteworthy that publications referring to coronavirus, nursing, hospital and stress are still restricted and what has been published is concentrated in rare international journals. It is considered, then, the need for more research in order to increase the existing knowledge about this theme and facilitate nursing care and stress prevention in favor of good mental health, not only for nurses, but for other health professionals, patient and family.

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