

Assessment of the Mental Health Status of East Avenue Medical Center Nursing Personnel during the COVID-19 Pandemic: A Descriptive Survey Study

Jennifer Ian Estoy¹, Remo D. Palgan¹, Fritz Gerald V. Jabonete^{2*}

East Avenue Medical Center, Quezon City, Philippines¹

College of Allied Health, National University²

**Corresponding Author: fgvjabonete@national-u.edu.ph*

Abstract: The world is facing one of the world's most significant health disasters, triggered by the outbreak of novel coronavirus disease (COVID-19). Healthcare professionals are continuously working at the center of this crisis to protect human well-being. A descriptive, cross-sectional design was utilized in the study. COVID-19 Stress Scales (CSS) and COVID Anxiety Scale (CAS) were used to assess the respondents' conditions. Most of the respondents are female, single, aged 31-40, assigned experiencing worries and troubles that they might contract the COVID disease and spread it to others. Additionally, it was determined that the fear of being an asymptomatic disease carrier continues to be a concern. There is a significant difference in nurses' anxiety levels when grouped according to position and area of assignment. Moreover, there is a significant difference in the level of stress among nurses. Nurse 1 in NICU, Surgical Ward, and Medical COVID Ward experience more stress among the groups. Nurses in EAMC are moderately anxious and stressed in combating COVID disease. The findings can be used to create wellness programs to combat anxiety and stress among nursing personnel, especially during this pandemic. It is recommended that continuous monitoring of the mental health and wellness of the staff should be prioritized. Programs and interventions for mental health should be given high emphasis.

Keywords: COVID-19; stress; healthcare professionals; COVID-19 stress scales

1. INTRODUCTION

1.1 Background

The Corona Virus (SARS-CoV-2), the COVID-19 virus, is an infectious disease caused by a newly identified strain of coronavirus. It was first identified as an outbreak in Wuhan, China, in December 2019. A total of 50,340 positive cases were detected, with 3,869 deaths recorded initially. A few months later, the deadly virus inevitably spread rapidly, affecting millions of people worldwide and resulting in chaos and catastrophes in the healthcare system. This prompted the World Health Organization (WHO) to declare COVID-19 as a global pandemic last March 11, 2020.

Over a year of fighting the COVID-19 pandemic, on June 25, 2021, statistics showed that almost a total of 179,686,071 confirmed cases of COVID-19 infection, including 3,899,172 deaths, have been reported globally (WHO COVID-19 Dashboard). However, it is still continuously spreading in different countries and causing mutation to a much more infectious strain. New coronavirus strains have recently been detected worldwide, including the delta variant.

Increasing morbidity and mortality rates due to COVID-19 infection are reported on the news and social media. This also triggered mental health issues such as depression, anxiety, and stress among medical and other allied healthcare professionals have emerged concomitantly with the pandemic and were initially observed in China and Italy (Ahmed et al., 2020). As the Coronavirus pandemic continues, it is feared it to cause another silent, hidden “second pandemic” related to mental health problems globally in healthcare settings (Choi, Heilemann, Fauer, & Mead, 2020). The following mental health issues among healthcare professionals, including nurses, were confronted: burnout or overwhelming workload, long shifting hours, fear of exposure to COVID-19, and inadequate supply of personal protective equipment (Giusti et al., 2020). Globally, medical frontliners face professional and mental health issues during this pandemic (Rahman (Robin) & Plummer, 2020). According to Social Weather Station (SWS) survey conducted in May 2020, nine out of ten (9/10) Filipinos are stressed out due to the pandemic; this droves as an alarming condition.

The Center for Emerging and Re-Emerging Infectious Diseases at the East Avenue Medical Center led and was designated as a COVID-19 facility with an additional 250-bed capacity along with other COVID-19 referral hospitals in the Philippines. Based on the East Avenue Medical Center, Public Health Unit (PHU) data, 802 healthcare professionals have been infected with COVID-19 since March 2020. As of October 24, 2020, a total of 306 nursing personnel have contracted COVID-19, the highest infection rate of COVID-19 among healthcare professionals in East Avenue Medical Center. As advocates for healthcare, the researchers investigated this scenario further.

1.2 General Objective

To assess the mental health status of nursing personnel at the East Avenue Medical Center, focusing on anxiety and stress related to the COVID-19 pandemic.

1.3 Specific Objectives

1. To describe the profiles of the respondents in terms of:
 - 1.1 Age/ Gender
 - 1.2 Civil Status
 - 1.3 Designation/Position
 - 1.4 Area of Assignment
2. To assess the levels of anxiety and stress of nursing personnel dealing with COVID-19 pandemic when grouped according to:
 - 2.1 Age/Gender
 - 2.2 Civil Status
 - 2.3 Designation/Position
 - 2.4 Area of Assignment

3. To determine the differences in the levels of anxiety and stress of nursing personnel dealing with COVID-19 pandemic when grouped according to:
 - 3.1 Age/Gender
 - 3.2 Civil Status
 - 3.3 Designation/position
 - 3.4 Area of Assignment

1.4 Scope and Limitation

The study focused on determining the levels of anxiety and stress of nursing personnel during the COVID-19 pandemic. Assessment for depression was not included. Furthermore, the proposed study did not discuss the factors affecting the perceived stress and anxiety, the impact on the current working conditions, and any interventions that may be done to address the identified problems.

1.5 Review of Related Literature

The COVID-19 pandemic is continuously affecting the mental health of healthcare professionals globally, leading to increasing numbers of healthcare professionals experiencing mental health problems. The effects differ significantly from the previously recorded influenza pandemic in 1918 (He et al., 2020).

The existence of COVID-19 infection has challenged the mental health status of healthcare professionals compared to previous pandemics. The term “infodemics,” the combination of information and epidemic, refers to the rapid spread of both accurate and inaccurate information about something and is currently another public health concern related to the pandemic. These “infodemics” may contribute to the increased prevalence of depression, anxiety, stress, and other mental health problems (Gao et al., 2020).

Previous studies on the effect of the pandemic on mental health have shown a higher prevalence of people experiencing mental health problems compared with the number of people being infected by the virus (Reardon, 2015). Furthermore, in this era wherein most of us depend on social media and technology, individuals are highly susceptible to mental health issues related to the current pandemic (Ahmad & Murad, 2020) & (Lai et al., 2020).

A study done in China showed that aside from the physical health impact of the COVID-19 pandemic, there is a more hidden severe second pandemic that has affected the psychological well-being of both infected persons and healthcare professionals (Choi et al., 2020). The nurses' central dilemma is having to choose between protecting themselves and their families and performing their duties during a pandemic. The feeling of uncertainty and the fear of infection may explain why at some point, many healthcare professionals, including nurses, experience anxiety and stress related to COVID-19 (Giusti et al., 2020). This contributes to the daily personal concerns also experienced by nurses. Healthcare professionals like nurses are also concerned about infection and fear dying from the COVID-19 virus. Studies have shown a higher infection transmission rate among healthcare professionals, including nurses giving direct care to COVID-19 patients (Heinzerling et al., 2020).

Frontline healthcare professionals have died in China, Italy, the UK, the US, and the Philippines (Kursumovic, Lennane, & Cook, 2020). Preliminary studies in China report higher rates of mental health problems among healthcare professionals, including depression, insomnia, anxiety, and stress (Que et al., 2020). Looking at the results of the previous studies, there seems to be strong evidence that nurses have higher risks for full-blown anxiety and stress related to the COVID-19 pandemic (Mo et al., 2020).

Mental health problems among healthcare professionals, especially nurses, can be traced to flexible public health measures, including strict compliance with social distancing and the new normal policy. The unexpected effects of this pandemic have made the working conditions of nurses very difficult, causing both physical and psychological exhaustion (Buheji & Buhaid, 2020).

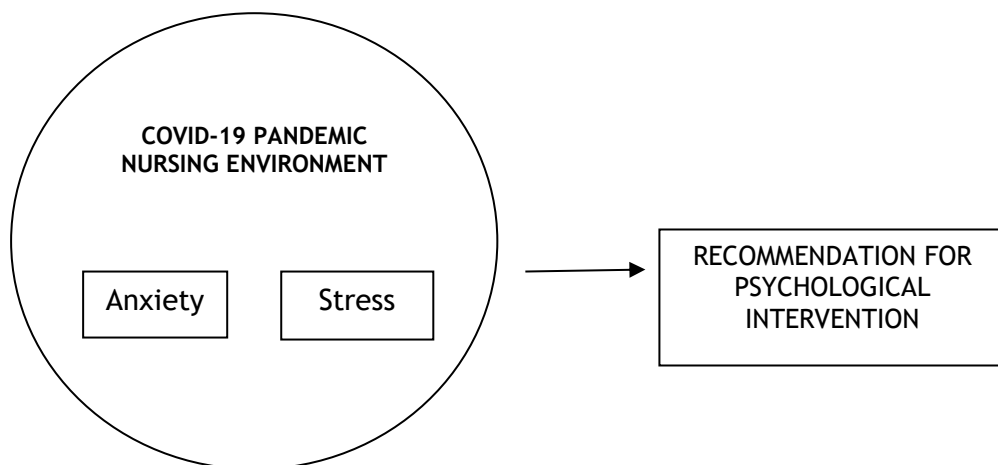
Since anxiety and stress related to COVID-19 are now becoming public health concerns among nurses, these should be addressed cautiously. Several tools have been created to assess the mental health problems of healthcare professionals. The COVID-19 Anxiety Scale was devised to identify COVID-19-related anxiety among individuals affected by fear of uncertainty. On the other hand, the COVID-19 Stress Scale measures stress levels among individuals.

The East Avenue Medical Center faces various challenges related to the COVID-19 situation. Based on data collated by the Hospital's Public Health Unit (PHU), nurses had higher infection rates among hospital employees. In October 2020, there were 133 confirmed positive cases and two mortalities among the nursing staff. During the surge of the COVID-19 pandemic, more than 20 nursing personnel have resigned. The resignation of that nursing personnel might have been triggered by the pandemic situation that has affected not only the physical but also the mental health of the nursing personnel.

As for now, only a few studies relating to mental health among nurses during the pandemic have been published locally. This study aims to assess the mental health status of nurses during the COVID-19 pandemic and to establish baseline data regarding the COVID-19 _related mental health experiences of the nursing personnel of the East Avenue Medical Center.

1.5 Conceptual Framework

The figure below shows a circle emphasizing the nursing environment where nursing personnel is brought to care for patients during the COVID -19 pandemic. Moreover, the mental health of nursing personnel was challenged, as manifested in the level of stress and anxiety experienced. This study will attempt to assess and obtain baseline data on the current mental health status of the nursing personnel of the East Avenue Medical Center.



2. METHODOLOGY

2.1 Research Design

This study will employ a descriptive, cross-sectional design. It will determine the levels of anxiety and stress experienced by nursing personnel during the COVID-19 pandemic.

2.2 Sample

All qualified nursing personnel was invited to join the survey. The selection of participants was made using the following criteria for screening:

2.3 Inclusion Criteria

1. Nursing personnel ages 25 to 50 years old, with permanent government plantilla items, rendering direct service to suspected and confirmed cases of COVID-19.
2. Employees under DOH's contract who are 25-50 years old, have worked for the agency for at least three months, and have provided direct care to people who have tested positive for COVID-19.

2.4 Exclusion Criteria

1. Newly hired contractual employees rendering less than three months of service.
2. Nursing personnel on quarantine due to COVID-19-related illness or on vacation leave.
3. Nursing personnel previously and medically diagnosed with pathologic anxiety and stress.

This study will target East Avenue Medical Center nursing personnel who will qualify based on the criteria set. As of July 2021, there is currently 750 nursing personnel. A simple random sampling (SRS) method will be utilized to select study samples. A computer-generated randomizer will be used to determine the study participants. Yamane's simplified formula for proportions (1967) was used to compute the sample size. A total of 260 respondents were included in this study.

2.5 Research Locale

The study was conducted at the East Avenue Medical Center, one of the leading tertiary government hospitals in the Philippines. Recently, the hospital was designated as the Center for Emerging and Re-emerging Infectious Diseases in Metro Manila, including the COVID-19 disease. The study took place in the institution's twenty-five (25) nursing clinical areas.

2.6 Instrumentation

The study utilized the COVID-19 Anxiety Scale (CAS) and the COVID-19 Stress Scale (CSS). The CAS is a self-report questionnaire containing five questions related to dysfunctional anxiety associated with the coronavirus crisis. Each item was answered using a 5-point scale, from 0 to 4, corresponding to their individual experiences for the past two weeks. The CAS Tool is placed in the public domain; therefore, no formal permission is required for its use and replication. On the other hand, the CSS will measure the participants' stress levels related to the COVID-19 pandemic. It is a 36-items questionnaire to understand better and assess COVID-19-related distress. The items were rated on a 5-point scale ranging from 0 (not at all) to (significantly).

2.7 Data Gathering Procedure

The research proposal was initially presented to the Nursing Service Division head for approval. After the Nursing Service approved it, the protocol was forwarded to the Professional Education, Training and Research Office- Technical Review Board (PETRO-TRB) for review. After TRB approval was received, the protocol was forwarded for ethics approval. The data collection took one and a half months.

The researchers personally handed the hard copies of the questionnaire to the study respondents while observing the maximum COVID-19 precautionary measures. The completed questionnaires were retrieved from the respondents, and group debriefing sessions were conducted by the hospital's in-house clinical psychologist and the researchers. Individual debriefing was provided to those who needed it. Data were encoded in Microsoft Excel subjected for analysis.

2.8 Ethical Considerations

Approval from EAMC- IERB was secured, with code- EAMC IERB 2021-35, before the conduct of the study. Informed consent was obtained from the

participants to ensure adherence to basic research ethics. Participation was purely voluntary. The researchers declared no conflicts of interest.

Research questionnaires were distributed to the different nursing units of the institution via a face-to-face method, observing maximum health standard precautions. The confidentiality of the participants was ensured through the use of unique code numbers. Only the researchers had access to the code numbers. A clinical psychologist assisted the researchers in conducting individual and group counseling debriefing sessions that will be shown after the data collection.

3. RESULTS AND DISCUSSION

Table 1 shows the profiles of the respondents. Most nursing personnel who participated in the study are aged 31-40 years old, female, single, and assigned to the Medical COVID ward. Figures 1 to 5 show the COVID Anxiety Scale (CAS) items. It can be concluded that the majority of the nursing personnel did not experience symptoms of anxiety. In terms of the level of stress of nursing personnel, when grouped according to age, all age groups perceived stress at a moderate level. The same observation when grouped according to civil status. This means that regardless of whether they are single or married would observe health protocols. Moderate stress was felt by those in Nurse 1 position, while slight stress from Nurse 2 and 3 positions. Moreover, slight stress was experienced by nurses assigned to the Emergency and OB/DR COVID ward compared to those in other areas. It is remarkable that when nursing personnel is grouped according to nursing position, they have shown a significant difference in the level of anxiety which was not observed when grouped according to age, sex, and civil status. It is noteworthy that nursing personnel's stress level is significantly different when grouped according to age, sex, civil status, nursing position, and area of assignment.

Table 1. Profiles of the Respondents

Variables	Frequency (%)
<i>Age</i>	
21-30	88(34%)
31-40	104 (40%)
41-50	54 (21%)
<i>Did not specify</i>	13(5%)
<i>Sex</i>	
Male	111(43%)
Female	148(57%)
<i>Civil Status</i>	
Single	132 (51%)
Married	124 (48%)
Widow	3 (1%)
<i>Designation/ Position</i>	
Nurse 1	78 (30%)

Nurse 2	54 (21%)
Nurse 3	18 (7%)
Others	109(42%)
<i>Area of Assignment</i>	
Medical ward	34 (13%)
Surgical ward	31 (12%)
OB/ DR ward	18 (7%)
Pedia	26 (10%)
Emergency	23(9%)
NICU	13 (5%)
Medical COVID	67(26%)
OB/DR COVID	47(8%)
OPD/ Eye Center	18(7%)
Others	8 (3%)

Frequency of Anxiety experienced

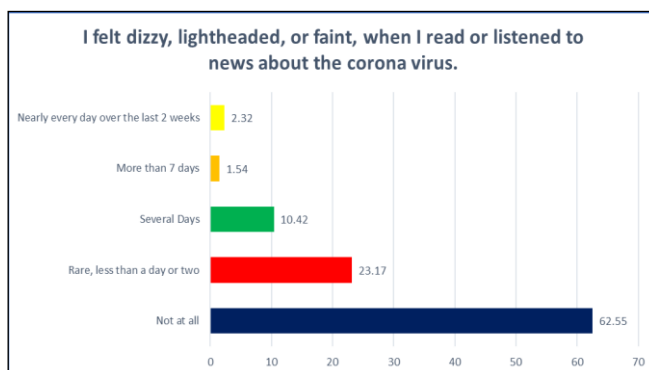


Fig. 1 COVID Anxiety Item

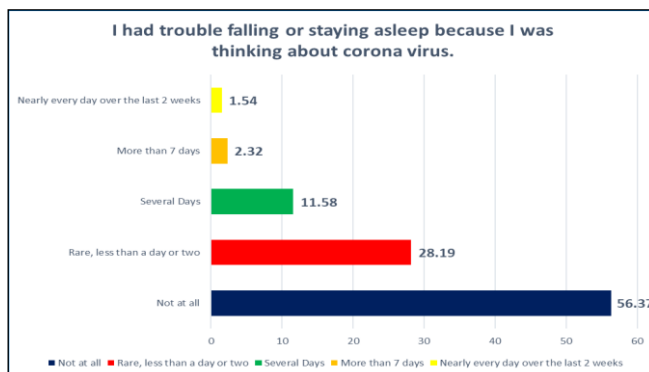


Fig.2 COVID Anxiety Item

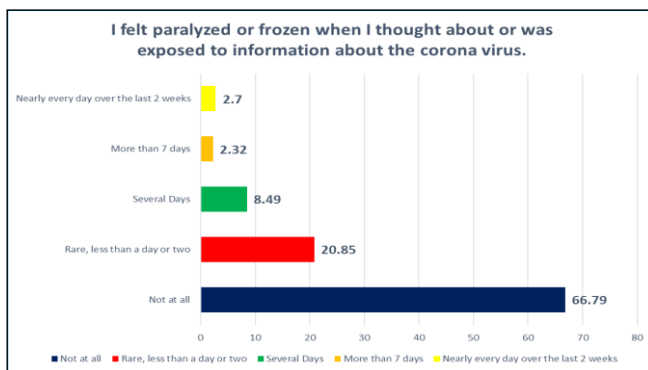


Fig. 3 COVID Anxiety Item

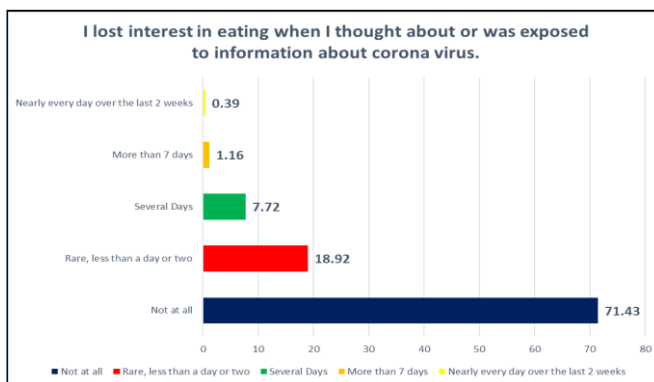


Fig.4 COVID Anxiety Item

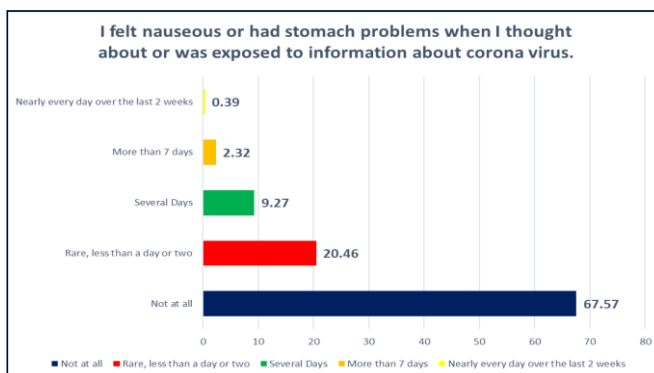


Fig. 5 COVID Anxiety Item

Table 2. Level of Stress of Nursing Personnel

Demographics	Mean Score	Verbal Interpretation
Age		
21-30	2.60	Moderate Stress
31-40	2.65	Moderate Stress
41-50	2.68	Moderate Stress
Civil Status		
Single	2.76	Moderate Stress
Married	2.54	Moderate Stress
Did not specify	2.16	Slight Stress
Designation		
Nurse 1	3.27	Moderate stress
Nurse 2	2.50	Slight stress
Nurse 3	2.27	Slight stress
Did not specify	2.63	Moderate stress
Area of Assignment		
Medical ward	2.57	Moderate stress
Surgical ward	2.79	Moderate stress
OPD/Eye Center	2.62	Moderate stress
Pedia	2.62	Moderate stress
Emergency	2.52	Slight stress
NICU	2.83	Moderate stress
Medical COVID	2.67	Moderate stress
OB/DR COVID	2.22	Slight stress
Others	1.81	Slight stress

Table 3. Test of Difference in the Level of Anxiety

According to:	<i>F ratio</i>	<i>p-value</i>
Age	0.638	0.54
Sex	3.033	0.12
Civil Status	0.826	0.46
Position	4.685	0.02

Table 4. Test of Difference in the Level of Stress

According to:	<i>Mean (SD)</i>	<i>p-value</i>
Age	32.36 (7.98)	<0.0001
Sex	1.57 (0.50)	<0.0001
Civil Status	1.51 (0.57)	<0.0001
Position	2.61 (1.30)	<0.0001
Area of Assignment	4.83 (2.48)	<0.0001

4. CONCLUSION

Nurses in EAMC are moderately anxious and stressed in combating COVID disease. The findings can be used to create wellness programs to combat anxiety and stress among nursing personnel, especially during this pandemic.

5. RECOMMENDATION

The researchers encourage the need to prioritize the ongoing monitoring of the staff's mental health and well-being. Based on the results of this assessment, frontline nurses should periodically re-adapt protocols and procedures to ensure patient safety and minimize exposure to the virus. Nurses should enhance communication through regular one-on-one and virtual team meetings. Observing the use of words of confirmation to ensure that all health team members know when and how to provide feedback or raise concerns. It is required that after long shifts or grueling work weeks, all employees should take regular paid time off throughout the week. In addition, psychological counseling should be made available to those who are more affected.

6. ACKNOWLEDGMENTS

The researchers would like to acknowledge the Nursing Service Office of East Avenue Medical Center through the former chief nurse, Dr. Teresita A. Santiago, current chief nurse, Mrs. Filomena I. Juguilon, and ACNET Ritchel S. Acuna. The active participation of the whole nursing community made this research project feasible and successful.

7. REFERENCES

- Ahmad, A. R., & Murad, H. R. (2020). The Impact of Social Media on Panic During the COVID-19 Pandemic in Iraqi Kurdistan: Online Questionnaire Study. *Journal of Medical Internet Research*, 22(5), e19556. Retrieved from <https://doi.org/10.2196/19556>
- Ahmed, M. Z., Ahmed, O., Aibao, Z., Hanbin, S., Siyu, L., & Ahmad, A. (2020). Epidemic of COVID-19 in China and associated Psychological Problems. *Asian Journal of Psychiatry*, 51, 102092. Retrieved from <https://doi.org/10.1016/j.ajp.2020.102092>
- Buheji, M., & Buhaid, N. (2020). Nursing Human Factor During COVID-19 Pandemic. *International Journal of Nursing Science*, 10 (1): 12-24. Retrieved from <https://doi.org/10.5923/j.nursing.20201001.02>
- Choi, K. R., Heilemann, M. V., Fauer, A., & Mead, M. (2020). A Second Pandemic: Mental Health Spillover From the Novel Coronavirus (COVID-19). *Journal of the American Psychiatric Nurses Association*, 26(4), 340–343. Retrieved from <https://doi.org/10.1177/1078390320919803>
- Gao, J., Zheng, P., Jia, Y., Chen, H., Mao, Y., Chen, S., Wang, Y., Fu, H., & Dai, J. (2020). Mental health problems and social media exposure during COVID-19 outbreak. *PloS one*, 15(4), e0231924. Retrieved from

- <https://doi.org/10.1371/journal.pone.0231924>
- Giusti, E. M., Pedroli, E., D'Aniello, G. E., Stramba Badiale, C., Pietrabissa, G., Manna, C., Stramba Badiale, M., Riva, G., Castelnuovo, G., & Molinari, E. (2020). The Psychological Impact of the COVID-19 Outbreak on Health Professionals: A Cross-Sectional Study. *Frontiers in Psychology*, 11, 1684. Retrieved from <https://doi.org/10.3389/fpsyg.2020.01684>
- He, D., Zhao, S., Li, Y., Cao, P., Gao, D., Lou, Y., & Yang, L. (2020). Comparing COVID-19 and the 1918-19 influenza pandemics in the United Kingdom. *International Journal of Infectious Diseases : IJID : official publication of the International Society for Infectious Diseases*, 98, 67–70. Retrieved from <https://doi.org/10.1016/j.ijid.2020.06.075>
- Heinzerling, A., Stuckey, M. J., Scheuer, T., Xu, K., Perkins, K. M., Resseger, H., Magill, S., Verani, J. R., Jain, S., Acosta, M., & Epton, E. (2020). Transmission of COVID-19 to Health Care Personnel During Exposures to a Hospitalized Patient - Solano County, California, February 2020. *MMWR. Morbidity and Mortality Weekly Report*, 69(15), 472–476. Retrieved from <https://doi.org/10.15585/mmwr.mm6915e5>
- Kursumovic, E., Lennane, S., & Cook, T. M. (2020). Deaths in healthcare workers due to COVID-19: the need for robust data and analysis. *Anaesthesia*, 75(8), 989–992. Retrieved from <https://doi.org/10.1111/anae.15116>
- Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., Wu, J., Du, H., Chen, T., Li, R., Tan, H., Kang, L., Yao, L., Huang, M., Wang, H., Wang, G., Liu, Z., & Hu, S. (2020). Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019. *JAMA Network Open*, 3(3), e203976. Retrieved from <https://doi.org/10.1001/jamanetworkopen.2020.3976>
- Mo, Y., Deng, L., Zhang, L., Lang, Q., Liao, C., Wang, N., Qin, M., & Huang, H. (2020). Work stress among Chinese nurses to support Wuhan in fighting against COVID-19 epidemic. *Journal of Nursing Management*, 28(5), 1002–1009. Retrieved from <https://doi.org/10.1111/jonm.13014>
- Que, J., Shi, L., Deng, J., Liu, J., Zhang, L., Wu, S., Gong, Y., Huang, W., Yuan, K., Yan, W., Sun, Y., Ran, M., Bao, Y., & Lu, L. (2020). Psychological impact of the COVID-19 pandemic on healthcare workers: a cross-sectional study in China. *General Psychiatry*, 33(3), e100259. Retrieved from <https://doi.org/10.1136/gpsych-2020-100259>
- Rahman, A., & Plummer, V. (2020). COVID-19 related suicide among hospital nurses; case study evidence from worldwide media reports. *Psychiatry research*, 291, 113272. Retrieved from <https://doi.org/10.1016/j.psychres.2020.113272>
- World Health Organization. (2020) WHO Coronavirus Disease (COVID-19) Dashboard. Retrieved from: <https://covid19.who.int/>