# NURSES' PERCEPTION OF ORGANIZATIONAL SUPPORT DURING COVID-19 PANDEMIC

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## Abstract

Background: Nursing as a profession has been consistently challenging. As a result of the unstable conditions and continuous unpredictable changes in work environment due to the COVID-19 pandemic, nurses are experiencing twice the pressure than nurses who are recruited in normal circumstances. Organizational support is essential to assist nurses in reducing job-related stress.
Objective: To evaluate nurses' perceived organizational support during the COVID-19 pandemic in Aseer Region, Saudi Arabia.
Methods: A quantitative cross-sectional design was followed in Aseer Region, Saudi Arabia that included 288 nurses working in 13 governmental hospitals. A self-administered questionnaire was designed by the researchers (in both English and Arabic versions), which included sociodemographic characteristics and the COVID Organizational Support Scale.
Results: Most participant were Saudi (79.5%), females (91.3%), and aged 23-35 years (93.1%). About two-thirds of nurses (61.8%) had 1-2 years of work experience in Saudi Arabia. Most nurses (87.2%) had a Bachelor degree. Most participants dealt with COVID-19 patients and had previous experience with previous outbreaks (77.8% for both). The majority of nurses agreed regarding having access to appropriate personal protective equipment (75.3%), and getting tested for COVID-19 when they need to (70.8%). However, 90.3% of participants agreed that they are exposed to the risk of getting COVID-19 at work and they may take the virus home to their families, while 22.2% agreed that they have access to childcare during increased work hours and school closure, and 46.5% lack access to up-to-date information and communication from the healthcare system. Almost half of nurses (47.2%) perceived a poor organization support level, while 44.1% perceived good support level and only 8.7% perceived an excellent support level. Poor organizational support was most perceived by those aged 23-35 years (49.3%, p=0.044), while it was least perceived by female nurses (47.9%), non-Saudi nurses (50.8%), single nurses (48.8%), having no children (49.5%), with 1-2 years' experience in Saudi Arabia (50%), with Bachelor degree (48.6%), who deal with COVID-19 patients (50%) and with no previous experience with previous outbreaks. However, apart from nurses' age groups, differences in perceived organizational support according to nurses' personal characteristics were not statistically significant.
Conclusions: Nurses' perceived organizational support in Aseer Region during the COVID-19 pandemic is suboptimal. Therefore, training should be provided to nurses in order to handle and cope with the increased workload during the COVID-19 pandemic, and to mitigate any experienced exhaustion.
Key Words: Organizational Support; Nursing; COVID-19; Saudi Arabia.

## Introduction

The global outbreak of COVID-19 in 2020 is a serious risk for healthcare providers, especially nurses. In the treatment and prevention of the disease's growing trend, nurses are vital first-line health-care providers (1).

Nursing as a profession has been consistently challenging. Taking into consideration the unstable conditions and continuous unpredictable changes in work environment due to the COVID-19 pandemic, nurses are experiencing twice the pressure than nurses who are recruited in normal circumstances (3).

During the time of COVID-19, challenges and factors causing stress that nurses face are likely to be exacerbated. Accordingly, there may be a noticeable impact on their psychological status, caused by the workplace stressors, lack of support, lack of personal protective equipment (PPE) availability and fear of being infected or to be the medium of the transmission of infection to family and loved ones (4). Additionally, several factors have separated nurses from their supportive social communities, such as work overload and social distancing (5).

Evidence has shown that the current pandemic of coronavirus has a negative impact on individual's psychological health (6-7). Although studies into the impact of the pandemic on health and well-being of nurses remains scarce, several recent publications revealed numerous stressing causes that may lead to psychological health issues (8). Consequently, organizational support is essential to assist nurses in reducing job-related stress. Literature has demonstrated that an advanced level of perceived organizational support could minimize the effect of various workplace stressors and may work as a factor protecting nurses from stress and anxiety caused by arising infectious diseases and pandemics (9).

Perceived organizational support refers to employees' perception regarding the extent to which their organization takes measures to protect their physical and psychological well-being. Additionally, perceived organizational support has many implications as it is related to job satisfaction, organizational performance and absenteeism (10).

Moreover, COVID-19, constituted a nerve-wracking factor to the nurses. Regarding COVID-19 context, recent studies have reported high levels of depressive and post-traumatic symptoms in up to 30% of healthcare workers. During this pandemic, most nurses were in urgent need of support and continued supervision until they were able to cope with their new environment and develop a sense of accountability to perform their assigned tasks (11).

The aim of this study was to evaluate nurses' perceived organizational support during the COVID- 19 pandemic in Aseer Region, Saudi Arabia.

## Methodology

A quantitative cross-sectional design was followed to carry out this study in Aseer Region, Saudi Arabia. All nurses in 13 governmental hospitals were included, of which 3 hospitals were assigned as COVID-19 isolation centers, whereas the remaining hospitals were eligible for triaging COVID-19 patients and admitting them for a short-term period prior to transferring them to the center.

The estimated target sample size was determined to be 250 nurses, using purposive sampling technique G* power software, version 3.1.9.2, with the assumption that α= .05, effect size= 0.15 (medium), power level= 0.80, and number of predictors=8. However, this study included 288 nurses in the study settings to compensate for possible missing data.

### Data collection instrument

A self-administered questionnaire was designed by the researchers (in English and Arabic versions), which included sociodemographic characteristics and the COVID organizational support scale (COVID-OS), which was used to assess the level of organizational support provided by the healthcare facility during the COVID-19 outbreak. It consists of eight statements with a grading scale containing 3-items to rate each of eight statements based on the level of agreement which varied between agreement, neutral or disagreement (12).

### Pilot study

A pilot study was conducted on 30 nurses to test clarity of the data collection instrument and the necessary time to fill out the study questionnaire. The responses of nurses who participated in the pilot study were not included in the main study.

### Data collection and Procedure:

After obtaining the ethical approval from the Research Ethical Committee at the General Directorate of Health Affairs, the researchers contacted the heads of nursing in the 13 study settings, seeking their support during data collection. Data were collected through an online version of the study questionnaire that was distributed to each targeted participant through E-mails or WhatsApp. Data collection took place during the period from July 2020 till June 2021.

### Statistical analysis

Data entry and analysis were conducted using the Statistical Package for Social Sciences (IBM, SPSS, Chicago, IL, version 28). Data analyses included descriptive statistics (frequencies & percentages). For hypothesis testing, $X^2$ test of independence test was applied. A p-value less than 0.05 was considered as statistically significant.

### Ethical considerations

An ethical clearance was given by the Ethical Committee of Aseer Directorate of Health. All participants nurses were asked for their consent before participation in the study. Moreover, anonymity and confidentiality of obtained data were completely fulfilled, as the personal identifying data (e.g., name, ID, phone number, etc.) were not requested.

## Results

Table (1) shows that the majority of participant nurses were females (91.3%), and aged 23-35 years (93.1%). Most nurses (79.5%) were Saudi, single (59%), having no children (75.7%). About two-thirds of participant nurses (61.8%) had 1-2 years of work experience in Saudi Arabia. Most nurses (87.2%) had a Bachelor degree. Most participants dealt with COVID-19 patients and had previous experience with previous outbreaks (77.8% for both).

Table (2) shows that the majority of participant nurses agreed regarding having access to appropriate personal protective equipment (75.3%), and they can get tested for COVID-19 once they need to (70.8%). However, 90.3% of participants agreed that they are exposed to the risk of getting COVID-19 at work and they may take the virus home to their families. More than half of participants (58.3%) were uncertain that their organization would take care of their own needs if they get infected with COVID-19. Moreover, only 22.2% of nurses agreed that they have access to childcare during increased work hours and school closure, 30.9% can get support for other personal and family needs when work demands increase, 43% may receive competent medical care if they are deployed to a new area, and 46.5% lack access to up-to-date information and communication from the healthcare system.

Table (3) and Figure (1) show that almost half of nurses (47.2%) perceived a poor organization support level during COVID-19 pandemic, while 44.1% perceived good support level and only 8.7% perceived an excellent support level.

Table (4) shows that poor organizational support was most perceived by those aged 23-35 years (49.3%, p=0.044). Moreover, organizational support was least perceived (i.e., poor support) by female nurses (47.9%), non-Saudi nurses (50.8%), single nurses (48.8%), having no children (49.5%), with 1-2 years' experience in Saudi Arabia (50%), with Bachelor degree (48.6%), who deal with COVID-19 patients (50%) and with no previous experience with previous outbreaks. On the other hand, excellent organizational support was mostly observed among nurses aged 36-45 years, those with a Master degree (25%), and those who had no experience with similar past outbreaks (10.9%). However, apart from nurses' age groups, differences in perceived organizational support according to nurses' personal characteristics were not statistically significant.

**Table 1: Personal characteristics of participant nurses**

| Personal characteristics | No. | % |
|---|---|---|
| Gender | | |
| • Male | 25 | 8.7 |
| • Female | 263 | 91.3 |
| (Age groups (in years | | |
| • 35-23 | 268 | 93.1 |
| • 45-36 | 17 | 5.9 |
| • 45< | 3 | 1.0 |
| Nationality | | |
| • Saudi | 229 | 79.5 |
| • Saudi-Non | 59 | 20.5 |
| Marital status | | |
| • Single | 170 | 59.0 |
| • Married | 110 | 38.2 |
| • Divorced/Widow | 8 | 2.8 |
| Having children | | |
| • No | 218 | 75.7 |
| • Yes | 70 | 24.3 |
| Years of work experience in Saudi Arabia | | |
| • year 1> | 49 | 17.0 |
| • years 2-1 | 178 | 61.8 |
| • years 3≤ | 61 | 21.2 |
| Qualification | | |
| • Diploma | 33 | 11.5 |
| • Bachelor | 251 | 87.2 |
| • Master | 4 | 1.4 |
| Dealing with COVID-19 patients | | |
| • Yes | 224 | 77.8 |
| • No | 64 | 22.2 |
| Experience with previous outbreaks | | |
| • Yes | 224 | 77.8 |
| • No | 64 | 22.2 |

**Table 2: Participant nurses' responses regarding the COVID-19 perceived organizational support**

| Items of perceived organizational support | Disagree | | Neutral | | Agree | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| I have access to appropriate personal protective equipment | 47 | 16.3 | 24 | 8.3 | 217 | 75.3 |
| I am exposed to the risk of getting COVID-19 at work and taking the virus home to my family | 19 | 6.6 | 9 | 3.1 | 260 | 90.3 |
| I can get tested for COVID-19 once I need to | 56 | 19.4 | 28 | 9.7 | 204 | 70.8 |
| I am uncertain my organization would take care of my own needs if I get COVID-19 | 56 | 19.4 | 64 | 22.2 | 168 | 58.3 |
| People in my organization have access to child care during increased work hours and school closure | 117 | 40.6 | 107 | 37.2 | 64 | 22.2 |
| As work demands increase, I can get support for other personal and family needs | 139 | 48.3 | 60 | 20.8 | 89 | 30.9 |
| My organization can provide me with competent medical care if I am deployed to a new area | 85 | 29.2 | 78 | 27.1 | 126 | 43.0 |
| I lack access to up-to-date information and communication from the healthcare system | 71 | 24.7 | 83 | 28.8 | 134 | 46.5 |

**Table 3: Grades of available organizational support to nurses during the COVID-19 pandemic**

| Organizational support grades | No. | % |
|---|---|---|
| Poor | 136 | 47.2 |
| Excellent | 25 | 8.7 |
| Excellent | 25 | 8.7 |

**Figure 1: Grades of perceived organizational support among nurses during COVID-19 pandemic**

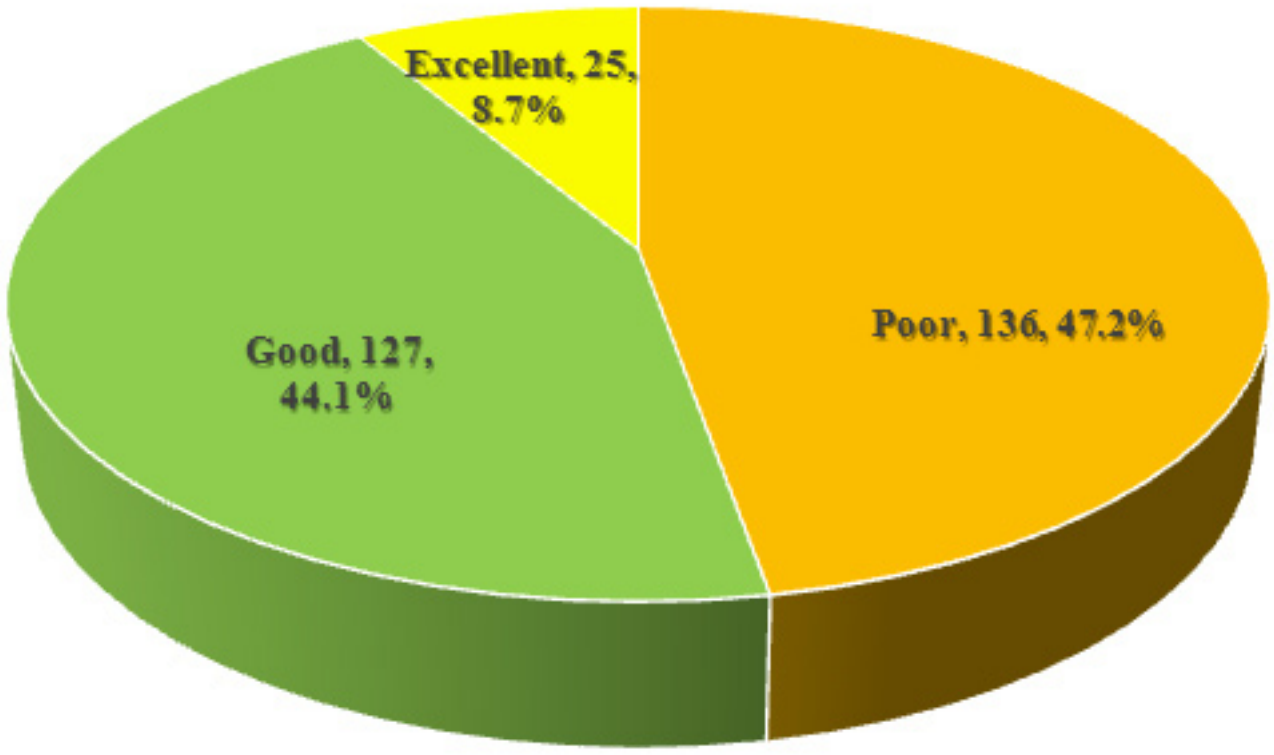

**Table 4: Grades of received organizational support according to nurses' personal characteristics**

| Personal characteristics | Poor | | Good | | Excellent | | P Value |
|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | |
| Gender | | | | | | | |
| • Male | 10 | 40.0 | 13 | 52.0 | 2 | 8.0 | |
| • Female | 126 | 47.9 | 114 | 43.3 | 23 | 8.7 | 0.703 |
| Age groups | | | | | | | |
| • years 35-23 | 132 | 49.3 | 114 | 42.5 | 22 | 8.2 | |
| • years 45-36 | 4 | 23.5 | 10 | 58.8 | 3 | 17.6 | |
| • years 45< | 0 | 0.0 | 3 | 100.0 | 0 | 0.0 | 0.044 |
| Nationality | | | | | | | |
| • Saudi | 106 | 46.3 | 106 | 46.3 | 17 | 7.4 | |
| • Saudi-Non | 30 | 50.8 | 21 | 35.6 | 8 | 13.6 | 0.177 |
| Marital status | | | | | | | |
| • Single | 83 | 48.8 | 73 | 42.9 | 14 | 8.2 | |
| • Married | 50 | 45.5 | 50 | 45.5 | 10 | 9.1 | |
| • Divorced/Widow | 3 | 37.5 | 4 | 50.0 | 1 | 12.5 | 0.954 |
| Having children | | | | | | | |
| • No | 108 | 49.5 | 92 | 42.2 | 18 | 8.3 | |
| • Yes | 28 | 40.0 | 35 | 50.0 | 7 | 10.0 | 0.380 |
| Work experience in Saudi Arabia | | | | | | | |
| • year 1> | 21 | 42.9 | 25 | 51.0 | 3 | 6.1 | |
| • years 2-1 | 89 | 50.0 | 72 | 40.4 | 17 | 9.6 | |
| • years 3< | 26 | 42.6 | 30 | 49.2 | 5 | 8.2 | 0.459 |
| Qualification | | | | | | | |
| • Diploma | 13 | 39.4 | 18 | 54.5 | 2 | 6.1 | |
| • Bachelor | 122 | 48.6 | 107 | 42.6 | 22 | 8.8 | |
| • Master | 1 | 25.0 | 2 | 50.0 | 1 | 25.0 | 0.492 |
| Dealing with COVID-19 patients | | | | | | | |
| • Yes | 112 | 50.0 | 92 | 41.1 | 20 | 8.9 | |
| • No | 24 | 37.5 | 35 | 54.7 | 5 | 7.8 | 0.149 |
| Experience with similar past outbreaks | | | | | | | |
| • Yes | 47 | 45.2 | 47 | 45.2 | 5 | 4.8 | |
| • No | 89 | 48.4 | 89 | 48.4 | 20 | 10.9 | 0.120 |

## Discussion

Findings of the present study revealed suboptimal perceived organizational support among nurses in Aseer Region during the pandemic of COVID-19. Almost half of the nurses perceived a poor level of organizational support, while 44.1% perceived a good support level, while only 8.7% perceived excellent support.

Kurtessis et al. (13) noted that there are various ways of conveying to employees that their organization cares about their well-being and values their contributions. Supportive aspects of leadership, fairness, human resources practices, and working conditions were all related to better perceived organizational support. In addition, predictions, based on processes of organizational support theory involving social exchange, attribution, and self-enhancement, were generally successful in accounting for working conditions to perceived organizational support, as well as the relationship of this support with employees' positive orientation toward the organization, subjective well-being, and behaviors helpful to the organization. Taken as a whole, perceived organizational support plays a central role in the employee–organization relationship and has important implications for improving employees' well-being and favorable orientation toward the organization.

Several studies stressed that a challenging work environment, with increased work demands, associated with lack of organizational support can be linked to deterioration

of mental and physical health in healthcare workers (14-16). Moreover, mental and psychological distress among healthcare workers have been associated with poor quality of care, less productivity and increased risk for errors (17). Therefore, it is important for health organizations to identify the organizational needs of their healthcare workers and to ascertain the impact of organizational aspects on their employees' mental health (18).

Lilja et al. (19) emphasized the positive relationship between home and work conflict. This means that difficulties with balancing home and work life during the COVID-19 pandemic among professional, technical employees, and healthcare workers was related to higher levels of exhaustion. Moreover, increased workload is positively related to workers' exhaustion. This means that the greater the workload induced during the COVID-19 pandemic, the more exhaustion is experienced.

Several studies found an increase in workload was associated with subsequent negative aspects of employee well-being (20-22). Gudmundsdottir and Hathaway (23) added that this result may be related to workers' resilience and coping abilities during times of rapid transition and changing work practices.

Results of the present study showed that despite most nurses having access to appropriate personal protective equipment, and testing for COVID-19 once they need to, the majority expressed their fears toward being exposed to the risk of getting COVID-19 at work and that they may take the virus home to their families. Moreover, most nurses felt uncertain that their organizations would care about their own needs if they get infected with COVID-19. Access to childcare during increased work hours and school closure was limited to about one-fifth of nurses, about one-third of nurses can get supportfor other personal and family needs when work demands increase, 43% may receive competent medical care when deployed to a new area, and almost half of them lack access to up-to-date information and communication from the healthcare system.

It has been reported that organizational support, or the extent to which an organization commits to providing resources, reinforcing, encouraging, and communicating with its members, is a critical determinant of organizational success (24). Higher levels of organizational support may help to reduce the impact of multiple workplace stressors and protect employees from stress caused by disasters, catastrophes, and new diseases (9).

Several studies confirmed that fear of infection for COVID-19 is a straining job demand and constitutes one of the major stressors in nursing practice (21-22; 25-26). Galanis et al. (27) cautioned that nurse burnout is a major problem during the current COVID-19 epidemic. Therefore, nurses need better training to handle and cope with stressful situations during the pandemic.

Gualano et al. (28) argued that, since the initial outbreak of the COVID-19 pandemic, reports have highlighted the impact of the pandemic on healthcare workers' mental and psychological health. Nevertheless, only a few studies have explored organizational factors in relation to mental health outcomes during the pandemic, including dimensions of organizational support to HCWs (12; 29-30). These dimensions included education in self- protection, provision of protective equipment and psychological support and participation in decision making (14). A recent review pointed out the heterogeneity regarding the psychological and organizational measures used, as well as their cultural context; however, these findings support the association between organizational characteristics and mental health status of employees (31). Moreover, previous studies were conducted in a specific cultural context, thus jeopardizing the generalization of their findings (15-16).

Our study showed that, among nurses working in Aseer Region, poor organizational support was significantly most perceived by younger nurses (aged 23-35 years). Also, it was most perceived by nurses who are females, non-Saudi, single, having no children, with 3-4 years' experience in Saudi Arabia, with Bachelor degree qualification, who deal with COVID-19 patients and with no previous experience with similar epidemics. On the other hand, excellent organizational support was mostly observed among older nurses (aged 36-45 years), those with a Master degree, and those who had no experience with similar past outbreaks.

These findings are in accordance with those reported by several international studies. Naushad et al. (32) noted that nurses who provide care to patients infected with SARS-CoV-2 are at a high risk of developing psychological problems, as well as other mental health problems. They added that nurses may suffer from mental distress due to a variety of aspects, including personal protection equipment, an increasing number of confirmed and suspected cases, a lack of specific medications, burdensome workloads, extensive media coverage, and a sense of not being sufficiently supported.

In addition, an increased frequency of psychiatric symptoms has been reported in healthcare workers who dealt with previous relevant crises or outbreaks. A number of personal, work-related and organizational factors have been identified as risk factors for developing psychiatric symptoms in employees (33-34).

Consistent with organizational support theory's view that higher-level employees (e.g., older employees and those with postgraduate qualifications), who are usually senior supervisors, are more closely identified with the organization than lower-level employees and co-workers. Supervisors may vary in the degree to which they are identified with the organization and that favorable leadership by supervisors so identified is strongly linked to perceived organizational support (35-36).

## Conclusions

Consistent with organizational support theory's view that higher-level employees (e.g., older employees and those with postgraduate qualifications), who are usually senior supervisors, are more closely identified with the organization than lower-level employees and co-workers. Supervisors may vary in the degree to which they are identified with the organization and that favorable leadership by supervisors so identified is strongly linked to perceived organizational support (35-36).

## References


1. Barnett DJ, Thompson CB, Errett NA. Semon NL, Anderson MK, Ferrell JL, et al. Determinants of emergency response willingness in the local public health workforce by jurisdictional and scenario patterns: a cross-sectional survey. BMC Public Health 2012; 12:164. Doi: 10.1186/1471-2458-12-164.

2. Schmitt A, Schiffman R. Perceived needs and coping resources of newly hired nurses. SAGE open medicine, 2019; 7, 2050312119833216. Doi: 10.1177/2050312119833216.

3. Horan, Kathleen M. MSN, APRN, CNE; Dimino, Kimberly DNP, RN, CCRN Supporting Novice Nurses During the COVID-19 Pandemic, AJN, American Journal of Nursing: December 2020; 120 (12): 11.

4. Fernandez R, Lord H, Halcomb EJ, Moxham L, Middleton R, Alananzeh I, et al. Implications for COVID-19: A systematic review of nurses' experiences of working in acute care hospital settings during a respiratory pandemic. International Journal of Nursing Studies 2020. Doi: 10.1016/j.ijnurstu.2020.103637.

5. Huang L, Ming xu F, Liu H. Emotional responses and coping strategies of nurses and nursing college students during COVID-19 outbreak. PLoS One. 2020; 15(8): e0237303. Doi: 10.1371/journal.pone.0237303.

6. Kang L, Li Y, Hu S, Chen M, Yang C, Yang BX, Wang Y, Hu J, Lai J, Ma X, Chen J, Guan L, Wang G, Ma H, Liu Z. The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. Lancet Psychiatry 2020; 7(3): e14.

7. Mukhtar S. Pakistanis' mental health during the COVID-19. Asian Journal of Psychiatry 2020; 51(10):21–27.

8. Arnetz J, Goetz C, Arnetz B, Arble E. Nurse Reports of Stressful Situations during the COVID-19 Pandemic: Qualitative Analysis of Survey Responses. International Journal of Environmental Research and Public Health 2020; 17(21):8126.

9. Veenema TG, Deruggiero K, Losinski S. Hospital Administration and Nursing Leadership in Disasters: An Exploratory Study Using Concept Mapping. Nursing administration quarterly 2017; 41(2):151–163. doi: 10.1097/NAQ.0000000000000224.

10. Rhoades L, Eisenberger R. Perceived organizational support: a review of the literature. J Appl Psychol. 2002; 87:698–714. Doi: 10.1037/0021-9010.87.4.698.

11. Serrano-Ripoll MJ, Meneses-Echavez JF, Ricci-Cabello I, Fraile-Navarro D, Fiol-deRoque MA, Pastor-Moreno G, et al. Impact of viral epidemic outbreaks on mental health of healthcare workers: a rapid systematic review and meta-analysis. J Affect Disord. 2020; 277:347–57. Doi: 10.1016/j.jad.2020.08.034.

12. Zhang SX, Sun S, Afshar Jahanshahi A, Alvarez-Risco A, Ibarra VG, Li J, et al. Developing and testing a measure of COVID-19 organizational support of healthcare workers - results from Peru, Ecuador, and Bolivia. Psychiatry Res. 2020; 291:113174.

13. Kurtessis JN, Eisenberger R, Ford MT, Buffardi LC, Stewart KA, Adis CS. Perceived Organizational Support: A Meta-Analytic Evaluation of Organizational Support Theory. Journal of Management 2017; 43(6):1854-84.

14. Shanafelt T, Ripp J, Trockel M. Understanding and addressing sources of anxiety among health care professionals during the COVID-19 pandemic. JAMA 2020; 323:2133–4.

15. Liu D, Baumeister RF, Veilleux JC, Chen C, Liu W, Yue Y, et al. Risk factors associated with mental illness in hospital discharged patients infected with COVID-19 in Wuhan, China. Psychiatry Res. 2020; 292:113297. Doi: 10.1016/j.psychres.2020.113297.

16. Martin-Delgado J, Viteri E, Mula A, Serpa P, Pacheco G, Prada D, et al. Availability of personal protective equipment and diagnostic and treatment facilities for healthcare workers involved in COVID-19 care: A cross-sectional study in Brazil, Colombia, and Ecuador. PLoS ONE. 2020; 15:e0242185. Doi: 10.1371/journal.pone.0242185.

17. Karanikola MNK, Zartaloudi A, Nystazaki M, Zavrou R, Papathanassoglou EDE. Is there any association among depressive symptoms, job satisfaction and self-assessed empathy? A correlational study in Greek Psychiatric/Mental Health Nurses. Arch Psychiatr Nurs. 2020; 34:230–6. Doi: 10.1016/j.apnu.2020.04.006.

18. Nagesh S, Chakraborty S. Saving the frontline health workforce amidst the COVID-19 crisis: challenges and recommendations. J Glob Health. 2020; 10:010345. Doi: 10.7189/jogh.10.010345.

19. Lilja J, Fladmark S, Nuutinen S, Bordi L, Larjovuori RL, Innstrand ST, et al. COVID-19-Related Job Demands and Resources, Organizational Support, and Employee Well-Being: A Study of Two Nordic Countries. Challenges 2022; 13:10.

20. Ozamiz-Etxebarria, N, Berasategi Santxo, N, Idoiaga Mondragon, N, Dosil Santamaría, M. The Psychological State of Teachers During the COVID-19 Crisis: The Challenge of Returning to Face-to-Face Teaching. Front. Psychol. 2021, 11, 3861.

21. Nestor S, O'Tuathaigh C, O'Brien T. Assessing the Impact of COVID-19 on Healthcare Staff at a Combined Elderly Care and Specialist Palliative Care Facility: A Cross-Sectional Study. Palliat. Med. 2021; 35, 1492–1501.

22. Sarabia-Cobo C; Pérez V; de Lorena P; Hermosilla-Grijalbo C; Sáenz-Jalón M; Fernández-Rodríguez A; Alconero-Camarero AR. Experiences of geriatric nurses in nursing home settings across four countries in the face of the COVID-19 pandemic. J Adv Nurs 2021; 77(2): 869-878.

23. Gudmundsdottir, G.B, Hathaway, D.M. 'We Always Make It Work': Teachers' Agency in the Time of Crisis. J. Technol. Teach. Educ. 2020, 28, 239–250.

24. Eisenberger R, Cotterell N, Marvel J. Reciprocation ideology. Journal of Personality and Social Psychology 1987; 53(4):743.

25. Ashcroft, R, Sur, D, Greenblatt, A, Donahue, P. The Impact of the COVID-19 Pandemic on Social Workers at the Frontline: A Survey of Canadian Social Workers. Br. J. Soc. Work 2021, bcab158.

26. Nabe-Nielsen, K, Fuglsang, N.V, Larsen, I, Nilsson, C.J. COVID-19 Risk Management and Emotional Reactions to COVID-19 Among School Teachers in Denmark: Results from the CLASS Study. J. Occup. Environ. Med. 2021, 63, 357–362.

27. Galanis P, Vraka I, Fragkou D, Bilali A, Kaitelidou D. Nurses' burnout and associated risk factors during the COVID-19 pandemic: A systematic review and meta-analysis," Journal of Advanced Nursing 2021; 77(8):3286-3302.

28. Gualano MR, Sinigaglia T, Lo Moro G, Rousset S, Cremona A, Bert F, et al. The burden of burnout among healthcare professionals of intensive care units and emergency departments during the COVID-19 pandemic: a systematic review. Int J Environ Res Public Health 2021' 18:8172. Doi: 10.3390/ijerph18158172.

29. Algunmeeyn A, El-Dahiyat F, Altakhineh MM, Azab M, Babar ZUD. Understanding the factors influencing healthcare providers' burnout during the outbreak of COVID-19 in Jordanian hospitals. J Pharm Policy Pract. 2020; 13:53.

30. Feingold JH, Peccoralo L, Chan CC, Kaplan CA, Kaye-Kauderer H, Charney D, et al. Psychological impact of the COVID-19 pandemic on frontline health care workers during the pandemic surge in New York City. Chronic Stress 2021; 5:2470547020977891. doi: 10.1177/247054 7020977891.

31. Giorgi G, Lecca LI, Alessio F, Finstad GL, Bondanini G, Lulli LG, et al. COVID-19-related mental health effects in the workplace: a narrative review. Int J Environ Res Public Health 2020; 17:7857. doi: 10.3390/ijerph172 17857.

32. Naushad VA, Bierens JJLM, Nishan KP, Firjeeth CP, Mohammad OH, Maliyakkal A, et al. A Systematic Review of the Impact of Disaster on the Mental Health of Medical Responders. Prehospital and Disaster Medicine 2019; 34 (6): 632 – 643.

33. Preti E, Di Mattei V, Perego G, Ferrari F, Mazzetti M, Taranto P, et al. The psychological impact of epidemic and pandemic outbreaks on healthcare workers: rapid review of the evidence. Curr Psychiatry Rep. 2020; 22:43. doi: 10.1007/s11920-020-01166-z

34. Carmassi C, Foghi C, Dell'Oste V, Cordone A, Bertelloni CA, Bui E, et al. PTSD symptoms in healthcare workers facing the three coronavirus outbreaks: what can we expect after the COVID-19 pandemic. Psychiatry Res. 2020; 292:113312. doi: 10.1016/j.psychres.2020.113312.

35. Eisenberger R, Karagonlar G, Stinglhamber F, Neves P, Becker TE, Gonzalez-Morales MG, SteigerMueller M. Leader-member exchange and affective organizational commitment: The contribution of supervisor's organizational embodiment. Journal of Applied Psychology 2010; 95: 1085-1103.

36. Eisenberger R, Shoss MK, Karagonlar G, Gonzalez-Morales MG, Wickham R, Buffardi LC. The supervisor POS–LMX–subordinate POS chain: Moderation by reciprocation wariness and supervisor's organizational embodiment. Journal of Organizational Behavior 2014; 35: 635-656.