JEAS | Journal of Economics and Administrative Sciences
E-ISSN: 2148-1792 P- ISSN: 1302-2024
Volume 5, Supplement Issue 1
www.jeasweb.org

Work Loud and Clinical Performance of Nurses Treating Patients with Coronavirus Disease 2019 (COVID-19): The Mediating Role of Fear[1]

Donya Varzeshi
Department of psychology, Islamic Azad University, Gonabad, Mashhad, Iran

*Maryam Didehdar Ardebil **
PhD in Psychology, Independent researcher, Tehran, Iran
There is no conflict of interest in this study
**Corresponding author*

ABSTRACT

Background/Objective: High workload and psychological pressures can significantly reduce the quality of health care services provided by nurses in a crisis of ongoing COVID-19 pandemic. This study aimed to investigate mediating role of fear between workload and clinical performance of nurses in hospitals accepting patients with Coronavirus Disease 2019 (COVID-19).

Materials and Methods: In this descriptive-correlational study, 108 nurses participated working in hospitals of Tehran –Qum- Iran during 05Feb -31March 2020. Participants completed the standard nursing workload, Fear of COVID-19 Scale and Clinical Performance Questionnaires. The collected data analyzed in SPSS-20 through descriptive and inferential statistics.

Results: relationship between job pressure and nursing performance was significant regardless of the work experience, age, education and gender. Subscales of work loud explained predicted of nurses' performance(model $R^2 = .77$, $p < .001$) and Sobel test confirmed the moderation role of fear of COVID-19 between work loud and clinical performance of nurses.

Conclusion: In conclusion, work loud and fear of COVID-19 has implications for nurses' performance that should be monitored by nursing management.

Keywords: COVID-19, Fear, Nurse

[1] ***Acknowledgment***

The authors are thankful from all participants who take their time and corporate in this study.

Introduction

High work loud has been cited as a significant health problem among nurses (Ardesatni-Rostami, Ghasembaglu, & Bahadori, 2019). Since the mid-1980s, nurses' work loud has been growing due to the increasing use of technology, continuing rises in health care costs(Rodrigues & Ferreira,2013) and turbulence within the work environment(Brown& Braden, 2020).

Nurses are at the front line of any given epidemic and risk(Starr & Springer, 2014). As Aguste 19, 2020, the novel coronavirus disease 2019 (COVID-19) had caused 21,989,366 confirmed cases of COVID-19, including 775,893 deaths, reported to WHO, including considerable infection and mortality among medical staff(WHO, 2020). COVID-19 is a highly transmissible disease and hospital-related spread of the virus is very large(Gheysarzadeh et al., 2020). Nurses as the front lines of care are in high risk of infection(Huang, Lin, Tang, Yu, & Zhou, 2020).

They are under massive pressure not only during the epidemic but nursing is known as occupations with high stress and demands(Banovcinova & Baskova, 2014). Research shows that a heavy nursing workload adversely affects patient safety(Fagerström, Kinnunen, & Saarela, 2018). This situation results to major serious consequences in outbreaks when personal protect equipment supply is not adequate(Nelson, 2020), demands and stress in patients and families is high(Rajkumar, 2020) and news of caregivers mortality is updating daily(Lai et al., 2020). Nurses reported anxiety, stress, insomnia, post-traumatic stress disorder in previous outbreaks i.e. SARS(Su et al , 2007) and Ebola(Hayter, 2015) . While they are expected to maintain optimal work performance specially in crisis condition (Sousa & Seabra, 2018). It was found that work loud brought about hazardous impacts not only on nurses' health but also in their abilities to cope with job demands(Kokoroko & Sanda, 2019). This extremely impairs the quality care and the efficacy of health services delivery(Chang & Hsiu-Hui, 2019; Keykaleh et al., 2018).

This was evident with pandemics(Su et al., 2007; Hayter, 2015), the risk of COVID-19 infection may result in significant psychosocial stress for medical staff(Kang et al., 2020; Rana, Mukhtar, & Mukhtar, 2020). Unfortunately, infection and mortality among young medical staff members is high(Huang et al., 2020). Nurses reported work loud moderately affected their job performance(Sagherian, Clinton, Abu-Saad Huijer, & Geiger-Brown, 2017).When the high performance of nurses is life-death matter for mass of patients. However nurses in perception of work loud are different and we hypothesized fear of COVID-19 may moderated the relationship of work loud with clinical performance. Rarely researchers focused on nurse's demands during COVID-19 outbreak. Therefore, our study aims to investigate mediating role of fear between workload and clinical performance of nurses in hospitals accepting patients with COVID-19.

Methods

This descriptive- cross-sectional study conducted among nurses through web based sampling.

Participants

The final sample included 108 nurses working in Hospitals of Tehran –Qum- Iran. The inclusion criteria were as follows: working in hospitals COVID-19 accepting, work experience for at least last six months, full-time employment, consent to participate in the study; no chronic physical or mental illness.

Instruments

-Demographic questionnaire including age, gender, work shift, education, work experiences.

-NASA Task Load Index (TLX) (Hart & Staveland, 1988) uses six questions to assess mental demand, physical demand, temporal demand, performance, effort, and frustration. Each question has a rating from 1 to 10, where 1 represents the lowest task demand, and 10 represents the highest, with the exception of the performance question, where 1 indicates the highest, and 10 indicates the lowest. The overall TLX score calculated as the sum of the six scores. The scale score varies from zero to 100. Average scores below 50 are acceptable and scores above 50 are considered high work pressure(Mohamed et al., 2014). The validity and reliability of this questionnaire has been confirmed by Saremi et al. and Cronbach's alpha has been reported to be 0.67(Saremi, 9Noorizade9 & Rahimi, 2019).

Nurses' work performance measured using the Nursing Performance Instrument (NPI), a newly developed scale that measures nurses' own perceptions of their physical and mental performance while providing patient care. The NPI consists of nine items on a 6-point Likert-type scale with responses ranging from strongly disagree (1) to strongly agree (6). The NPI has a reported Cronbach's alpha of.80 with established face and content validity (Barker & Nussbaum, 2011). In this study, the researchers modified the NPI by removing two items (i.e. apply five rights principle in medication administration; able to carry out safe nursing practice) to avoid social desirability and response bias. The researchers then summed the seven items for an overall score of nursing performance. The scale score ranged from 7 to 42; higher scores indicated better perceived performance. The Cronbach's alpha in this study was 0.61.

Fear of COVID-19 Scale (FC-19S) developed by Ahorsu et al (2020) included 7items. The participants indicate their level of agreement with the statements using a five-item Likert-type scale. Answers included "strongly disagree," "disagree," "neither agree nor disagree," "agree," and "strongly agree". The minimum score possible for each question is 1, and the maximum is 5. A total score calculated by adding up each item score (ranging from 7 to 35). The higher the score, the greater the fear of cororonavirus-19. The validity procedure showed a stable unidimensional structure with robust psychometric properties(Ahorsu et al., 2020).

2-4. Procedure

In order to prevent spread of COVID-19 online questionnaires developed and sent to participants through KoBo Toolbox. Researcher was on-call during the data collection for answering any probable question. This Web-based format was selected for cost considerations, lower infection risk and time constraints. In first page of questionnaire privacy, right to refuse to participant, aims of study and contact numbers of corresponding researchers included. The participants signed consent form electronically.

2-5.Statistical analysis

The data were analyzed using SPSS version 22 (SPSS, Inc., Chicago, IL). Descriptive statistics used to examine study variables. Mean and standard deviation of variables calculated. Demographic data's analyzed via percentage and frequency. The normal distribution of quantitative data investigated by Kolmogorov-Smirnov test.

The parametric assumptions at the bivariate level met. The COVID-19 fear scale, Nurses clinical performance, and work loud scores relationship analyzed through Pearson coefficient and regression. Cronbach's α coefficient calculated to examine NASA-TLX, Nurses Clinical Performance, and COVID-19 Fear Scale inter-item internal consistency. In order to find out the moderation role of COVID-19 fear between job pressure and clinical performance bootstrap way in SMART-PLS3 employed. An effect size (ES) of 0.10, 0.30, and 0.50 considered small, medium, and large. The statistical significance was set at $p < .05$.

2-6. considerations

The current study procedure followed guidelines of the Helsinki Declaration of 1975. The proposal of study approves in scientific committee of Hospital of Xiamen Medical College. It made clear that participant's privacy was to be respected and the study would be anonymous. In addition, participants given the right to refuse to complete the questionnaire. The participants signed consent form electronically.

Results

Demographic findings showed that the age range of the participants ranged from 25 to 51 years (M= 35.15, SD=6.11). The work experience ranged from 1 to 26 years (M =35.62, SD=6.39). The percentage and frequency of participants based on age, gender, work experience, shifts and education showed that the majority of women were female participants (75.9%); the highest frequency was related to the group with 5-10 years of work experience (28.7%) and age between They were 35-40 years old (32.4%) (Table 1).

Table 1- Demographic characters of participants.

Variable		N (%)
	25-30y	19(17.6)
Age groups	31-35y	28(25.9)
	36-40y	35(32.4)
	Above40y	26(24.1)
gender	male	26(24.1)
	female	82(75.9)
Job experience	Below5 y	22(20.4)
	5-10y	31(28.7)
	11-15y	29(26.9)
	Above 16y	26(24.1)
education	graduate	18(16.7)
	undergraduate	90(83.3)

The results of correlation test showed that in all age groups, the relationship between workload and nursing performance was significant. Although the relationship was inverse in nurses with work experience below 5years (r = .65), 5-10years (r = .62) and 11-15years (r = .66). There was a significant inverse relationship between job pressure and nursing performance in age group of 25-30years old (r = .68), 31-35 years old (r = .65), 34-40years old (r = .70) and above 40years old (r = .67). Men (r = .67) and women (r = .71) related data also showed a significant inverse relationship between work loud and nursing performance see in the Table 2.

Table 2-Results of Pearson correlation coefficient on work loud based on age, work experience, gender, and education.

Variable		Pearson correlation
Age groups	25-30y	0.68*
	31-35y	0.62*
	36-40y	0.70*
	Above40y	0.67*
gender	male	0.67*
	female	0.71*
job experience	Below5 y	0.66*
	5-10y	0.62*
	11-15y	0.66*
	Above 16y	0.69*
education	graduate	0.69*
	undergraduate	0.67*

*P≤0.001

Liner regression revealed that work loud dimensions could explain 77% of the variance of job performance of nurses ($F(106) = 25.00$, p = .001). Inspection of the regression coefficients of this model

revealed but outcomes were worse for nurses with more severe mental demands and physical demands (model $R^2 = .77$, $p < .001$). The results showed that the standardized beta of duration of drug use was 0.22 and 0.27 for physical demands ($t = 4.53$, $p = .01$) and mental demands ($t = 6.01$, $p = .01$)consequently see Table3.

Table 3 - Predicting the job performance of nurses based on work loud.

Variable	Model1		
	Unstandardized co-effients		CE Beta
	Beta	SE Beta	
Mental demand	1.42	0.22	0.64
Physical demand	0.48	0.27	0.20
Temporal demand	0.20	0.20	0.11
Performance	0.20	0.21	0.07
R^2	0.77*		
F for change in R^2	25.00*		

*P<0.001

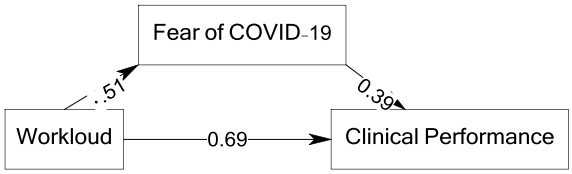

Figure1 -Moderator role of fear of COVID-19 between work loud and clinical performance of nurses

Evident from Sobel test (figure1) indicated value of 4.03 with standard error of 0.02 confirmed the moderation role of fear of COVID-19 between work loud and clinical performance of nurses.

Discussion

The results of the study showed that there is an inverse relationship between work pressure and performance, which means that performance decrease with increasing work pressure. Previous findings confirm these findings i.e. Baethge et al. examined the working pressure among nurses and concluded that when the mental pressure in nurses increases negatively affects the performance level(Baethge, Müller & Rigotti, 2016) .A study by Sharma et al. suggests that work stress and pressure can affect nurses' performance in different domains (Sharma et al., 2014). The results of a study by Sarafis et al. showed that increasing occupational stress in nurses was associated with a decrease in their clinical competencies (Sarafis et al.,2016).

In justifying this finding, it can be said that the relationship between stress and performance in all occupations shows that stress can reduce performance in individuals through affecting mental and physical health(Baethge et al., 2016); therefore, it is not unexpected that people who experience high work pressure to show lover performance. Working pressure in epidemic condition is more critical and complicated situation. The staff in this situation faced with large number of distressed patients and their families admitted to hospital wards. The patients who critically need special care such as ventilation, injections, and antibiotics for a long time while this care may result to nurse’s infection and even mortality. This in itself

highlights the role of nurses in this area(Mo et al., 2020). Nurses as frontline health care workers are most stressed in this area because they must always be ready to react quickly to circumstances (Oliveira, Garcia& Nogueira,2016) .Many researchers believe that working in this situation is source of psychological pressure(Sarsangi et al., 2015).

Increasing workplace pressure can call to psychological and behavioral responses and results to higher burden and lower quality of care(Kowitlawkul et al., 2019). Employees who exposed to high pressure especially when continuously they hear increasing of medical staff mortality news.

Employees high pressure feeling is cause to lower efficiency in care and problem solving, organizational communication, and job values. Data analysis and participation of participants in different age groups showed that there is a significant inverse relationship between work pressure and job performance in all age groups, which means that in all age groups increasing work pressure related to lower clinical performance. This finding is consistent with the results obtained in a study of Nasiry et al.(Nasiry Zarrin Ghabaee, Haresabadi, Bagheri Nesami, & Talebpour Amiri, 2016). the results showed, with increasing age, the work pressure level decreased. However, a study revealed different results and with increasing age, workload increased (Habibi, Pourabdian, Atabaki, & Hoseini, 2012). This difference in findings may be due to the fact that the age range of the two research samples and the situation of this were different as in this study nurses were exposed with unknown and dangerous virus with high transitions rate. A study found that there was no significant difference between different age groups and different areas of workload except in the field of physical needs(Hoonakker et al., 2011).

This finding is explainable as the decrease in workload due to aging can be seen in the individual's experience and familiarity with how to deal with crisis and barriers to work. On the other hand, the rate of night work decreases with age, this can affect the feeling of work pressure. On the other hand, performance enhancement is justified by experience.

Data analysis and grouping of participants' work experiences showed that there was a significant inverse relationship between work pressure and job performance. That is, performance affected by increased work pressure. However, with increasing work experience, performance increased and workload decreased. In a study by Nasirizad Moghadam et al., the results of the studies showed that work experience and working hours have no significant relationship with workload (Nasirizad Moghadam,Reza Masouleh, Chehrzad& Kazemnezhad Leili, 2019).While the results of other studies show that people's work performance improves with increasing work experience. The results also showed a positive relationship between work experience and performance(Cziraki, Read, Laschinger, & Wong, 2018; Toghasi, Iwassa, & Mizuno, 2018).

In justifying this finding, it can be said that experienced nurses feel less pressure due to their high experience and awareness of the aspects of working in crisis. Meanwhile, their children more likely grow up enough to manage family pressures. The data showed that there was a relationship between work pressure and performance in all shifts. However, a review of the mean scores showed that the mean performance scores on the night shift were slightly lower and the work pressure was higher. In the study of Nasirizad Moghadam et al., the obtained results showed that there was a significant relationship between fatigue and workload (Nasirizad Moghadam et al., 2019). People on duty are more likely to get tired due to a disturbed sleep cycle and lack of adequate rest. This cumulative fatigue can affect the mental load of work

The nurses who have irregular work shifts have difficulty in planning their daily life and cannot meet the expectations of their child and spouse. This problem makes them feel that they do not have enough control over work and life, and causes to higher pressure and diminished performance.

Although the average working pressure was higher among women, there was a significant relationship between work pressure and performance in both men and women, which means that regardless of the gender of nurses due to work pressure in clinical judgment, support, care activities, coordination, Systemic thinking, response to contradictions, clinical study, facilitation of learning, and ultimately overall

performance decline. According to past traditions, even in most countries of the world, women are still required to do household chores. Due to their increasing entry into the labor market and economic sectors of society, conflicts between their roles in the family and the work environment. This finding is consistent with the results obtained in the studies of Baethge and colleagues (Baethge et al., 2016). Women have multiple roles, which puts a lot of pressure on women's nursing care, but it's not the only reason they're affected by physical and mental problems, and it's influenced by a variety of factors (Weigl, Beck, Wehler & Schneider,2017).

The frontlines suggestions are i.e. provide intense education and training for nurses includes the use of personal protective equipment, hand hygiene, ward disinfection, medical waste management, and sterilization of patient-care devices and management of occupational exposure. Establish a scientific, reasonable shift schedule, observing system that provides real-time monitoring and aids in instant correction. Provide psychological counseling. Avoiding unnecessary contact is critical for minimizing cross-transmission (Chen, Tian, Li, & Li, 2020).

Findings indicated moderating role of fear of COVID-19 between work loud and clinical performance. Since it is indicated higher fear of death and illness in nurses related to lower empathy and communication directives with patients(Peck, 2009; Ray & Raju, 2006).

Higher fear and death anxiety is more likely related to lowered collaboration with colleagues about patients care situation(Sharour et al., 2017). Given the powerful nature of fear in COVID-19 outbreak for nurses recommend that more understanding of the nurses' reactions to death is needed to reduce negative factors such as perceptions of inadequacy, unexpectedness, and other conflicts(Nia, Lehto, Ebadi, & Peyrovi, 2016).

The negative effects of job pressure on nurse effect on the quality of nursing care of the patient, mortality rate, and medical humanities error. Patient care quality is highly depended to clinical performance of staffs. Psychological factors during life such as economic pressures, high workload, lack of proper communication between officials and employees, as well as conflict and conflict in the workplace play a major role in job pressure .This study faced limitations such as lack of nurses' time, high number of questions, and availability of nurses. It suggested that future researchers make a proper summary of the research in the form of a meta-analysis. It also recommended that qualitative research be conducted in the field.

References

Ahorsu, D. K., Lin, C.-Y., Imani, V., Saffari, M., Griffiths, M. D., & Pakpour, A. H. (2020). The Fear of COVID-19 Scale: Development and Initial Validation. *International Journal of Mental Health and Addiction, 27*, 1-9. https://doi.10.1007/s11469-020-00270-8

Arab, M., Seyed Bagheri, S. H., Sayadi, A., & Heydarpour, N. (2019). Comparison of Death Anxiety, Death Obsession, and Humor Among Nurses Working in Medical-Surgical Departments and Intensive Care Units. *Archives of Neuroscience*, 6(2),386-398. https://doi:.5812/ans.86398.

Ardesatni -Rostami, R., Ghasembaglu, A., & Bahadori, M. (2019). Relationship between work loud of nurses and their performance in the intensive care units of educational hospitals in Tehran. *Scientific Journal of Nursing, Midwifery and Paramedical Faculty, 4*(3), 63-71. https://doi:10.1016/j.ecns.2013.08.006.

Baethge, A., Müller, A., & Rigotti, T. (2016). Nursing performance under high workload: A diary study on the moderating role of selection, optimization and compensation strategies. *Journal of advanced nursing, 72*(3), 545-557. https://doi.10.1111/jan.12847.

Banovcinova, L., & Baskova, M. (2014). Sources of work-related stress and their effect on burnout in midwifery. *Procedia-Social and Behavioral Sciences, 132*, 248-254. https://doi : 10.1016/j.sbspro.2014.04.306.

Barker, L. M., & Nussbaum, M. A. (2011). Fatigue, performance and the work environment: a survey of registered nurses. *Journal of Advanced Nursing, 67*(6), 1370-1382. https://doi.10.1111/j.1365-2648.2010.05597.

Browne, J., & Braden, C. J. (2020). Nursing Turbulence in Critical Care: Relationships With Nursing Workload and Patient Safety. *American Journal of Critical Care*, 29(3), 182-191. https://doi.10.4037/ajcc2020180.

Chang, L.-Y., & Hsiu-Hui, Y. (2019). The relationship between nursing workload, quality of care, and nursing payment in intensive care units. *The Journal of Nursing Research, 27*(1), 1. https://doi.10.1097/jnr.0000000000000265.

Chen, X., Tian, J., Li, G., & Li, G. (2020). Initiation of a new infection control system for the COVID-19 outbreak. *The Lancet Infectious Diseases, 20*(3), 109-110. https://doi.10.1016/S1473-3099(20)30110-9.

Cziraki, K., Read, E., Laschinger, H. K. S., & Wong, C. (2018). Nurses' leadership self-efficacy, motivation, and career aspirations. *Leadership in Health Services*. 31(1),47-61. https://doi:10.1108/LHS-02-2017-0003.

Fagerström, L., Kinnunen, M., & Saarela, J. (2018). Nursing workload, patient safety incidents and mortality: an observational study from Finland. *BMJ open, 8*(4),63-67. https://doi.org/10.1136/bmjopen-2017-016367.

Gheysarzadeh, A., Sadeghifard, N., Safari, M., Balavandi, F., Falahi, S., Kenarkoohi, A., & Tavan, H. (2020). Report of five nurses infected with severe acute respiratory syndrome coronavirus 2 during patient care: case series. *New Microbes and New Infections*, 36(1),1-3. doi: 10.1016/j.nmni.2020.100694.

Habibi, E., Pourabdian, S., Atabaki, A. K., & Hoseini, M. (2012). Evaluation of work-related psychosocial and ergonomics factors in relation to low back discomfort in emergency unit nurses. *International Journal of Preventive Medicine, 3*(8), 564. https://doi:10.1002/ajim.10045.

Hart, S. G., & Staveland, L. E. (1988). Development of NASA-TLX (Task Load Index): Results of empirical and theoretical research. *Advances in psychology* , 52, 139-183. https://doi.org/10.1016/S0166-4115(08)62386-9.

Hayter, M. (2015). Ebola—The best and the worst within nursing… and maybe us all. *Nursing outlook, 63*(1), 8-9. doi:10.1080/16549716.2017.1371427

Hoonakker, P., Carayon, P., Gurses, A. P., Brown, R., Khunlertkit, A., McGuire, K., & Walker, J. M. (2011). Measuring workload of ICU nurses with a questionnaire survey: the NASA Task Load Index (TLX). *IIE transactions on healthcare systems engineering, 1*(2), 131-143. https://doi.10.1080/19488300.2011.609524.

Huang, L., Lin, G., Tang, L., Yu, L., & Zhou, Z. (2020). Special attention to nurses' protection during the COVID-19 epidemic. BioMed Central. 27;24(1),120. doi: 10.1186/s13054-020-2841-7.

Kang, L., Li, Y., Hu, S., Chen, M., Yang, C., Yang, B. X., . . . Ma, X. (2020). The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. *The Lancet Psychiatry, 7*(3), 1-14. https://doi.:0.1016/S2215-0366(20)30047-X.

Keykaleh, M. S., Safarpour, H., Yousefian, S., Faghisolouk, F., Mohammadi, E., & Ghomian, Z. (2018). The relationship between nurse's job stress and patient safety. *Open access Macedonian journal of medical sciences, 6*(11), 2228. doi:10.3889/oamjms.2018.351.

Kokoroko, E., & Sanda, M. A. (2019). Effect of workload on job stress of Ghanaian OPD nurses: The role of coworker support. *Safety and health at work, 10*(3), 341-346. https://doi:10.1016/j.shaw.2019.04.002.

Kowitlawkul, Y., Yap, S., Makabe, S., Chan, S., Takagai, J., Tam, W., & Nurumal, M. (2019). Investigating nurses' quality of life and work- life balance statuses in Singapore. *International nursing review, 66*(1), 61-69. https://doi.:10.1111/inr.12457.

Lai, C.-C., Wang, J.-H., Ko, W.-C., Yen, M.-Y., Lu, M.-C., Lee, C.-M., & Hsueh, P.-R. (2020). COVID-19 in long-term care facilities: An upcoming threat that cannot be ignored. *Journal of Microbiology, Immunology, and Infection, 13*(20), 1684-1182. https://doi.:10.1016/j.jmii.2020.04.008.

Mo, Y., Deng, L., Zhang, L., Lang, Q., Liao, C., Wang, N., . . . Huang, H. (2020). Work stress among Chinese nurses to support Wuhan for fighting against the COVID- 19 epidemic. *Journal of Nursing Management, 1*, 1-8. https://doi:10.1111/jonm.13014.

Mohamed, R., Raman, M., Anderson, J., McLaughlin, K., Rostom, A., & Coderre, S. (2014). Validation of the National Aeronautics and Space Administration Task Load Index as a tool to evaluate-the learning curve for endoscopy training. *Canadian Journal of Gastroenterology and Hepatology, 28*(3), 155-160. https://doi: 10.1155/2014/892476.

Nasirizad Moghadam, K., Reza Masouleh, S., Chehrzad, M. M., & Kazemnezhad Leili, E. (2019). The Mental Workload and Its Correlated Factors in Nurses Working in Intensive Care Units. Journal of Holistic Nursing And Midwifery, 29(2), 82-89 https://doi: 10.32598/JHNM.29.2.82.

Nasiry Zarrin Ghabaee, D., Haresabadi, M., Bagheri Nesami, M., & Talebpour Amiri, F. (2016). Work-Related Musculoskeletal Disorders and Their Relationships with the Quality of Life in Nurses. *Journal of Ergonomics, 4*(1), 39-46. https://doi.:10.21859/joe-04015.

Nelson, R. (2020). Lack of protective gear disrupts oncology care. *The Lancet Oncology*, 21(5), 631-632. https://doi.org/10.1016/S1470-2045(20)30223-0.

Oliveira, A. C. D., Garcia, P. C., & Nogueira, L. D. S. (2016). Nursing workload and occurrence of adverse events in intensive care: a systematic review. *Revista da Escola de Enfermagem da USP*, 50(4), 683-694. http://dx.doi.org/10.1590/S0080-623420160000500020.

Peck, M. R. (2009). Personal death anxiety and communication about advance directives among oncology social workers. *Journal of social work in end-of-life & palliative care, 5*(1-2), 49-60. https://doi:10.1080/15524250903173892.

Rajkumar, R. P. (2020). COVID-19 and mental health: A review of the existing literature. *Asian Journal of Psychiatry*, 52(1),1-5. https://doi.org/10.1016/S1470-2045(20)30223-0.

Rana, W., Mukhtar, S., & Mukhtar, S. (2020). Mental Health of Medical Workers in Pakistan during the Pandemic COVID-19 Outbreak. *Asian Journal of Psychiatry*.51(1),12.. https://doi.org/10.1016/j.ajp.2020.102080.

Ray, R., & Raju, M. (2006). Attitude towards euthanasia in relation to death anxiety among a sample of 343 nurses in India. *Psychological reports, 99*(1), 20-26. https://doi.org/10.2466/pr0.99.1.20-26 .

Rodrigues, V. M. C. P., & Ferreira, A. S. D. S. (2011). Stressors in nurses working in Intensive Care Units. Revista latino-americana de enfermagem, 19(4), 1025-1032. https://doi.org/10.1590/S0104-11692011000400023.

Sagherian, K., Clinton, M. E., Abu-Saad Huijer, H., & Geiger-Brown, J. (2017). Fatigue, work schedules, and perceived performance in bedside care nurses. *Workplace health & safety, 65*(7), 304-312. https://doi: 10.1177/2165079916665398.

Sarafis, P., Rousaki, E., Tsounis, A., Malliarou, M., Lahana, L., Bamidis, P., ... & Papastavrou, E. (2016). The impact of occupational stress on nurses' caring behaviors and their health related quality of life. BMC nursing, 15(1), 56. https://doi: 10.1186/s12912-016-0178.

Saremi, M., Noorizade, N., & Rahimi, E. (2019). Assessment of mental workload, work ability and musculoskeletal disorders of firefighters. Journal of Community Health Research, 8(3), 139-147. https://doi 10.18502/jchr.v8i3.1562.

Sharma, P., Davey, A., Davey, S., Shukla, A., Shrivastava, K., & Bansal, R. (2014). Occupational stress among staff nurses: Controlling the risk to health. *Indian journal of occupational and environmental medicine, 18*(2), 52. https://doi: 10.4103/0019-5278.146890 ·

Sharour, L. A., Suleiman, K., Yehya, D., AL-Kaladeh, M., Malak, M., Subih, K., & Salameh, A. B. (2017). Nurses' students' attitudes toward death and caring for dying cancer patients during their placement. *Euromediterranean Biomedical Journal, 12*(40), 189-193. https://doi.:10.3269/1970-5492.2017.12.40

Sousa, C., & Seabra, P. (2018). Assessment of nursing workload in adult psychiatric inpatient units: A scoping review. *Journal of psychiatric and mental health nursing, 25*(7), 432-440. https://doi.org/10.1111/jpm.12468.

Starr, W. M., & Springer, L. B. (2014). CE: Nursing in the Fourth Decade of the HIV Epidemic. *AJN The American Journal of Nursing, 114*(3), 38-47. https://doi: 10.1097/01.NAJ.0000444491.

Su, T. P., Lien, T. C., Yang, C. Y., Su, Y. L., Wang, J. H., Tsai, S. L., & Yin, J. C. (2007). Prevalence of psychiatric morbidity and psychological adaptation of the nurses in a structured SARS caring unit during outbreak: a prospective and periodic assessment study in Taiwan. Journal of psychiatric research, 41(1-2), 119-130. https://doi: 10.1016/j.jpsychires.2005.12.006.

Toghasi, E., Iwassa, T., & Mizuno, M. (2018). Influence of Previous Work Experience on Self and Team Efficacy of Nurses in Small and Medium Sized Hospitals. *Juntendo Medical Journal, 64*(1), 48-51. https://doi.:org/10.14789/jmj.2018.64

Weigl, M., Beck, J., Wehler, M., & Schneider, A. (2017). Workflow interruptions and stress atwork: a mixed-methods study among physicians and nurses of a multidisciplinary emergency department. BMJ open, 7(12), e019074. http://dx.doi.org/10.1136/bmjopen-2017-019074.

WHO. (2020). WHO Coronavirus Disease (COVID-19) Dashboard. https://covid19.who.int/?gclid=EAIaIQobChMIoaz2ov-n6wIVUvlRCh2rfQb8EAAYASAAEgJasvD_BwE.