Original Research Article

Factors Associated with Nurses Intention to Leave During COVID-19 Pandemic: Literature Review

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Abstract

COVID-19 pandemic caused enormous damage to the economy and financial status of many countries as well as influenced the peoples' health and wellbeing, also its impact nurses' job satisfaction and their intention to leave their profession as the nurses form the vast majority of health care workers who have been in the frontline in the pandemic fight. This review aims to assess the factors associated with nurses intention to leave during the covid-19 pandemic. This research paper was made by analyzing the findings of previous studies related to nurses' job satisfaction and intention to leave the job during the (COVID-19) pandemic. The review used Whittemore and Knalfl to conduct the review and locate the related paper. This method considers a broad review method because it allowed the researcher to include varied research types. The findings showed three factors that had a significant impact on nurses' intention to leave, which include: a) fear of COVID 19,b) leak of social support, and c) work-related factors. Analyzing the studies on factors associated with nurses' Intention to Leave during the COVID-19 pandemic revealed various interrelated factors on nurses' intention to leave, including fear of COVID 19, leak support, and several work-related factors.
Keywords: COVID-19, 2019-nCoV Infection, intention to leave, Job satisfaction, Nurses, Nurse Practitioners, Pandemic.

INTRODUCTION

Nurses make up the vast majority of health care practitioners who provide the care and contribute to the quality of service delivery (Kaiser Family Foundation, 2015). However, the shortage of nurses remains a global issue (Liu *et al*., 2016). According to the World Health Organization (WHO), by 2035, the world medical staff will decrease by 12millions (Liu *et al*., 2016; WHO, 2010). Some researchers have identified job dissatisfaction as a factor that follows nursing turnover (Koppel *et al*., 2017; Kurnat-Thoma *et al*., 2017; Yarbrough *et al*., 2017).

Other studies found that the nurses' continuing stress can lead to job dissatisfaction and, thus, job termination (Jakimowicz *et al*., 2018; Russel, 2016). In England, Dale and his colleagues (2015) stated that around 41.9% of general health care providers, including nurses, intend to resign from their job, and this is not limited to them. Still, they included other countries such as the United States, around 19.1% of

nurses left their job as reported by Nursing Solution (2019). High nurses' turnover level has a harmful implication on the healthcare delivery system, and it was remarkably affecting the costs for hospitals (Antwi & Bowblis, 2016).

With the outbreak of the coronavirus disease, which was declared a pandemic by the (WHO) on March 11, 2020, the health care providers had become in a critical and difficult situation (Chan, Yuan & Kok, 2020). This pandemic points up the necessity of medical personnel, yet, it also generates troubles like increased workload and reduced job satisfaction (Zhou *et al*., 2020). The intense fear of this pandemic among health care providers was correlated with a high level of stress, low job satisfaction, and high turnover intention (Labrague, Leodoro & De Los Santos, 2020). Occupational stress generated by COVID-19 also leads to psychological distress in the form of anxiety and depression, resulting in nurses' dissatisfaction and intention to leave work (Labrague & De Los Santos, 2020).

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COVID–19 is a disease that affects public health globally. As early as November 2019, a pneumonia-like disease appeared in Wuhan, China, which the (WHO) later called Coronavirus Disease 2019 or COVID.19 (WHO, 2020; Labrague & Santos, 2020). Within a few months, COVID–19 has caused significant harm to public health and economic and financial loss in many populations (Labrague L & Santos, 2020). This disease also contributes to loss of occupation, uncomfortable living modifications, and the untimely death of loved ones (Santos, Alexis & Labrague, 2020). Zhang and his colleagues (2020) concluded, in the COVID-19 pandemic, healthcare workers face unmatched pressure from stressors involving but not limited to immense workload, virus exposure, insufficient personal protective equipment (PPE), and isolation from family.

On July 19, 2020, there were 14,043,176 confirmed cases, resulting in the loss of 597,583 lives around the globe. A total of 230,000 of these cases were health care workers, and 600 of those were nurses while caring for those affected with COVID-19 (WHO, 2020; ICN, 2020; Santos, Alexis & Labrague, 2020). In this critical time, all country's healthcare system has introduced various challenges to nurses that could influence their work performance and wellbeing (Labrague & Santos, 2020). As the Department of Health (2020) said that, the COVID-19 would continue for a long time, nurses are confronting difficulties in carrying out their jobs (Colizzi *et al*., 2020, Mo *et al*., 2020; Kim, Lee & Cho,2020). With the ever-increasing death of health workers caring for patients with COVID-19, psychological challenges are raising (Santos, Alexis & Labrague, 2020). Among the health care workers, nurses were found to be the most stressed and anxious in caring for patients infected with the COVID-19 virus (Mo *et al*., 2020). Labrague & Santos (2020) said that the fear related to coronavirus might affect nurses' work performance, lead to greater job dissatisfaction, and increase their intentions to leave the organization and the profession. To effectively perform the role during this pandemic, nurses must sustain their psychological and mental health (Mo *et al*., 2020; Catton, 2020). By addressing the fear of COVID-19, nurses' work outcomes will be improved, psychological distress and intention to leave will decrease, and job satisfaction will increase (Labrague & Santos, 2020). This review aims to analyze the relationship between the COVID-19 pandemic and nurses' job satisfaction and intention to leave and assess the factors that affect these variables.

METHODOLOGY

This research paper was made by analyzing the findings of previous studies related to nurses' job satisfaction and intention to leave the job during the (COVID-19) pandemic. The review used Whittemore and Knalfl to conduct the review and locate the related paper. This method considers a broad review method because it allowed the researcher to include varied research types. Therefore, this method helps minimize the review bias and improve the study's rigor, and it contains six steps. This method starts with problem identification, literature quest, data assessment, analysis, and conclusions. The study question was *" What are the factors that influence nurses' intention to leave during COVID-19."*

Search Strategies

The data retrieved 12 studies published between 2018 and 2021, and a total of 7,482 HCW, around two-thirds of them were nurses. The review started by searching CINHAL, Google Scholar, and PubMed databases for relevant articles. The inclusion criteria were a paper written in the English Language, published from 2020 to 2020, and discussing the impact of COVID 19 on nurses. As presented in Figure 1 searching databases using the keywords resulted in 330 articles; from Google Scholar, 107 articles were retrieved, and from them, only nine articles were matched our study objectives and question. One hundred sixty-six from CINHAL; nevertheless, eight articles only corresponded to our study objectives, five studies from them were excluded because they were similar to the studies retrieved from Google Scholar. So, only three studies from CINHAL were included. The research retrieved Fifty-seven articles from PubMed; three studies were relevant and were identical with studies retrieved from the Google Scholar database. In the end, a total of 12 articles only met our study inclusion criteria. Two studies were conducted in the Philippines, two from Pakistan and Saudi Arabia, one from South Korea, one from Egypt, two from China, one from the USA, and one from Qatar. All of these articles were conducted using quantitative. A cross-sectional design. A questionnaire, online survey, and scales were utilized to collect the data. The literature review matrix is presented in Table 1.

Table 1: Literature review matrix

Author	Aim	Study Type	Sample	Country	Finding
(Labrague & de Los Santos, 2021)	Investigate the influence of fear of COVID-19 on nurses' psychological distress, job satisfaction, and intention to leave their profession.	Quantitative-cross-sectional	261 nurses	Philippines	There is a high prevalence of fear from COVID–19 among nurses. The high prevalence was linked to increased psychological distress and increased turnover intention.
(Kim *et al*.,	Assess the impact of	Quantitative-	377	Korea	Nurses who received support from

| Author	Aim	Study Type	Sample	Country	Finding
2020)	social support on the job retention intention of nurses during the COVID-19 pandemic.	cross-sectional	nurses		their family or partner showed the highest job engagement and higher retention intention.
(Santos & Labrague, 2020)	aimed to assess fear of COVID-19 among nurses.	Quantitative-cross-sectional	385 nurses	Philippines	There was a high prevalence of fear among nurses; however, the nurse's gender was correlated to fear of the virus, whereas the female nurses had a higher prevalence of fear. Moreover, fear influences nurses' emotional distress and professional turnover intentions.
Said & El-Shafei, 2021	The study aimed to assess occupational stress, job satisfaction, and intent to leave among nurses.	Quantitative-cross-sectional	210 nurses	Egypt	A high level of stress level and workload among nurses working with COVID 19 cases. Stress and workload were a predictor of nurses' low job satisfaction and intention to leave their profession.
(Irshad *et al.*, 2020)	Aimed to develop and validate a scale for the perceived threat of coronavirus (COVID-19) and contributed factors to this fear.	Quantitative-cross-sectional	117 nurses	Pakistan	The perceived threat of COVID 19 influences nurses' negative feelings toward their work.
(Nashwan *et al.*, 2021)	Aimed to assess nurses' turnover intentions before and after COVID-19.	Quantitative-cross-sectional	512 nurses	Qatar	During COVID 19, turnover intentions were higher than before the pandemic.
(Khattak *et al.*, 2021)	This study examines the impact of fear of COVID-19 and works related factors on nurses' turnover intention	Quantitative-cross-sectional	380 nurses	Pakistani	Fear of COVID-19 impacts nurses mental health. Stress and work-related factor maximize the impact of COVID on nurses' mental health.
(Falatah & Conway, 2018)	Aimed to examine the association between job satisfaction and turnover intention.	Quantitative-cross-sectional	180 nurses	Saudi Arabia	The finding showed that the relationship between job satisfaction and turnover intention was significant.
(Al-Mansour, 2021)	Aimed to investigate the association between social support and turnover intention among healthcare workers in Saudi Arabia.	Quantitative-cross-sectional	1101 HCW	Saudi Arabia	High stress among nurses in Saudi Arabia was associated with increased turnover intention during the pandemic. Yet, social support can minimize the impact of stress, which leads to turnover.
(Hou *et al.*, 2020)	Aimed to examine the effect of social support on HCW mental health during the epidemic.	Quantitative-cross-sectional	1472 HCW	China	The findings showed that social support and good mental health were associated with better resilience among healthcare workers during the pandemic.
(Du *et al.*, 2020)	Aimed to assess nurses' mental health and find the post-responsibility effect on one nurse's psychological status.	Quantitative-cross-sectional	447 nurses	China	Findings showed that nurses' knowledge and skills to face the occupation challenges are critical to dealing with the crisis. The leak of this skill minimizes the nurse's ability to perform nursing care.
(Firew *et al.*, 2020)	Aimed to assess work-related factors associated with increased HCW psychological distress during the pandemic.	Quantitative-cross-sectional	2040 HCW	USA	The finding showed a huge negative impact of the COVID 19 pandemic on HCW work environment and their mental and physical health.
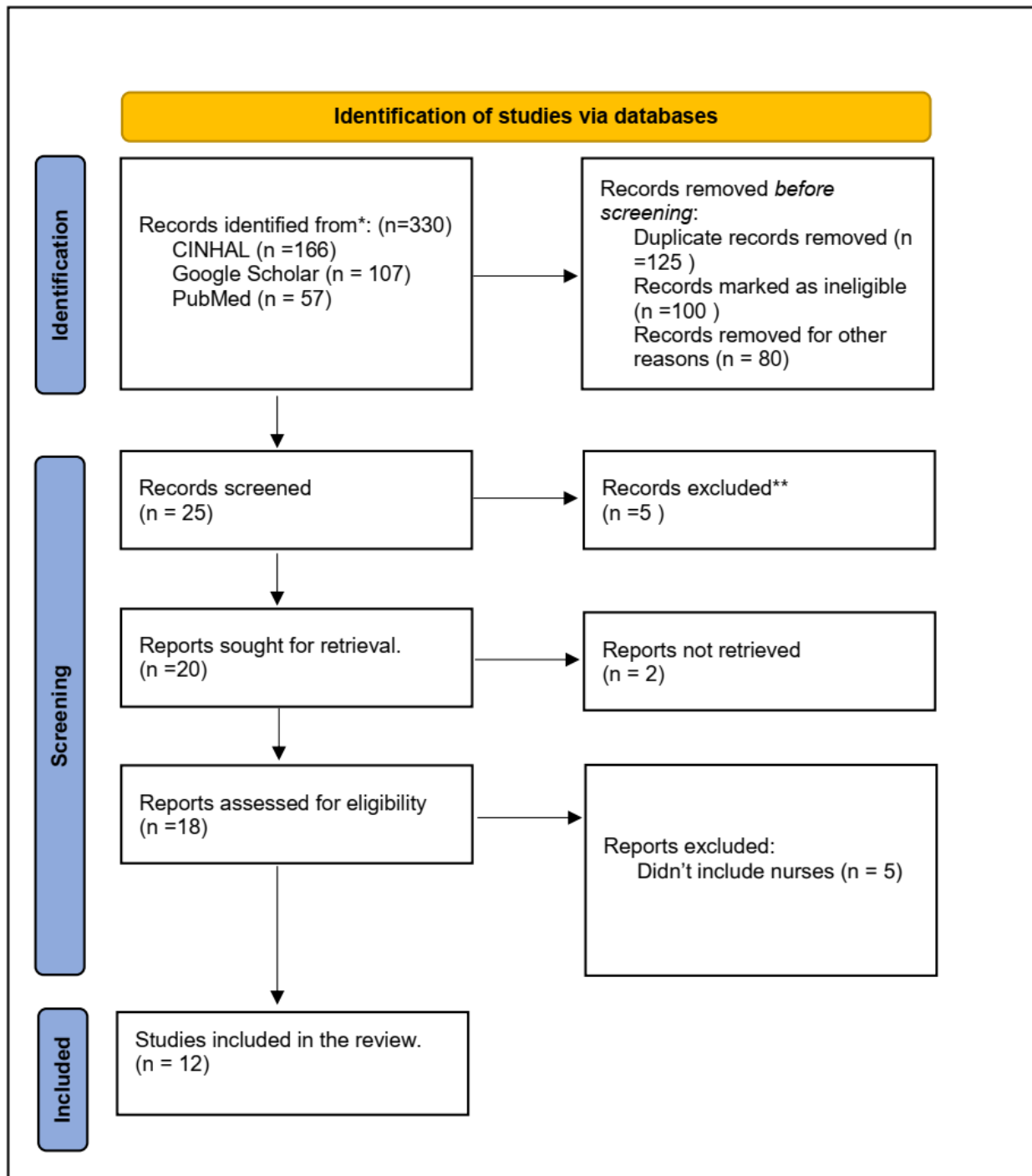
Figure 1: Flow chart of literature search

RESULTS

Based on our review of published articles that meet the inclusion criteria selected for this study, three factors emerged that showed a significant impact on nurses' intention to leave: a) Fear of COVID 19,b) Leak of social support, and c) work-related factors. The articles.

Four studies in this review revealed a significant association between nurses' fear of COVID 19 and their intention to leave. One study conducted in the Philippines by Labrague & de Los Santos (2021)

that included 261 nurses showed a high prevalence of fear from COVID–19 among nurses. The high prevalence was linked to increased psychological distress and increased turnover intention. A similar finding was reported in the Philippines by Santos & Labrague (2020); there was also a high prevalence of fear among nurses; however, the nurse's gender was correlated to fear of the virus, whereas the female nurses had a higher prevalence of fear. Moreover, fear influences nurses' emotional distress and professional turnover intentions. The other study conducted in Pakistan (Irshad *et al*., 2020) also showed the perceived

threat of COVID 19 influences nurses' negative feelings toward their work.

The leak of social support is the factor that influences nurses' intention to stay in their profession or leave their profession. According to Kim *et al*., (2020), nurses who received support from their family or partner showed the highest job engagement and higher retention intention. Al-Mansour, (2021) study concluded that high stress among nurses in Saudi Arabia was associated with increased turnover intention during the pandemic. Yet, social support can minimize the impact of stress, which leads to turnover. Another study conducted in China showed that social support and good mental health were associated with better resilience among healthcare workers during the pandemic.

Work-related factors were presented as factors influencing the nurse's intention to leave. Those factors included Jop's satisfaction, workload, and leadership. Job satisfaction can be described as the degree to which individuals like their jobs and find them satisfying or how the employee perceives that their demands are met by their job (Rubio, Espert & Gascó, 2020). Work stress plays a critical role in job satisfaction; it will promote creativity and job satisfaction if it acts as a motivator. When it is considered a negative element, it will lead to violence and low job satisfaction. On the other hand, job satisfaction may safeguard workers from stressors and play a role in regulating stress (Hoboubi *et al*., 2017; Said & El-Shafei, 2020).

The determinants of dissatisfaction which are predictors of nurses' turnover, were becoming even further related during a pandemic emergency such as COVID-19 (Senek *et al*., 2020). COVID-19 pandemic increased the stress and an overload on this already tense job due to dealing with death, special demands, fears, and utilizing strict precautions measures (Said & El-Shafei, 2020). Caring in a period of pandemics is very stressful and extremely in demand (Sperling, 2020). Nurses experience significant increases not in the capacity of tasks but the intensity of their work while familiarizing themselves with new roles, protocols, and continuous changes in managing crises (Sperling, 2020). This source of anxiety intensifies, and the nurses find themselves obligated to provide care in worsened circumstances like COVID-19 time (Sperling, 2020). Nurses are exposed to situational considerations that can complicate their job and raise psychosocial issues (Rubio, Espert & Gascó, 2020). Psychosocial threats have been associated with low job satisfaction, health problems, work mistakes, minimal work engagement, burnout, and job-related stress (Rubio, Espert & Gascó, 2020). Moreover, fear of COVID–19 may impede work performance in nurses and lead to greater levels of job dissatisfaction (Labrague & De Los Santos, 2020).

A highly stressful work atmosphere had reflected on job satisfaction among nurses. A study conducted in Egypt by Said & El-Shafei (2020) showed, the core contributors to job dissatisfaction amongst nurses were; first being dissatisfied with external rewards of their profession, praises, and appreciation which reflected their belief that stressful efforts were not encountered by satisfactory financial and moral rewards, second; being dissatisfied about scheduling, family and job balance and team collaboration which is affected by COVID-19 connected to heavy assignments. In contrast, a stressful environment may positively affect nurses' job satisfaction, especially if the nurses are highly experienced. A study conducted during the H1N1 pandemic by Honey & Wang (2013) reported that nurses believed that despite the work overload from caring for H1N1 infected patients, this experience had increased their job satisfaction as it advanced their skills and competencies.

Lack of equality and ethical leadership can have bad consequences for nurses during challenging times, such as the COVID-19 pandemic (Senek *et al*., 2020). Leadership styles that centered on supervising and interfering to correct errors adversely influenced nurses' levels of job satisfaction (Senek *et al*., 2020). Moreover, leaving essential care uncompleted, missed care, work overload, overtime shifts, understaffing, and absence of support during the COVID-19 pandemic were the influencers that led to a feeling of demoralization which affects job satisfaction adversely. Nurses look at not being able to deliver adequate care, which is considered one of the highest predictors of job dissatisfaction between them (Senek *et al*., 2020). Also, when the nurses feel that their work is unvalued and unrecognized, they will be overwhelmed into remaining to a job under these hard environments, which negatively impacts their job satisfaction (Senek *et al*., 2020).

DISCUSSION

COVID 19 poses many challenges for the health care system and the health care workers (Khattak *et al*., 2020; Labrague & Santos, 2020). Health care workers, especially nurses, are on the frontlines of defense against this pandemic, and they have to stay in danger as a part of their job (Khattak *et al*., 2020; Labrague & Santos, 2020). Feeling uncomfortable or unsafe can lead nurses to think to leave their organization or even leave their nursing career (Khattak *et al*., 2020; Labrague & Santos, 2020). Nurses' daily job demands them to contact patients making them more likely to get the virus (Irshad *et al*., 2020).

The fear of contract this lethal virus that does not yet have a proper treatment or vaccine lets nurses consider resignation because staying in their current job increases their chance to get infected sooner or later with COVID-19 (Irshad *et al*., 2020). This fear could crumble nurses' ability to perform as health care

workers responsible for saving others' lives, affect nurses' psychological wellbeing and lead to turnover intention (Irshad *et al*., 2020). Moreover, perception of the threat of COVID-19 lead to a negative psychological and behavioral impact on nurse's mental health in the sort of secondary trauma, psychological distress, and turnover intention that develop due to continuous nurses' exposure to a stressful situation which leaves them with no choice but to contemplate quitting their job (Khattak *et al*., 2020; Menon & Padhy, 2020). In a study of the nurses' turnover after exposure to MERS-COV disease, Jung and his colleagues (2020) revealed that continuous exposure to stressors from infectious and dangerous diseases could cause Post Traumatic Stress Syndrome, which can lead to turnover intention among nurses

The way of perceiving the difficulty during critical events can affect nurses' intent to leave the job (Li *et al*., 2020). Nurse's factors such as high intention to respond during emergencies such as pandemics which are identified as self-driven feelings that came from nurses themselves and guide their ability to deal with the challenges that came across can define a nurse's ability to deal with the stressor instead of leaving the job (Li *et al*., 2020). Intention to respond significantly affects nurses' retention during COVID-19 (Li *et al*., 2020).

Work-related factors have a remarkable impact on nurses' intention to leave their job. A working environment characterized by supportive administrative can positively impact the nurse's strength to face emergencies such as a pandemic (Khattak *et al*., 2020). On the other hand, unsupportive administration (Khattak *et al*., 2020), long working hours, and night duties can influence nurses' decisions to leave the nursing profession (Said & El-Shafei, 2020). A study conducted by Kim (2020) found that nurses who work in COVID-19 related departments have lower job retention intention, affecting the health care system if they leave the nursing career. Emergency preparedness and availability of safety measures such as personal protective equipment play a significant role in the nurses' work and their intention to leave or stay in the job (Li *et al*., 2020).

Occupational stress plays an essential role in job satisfaction. It has significant immediate consequences for the aim to leave the current institution and intent to leave the profession in the future (Said & El-Shafei, 2020). Nurses are presented with different physical, psychological, and social stressors, which are noticed among the frontline nurses working in COVID-19 treatments hospitals (Said & El-Shafei, 2020). The main stressors for those nurses were related to their actual workplace, i.e., work overload (extra time work, night shifts, unsatisfactory work/rest regimens, and work constrained to be done in a short time) (Said & El-Shafei, 2020). Other stressors were classified as psychological stressors caused by insufficient emotional preparation, dealing with death and dying, and lack of autonomy regarding the patients' care due to uncertainty surrounding the new emerging infection (Said & El-Shafei, 2020).

Regarding working social stressors, researchers found issues with colleagues, clashes with bosses, absence of help from direct managers, and issues with patients and their families (Said & El-Shafei, 2020). Isolation of patients with COVID-19 and hospital visits obstruction make the nurses who are directly connected between the patients and their families more vulnerable to the patients and their families maltreatment and thus put them under extraordinary pressure (Said & El-Shafei, 2020). In addition to what was previously mentioned about occupational stressors, the risk of infection exposure is another stressor that is evident with the respiratory infectious diseases epidemic (Said & El-Shafei, 2020). Since the nurses are the most contactor with patients among all health care providers, this makes them more suitable to acquire the infection than others and exposes them to high job stress (Said & El-Shafei, 2020). Work-related stressors were associated with nurses' job satisfaction and turnover. Consistent high occupational stress leads to dissatisfaction and leaving a place of employment or even the nursing profession (Said & El-Shafei, 2020).

Sperling, (2020). found stress arising from ethical dilemmas while caring for a patient with COVID-19 infection affects nurses' satisfaction and intention to leave their job (Sperling, 2020). Nurses have a high conflict between their commitment to care for the patients and society and their entitlement to self-care during the Coronavirus pandemic. They need to choose how much consideration they can give others while caring for themselves at the equivalent (Sperling, 2020). A high level of ethical stress may result in diminishing job satisfaction and increasing turnover. On the other hand, nurses' confidence in the medical team and their competence in making ethical decisions consistent with the patients' interests were positively correlated with their intent to work as nurses during pandemics (Sperling, 2020).

Other studies linked the fear of COVID-19 with job satisfaction and intention to leave. The fear associated with coronavirus may negatively impact the nurses' job performance. This, in turn, leads to job dissatisfaction and intention to leave the institution and the nursing profession (Labrague & De Los Santos, 2020). Direct contact with the infectious patient by the nurses could add to their sentiments of misgiving or dread of being contaminated or unwittingly transmitting the infection to other family members (Labrague & De Los Santos, 2020). Nurses' concerns raised from expanded patient volume and patient burden, the arrangement of coronavirus-related safety measures,

social separation, and network isolation can heighten their fears and influence their mental and emotional wellbeing and work performance (Labrague & De Los Santos, 2020). Fear of COVID-19 has also been associated with an increased risk of psychological distress such as anxiety and depression, leading to a low level of job performance followed by job dissatisfaction and intention to quit the job (Satici *et al.*, 2020; Labrague & De Los Santos, 2020).

CONCLUSION

Analyzing the studies on factors associated with nurses' Intention to Leave during the COVID-19 pandemic revealed various interrelated factors on nurses' intention to leave, including fear of COVID 19, leak support, and several work-related factors. The administration needs to address and minimize the impact of the crisis on their team and create a plan for care like the COVID pandemic to keep their institution ready for the future instead of using their employees in the crisis without a plan or clear direction and preparation.

RECOMMENDATIONS

Hospitals leadership needs to address workload issues, providing the nurses with enough rest without interruption, paying attention to the psychological state of nurses by encouraging emotional expressions, providing supportive psychological programs, and establishing clear guidelines to deal with an ethical dilemma will contribute to lessening nurses' stress. It is recommended that the nursing administration create a secure and effective working environment to improve a personal sense of control and optimize the nurses' resilience during the pandemic. Organizations should provide social assistance, financial support, job preparation, and compassionate supervision to the nurses and other emergency staff directly facing COVID-19 patients. Besides, it is appropriate for nursing administrators to share reliable and relevant knowledge on handling stress, minimizing burnout, and promoting the resilience of nurses during a crisis of this nature so they can continue saving people's lives without excessive regard for their health.

REFERANCE

- Al-Mansour, K. (2021). Stress and turnover intention among healthcare workers in Saudi Arabia during the time of COVID-19: Can social support play a role? *PLOS ONE*, *16*(10), e0258101. https://doi.org/10.1371/journal.pone.0258101
- Antwi, Y. A., & Bowblis, J. R. (2018). The Impact of Nurse Turnover on Quality of Care and Mortality in Nursing Homes: Evidence from the Great Recession. *American Journal of Health Economics*, *4*(2), 131–163. https://doi.org/10.1162/ajhe_a_00096
- Chan, J. F.-W., Yuan, S., Kok, K.-H., To, K. K.-W., Chu, H., Yang, J., Xing, F., Liu, J., Yip, C. C.-Y., Poon, R. W.-S., Tsoi, H.-W., Lo, S. K.-F., Chan, K.-H., Poon, V. K.-M., Chan, W.-M., Ip, J. D., Cai, J.-P., Cheng, V. C.-C., Chen, H., … Yuen, K.-Y. (2020). A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: A study of a family cluster. *The Lancet*, *395*(10223), 514–523. https://doi.org/10.1016/S0140-6736(20)30154-9
- Colizzi, M., Bortoletto, R., Silvestri, M., Mondini, F., Puttini, E., Cainelli, C., Gaudino, R., Ruggeri, M., & Zoccante, L. (2020). Medically unexplained symptoms in the times of COVID-19 pandemic: A case-report. *Brain, Behavior, & Immunity - Health*, *5*, 100073. https://doi.org/10.1016/j.bbih.2020.100073
- Dale, J., Potter, R., Owen, K., Parsons, N., Realpe, A., & Leach, J. (2015). Retaining the general practitioner workforce in England: What matters to GPs? A cross-sectional study. *BMC Family Practice*, *16*(1), 140. https://doi.org/10.1186/s12875-015-0363-1
- Du, M.-L., Deng, W.-X., Sun, W., Chien, C.-W., Tung, T.-H., & Zou, X.-C. (2020). Assessment of mental health among nursing staff at different levels. *Medicine*, *99*(6), e19049. https://doi.org/10.1097/MD.0000000000019049
- Falatah, R., & Conway, E. (2019). Linking relational coordination to nurses' job satisfaction, affective commitment and turnover intention in Saudi Arabia. *Journal of Nursing Management*, *27*(4), 715–721. https://doi.org/10.1111/jonm.12735
- Firew, T., Sano, E. D., Lee, J. W., Flores, S., Lang, K., Salman, K., Greene, M. C., & Chang, B. P. (2020). Protecting the front line: A cross-sectional survey analysis of the occupational factors contributing to healthcare workers' infection and psychological distress during the COVID-19 pandemic in the USA. *BMJ Open*, *10*(10), e042752. https://doi.org/10.1136/bmjopen-2020-042752
- Honey, M., & Wang, W. Y. (2013). New Zealand nurses perceptions of caring for patients with influenza A (H1N1). *Nursing in Critical Care*, *18*(2), 63–69. https://doi.org/10.1111/j.1478-5153.2012.00520.x
- Hou, T., Zhang, T., Cai, W., Song, X., Chen, A., Deng, G., & Ni, C. (2020). Social support and mental health among health care workers during Coronavirus Disease 2019 outbreak: A moderated mediation model. *PLoS ONE*, *15*(5), e0233831. https://doi.org/10.1371/journal.pone.0233831
- Irshad, M., Aroos, S., Hassan, M., Majeed, M., & Bashir, S. (2020). How perceived threat of Covid-19 causes turnover intention among Pakistani nurses: A moderation and mediation analysis. *International Journal of Mental Health Nursing*, *30*. https://doi.org/10.1111/inm.12775

- Jakimowicz, S., Perry, L., & Lewis, J. (2018). Compassion satisfaction and fatigue: A cross-sectional survey of Australian intensive care nurses. *Australian Critical Care: Official Journal of the Confederation of Australian Critical Care Nurses*, *31*(6), 396–405. https://doi.org/10.1016/j.aucc.2017.10.003

- Jung, H., Jung, S. Y., Lee, M. H., & Kim, M. S. (2020). Assessing the Presence of Post-Traumatic Stress and Turnover Intention Among Nurses Post-Middle East Respiratory Syndrome Outbreak: The Importance of Supervisor Support. *Workplace Health & Safety*, *68*(7), 337–345. https://doi.org/10.1177/2165079919897693

- Khattak, S. R., Saeed, I., Rehman, S. U., & Fayaz, M. (2021). Impact of Fear of COVID-19 Pandemic on the Mental Health of Nurses in Pakistan. *Journal of Loss and Trauma*, *26*(5), 421–435. https://doi.org/10.1080/15325024.2020.1814580

- Ki, J., Ryu, J., Baek, J., Huh, I., & Choi-Kwon, S. (2020). Association between Health Problems and Turnover Intention in Shift Work Nurses: Health Problem Clustering. *International Journal of Environmental Research and Public Health*, *17*(12), 4532. https://doi.org/10.3390/ijerph17124532

- Kim, Y.-J., Lee, S.-Y., & Cho, J.-H. (2020). A Study on the Job Retention Intention of Nurses Based on Social Support in the COVID-19 Situation. *Sustainability*, *12*(18), 7276. https://doi.org/10.3390/su12187276

- Koppel, J., Deline, M., & Virkstis, K. (2017). The Case for Focusing on Millennial Retention. *The Journal of Nursing Administration*, *47*(7–8), 361–363. https://doi.org/10.1097/NNA.0000000000000495

- Kurnat-Thoma, E., Ganger, M., Peterson, K., & Channell, L. (2017). Reducing Annual Hospital and Registered Nurse Staff Turnover—A 10-Element Onboarding Program Intervention. *SAGE Open Nursing*, *3*, 2377960817697712. https://doi.org/10.1177/2377960817697712

- Labrague, L. J., & de los Santos, J. (2020). Fear of Covid-19, psychological distress, work satisfaction and turnover intention among frontline nurses. *Journal of Nursing Management*, 10.1111/jonm.13168. https://doi.org/10.1111/jonm.13168

- Labrague, L. J., & de Los Santos, J. A. A. (2021). Fear of COVID-19, psychological distress, work satisfaction and turnover intention among frontline nurses. *Journal of Nursing Management*, *29*(3), 395–403. https://doi.org/10.1111/jonm.13168

- Liu, J. X., Goryakin, Y., Maeda, A., Bruckner, T., & Scheffler, R. (2017). Global Health Workforce Labor Market Projections for 2030. *Human Resources for Health*, *15*(1), 11. https://doi.org/10.1186/s12960-017-0187-2

- Menon, V., & Padhy, S. K. (2020). Ethical dilemmas faced by health care workers during COVID-19 pandemic: Issues, implications and suggestions. *Asian Journal of Psychiatry*, *51*, 102116. https://doi.org/10.1016/j.ajp.2020.102116

- 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. https://doi.org/10.1111/jonm.13014

- Morsiani, G., Bagnasco, A., & Sasso, L. (2017). How staff nurses perceive the impact of nurse managers' leadership style in terms of job satisfaction: A mixed method study. *Journal of Nursing Management*, *25*(2), 119–128. https://doi.org/10.1111/jonm.12448

- Nashwan, A. J., Abujaber, A. A., Villar, R. C., Nazarene, A., Al-Jabry, M. M., & Fradelos, E. C. (2021). Comparing the Impact of COVID-19 on Nurses' Turnover Intentions before and during the Pandemic in Qatar. *Journal of Personalized Medicine*, *11*(6), 456. https://doi.org/10.3390/jpm11060456

- Russell, K. (2016). Perceptions of Burnout, Its Prevention, and Its Effect on Patient Care as Described by Oncology Nurses in the Hospital Setting. *Oncology Nursing Forum*, *43*(1), 103–109. https://doi.org/10.1188/16.ONF.103-109

- Said, R. M., & El-Shafei, D. A. (2021). Occupational stress, job satisfaction, and intent to leave: Nurses working on front lines during COVID-19 pandemic in Zagazig City, Egypt. *Environmental Science and Pollution Research International*, *28*(7), 8791–8801. https://doi.org/10.1007/s11356-020-11235-8

- Santos, J. A. A. D. los, & Labrague, L. J. (2020). *Impact of COVID-19 on the Psychological Well-Being and Turnover Intentions of Frontline Nurses in the Community: A Cross-Sectional Study in the Philippines* (p. 2020.08.05.20167411). https://doi.org/10.1101/2020.08.05.20167411

- Satici, B., Gocet-Tekin, E., Deniz, M. E., & Satici, S. A. (2020). Adaptation of the Fear of COVID-19 Scale: Its Association with Psychological Distress and Life Satisfaction in Turkey. *International Journal of Mental Health and Addiction*, 1–9. https://doi.org/10.1007/s11469-020-00294-0

- Senek, M., Robertson, S., Ryan, T., King, R., Wood, E., Taylor, B., & Tod, A. (2020). Determinants of nurse job dissatisfaction—Findings from a cross-sectional survey analysis in the UK. *BMC Nursing*, *19*(1), 88. https://doi.org/10.1186/s12912-020-00481-3

- Yarbrough, S., Martin, P., Alfred, D., & McNeill, C. (2017). Professional values, job satisfaction, career development, and intent to stay. *Nursing Ethics*, *24*(6), 675–685. https://doi.org/10.1177/0969733015623098

- Zhang, S. X., Chen, J., Afshar Jahanshahi, A., Alvarez-Risco, A., Dai, H., Li, J., & Patty-Tito, R. M. (2021). Succumbing to the COVID-19

Pandemic-Healthcare Workers Not Satisfied and Intend to Leave Their Jobs. *International Journal of Mental Health and Addiction*, 1–10. https://doi.org/10.1007/s11469-020-00418-6

- Zhou, P., Yang, X. L., Wang, X. G., Hu, B., Zhang, L., Zhang, W., Si, H. R., Zhu, Y., Li, B., Huang, C. L., Chen, H. D., Chen, J., Luo, Y., Guo, H., Jiang, R. D., Liu, M. Q., Chen, Y., Shen, X. R., Wang, X., … Shi, Z. L. (2020). A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature*, *579*(7798), 270–273. https://doi.org/10.1038/s41586-020-2012-7