

Healthcare Professional Retention During The Covid-19 Pandemic: A Literature Review And Conceptual Framework

Maame Fosua Afrifa-Minka¹, Dr. Jitendra Kumar Singh², and Dr. Anubhav Sony³

¹ Research Scholar, School of Management & Commerce, Sanskriti University, Mathura, Uttar Pradesh, India

² Associate Professor and Head of Department, School of Management & Commerce, Sanskriti University, Mathura, Uttar Pradesh, India

³ Assistant Professor, School of Management & Commerce, Sanskriti University, Mathura, Uttar Pradesh, India

Copyright © 2023 Made Maame Fosua Afrifa-Minka et al. This is an open-access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT - The healthcare professional (HCP) as a human resource from time immemorial has contributed to providing care for patients. As the years went by, healthcare innovations were introduced to augment the quality of healthcare delivery across the globe. This development may have ruffled the number and duties of the healthcare workforce but couldn't erase the importance of human resources in professionally handling and monitoring procedures undertaken by these innovations. The unprecedented onset of the COVID-19 pandemic disrupted the flow of healthcare delivery on several levels. HCPs who serve as driving forces for the delivery of care to patients had to put in extra work in curbing the transmission of the virus. This didn't only affect their professional lives but also their personal and social lives. This called for Human Resources for Health (HRH) and healthcare management to ensure the well-being and satisfaction of HCPs to subsequently ensure their retention especially when they are needed most in this pandemic. This study, therefore, reviewed the published literature on the retention of HCPs during the pandemic and developed a conceptual framework that elaborated on the factors that inhibited their well-being, satisfaction, and subsequent retention. Our review also discussed the recommendations of authors from the literature reviewed that will be useful for augmenting HCP retention in similar future pandemics.

KEYWORDS- healthcare professional retention, healthcare professional satisfaction, Covid-19, pandemic, healthcare professional dissatisfaction, human resources for health

I. INTRODUCTION

The strength of every organization is not solely reliant on buildings and systems but on the quality of its human resource [3]. The healthcare sector is no different as it has a complex framework of structures, systems, policies, and regulations with HCPs as the main driving force [1]. HCPs with their expertise provide care and support to patients in their various disciplines and are known to work within unique ethical guidelines [3]. It is therefore a necessity for Human Resources for Health (HRH) to ensure that HCPs are efficiently practicing and are adequate in number to meet the demands of patients [1]. Though healthcare is dominated by sophisticated innovations, especially in critical care, the expertise

possessed by HCPs is largely required to ensure they are functioning in line with the purpose for which they were made [1] [7]. The unexpected occurrence of the COVID-19 pandemic ruffled the global healthcare system and the work pattern of HCPs, therefore, highlighting the importance of HCPs, especially those working in critical care [7]. HCPs even before the onset of the pandemic worked tirelessly for hours to ensure the treatment and management of patients [15]. But the onset of the COVID-19 pandemic required them to even put in more working hours to the extent of sacrificing their personal and social lives [5] [6] [11]. The work-life balance of a significant number of HCPs was greatly disrupted such that quitting their jobs became not only an option but an escape route [8]. Also, putting in long hours with little breaks and staying away from family resulted in psychological distress and burnout [5][7][11]. Therefore, the demands of caring for patients with an infectious disease in resource-constrained settings coupled with fear, anxiety disorders, and uncertainty of the outcome of the disease caused HCPs to practice with exhaustion and decreased morale [2][6][15][20]. Therefore, ensuring their job satisfaction and subsequently, their retention has become a major concern for HRH and the global healthcare system especially when they are needed most to work on the front lines in this pandemic to help treat patients and protect the community as a whole [3] [8][11].

• *Significance of This Paper*

It is not just enough to have HCPs working to treat and manage patients but to have professionals who feel fulfilled and therefore work with satisfaction [1] [8]. An HCP just like any other employee is concerned about their job security even after the pandemic [11]. The COVID-19 pandemic has thrown many hurdles at HCPs affecting their well-being in its entirety [4]. In light of the global healthcare system having faced challenges such as the shortage of Personal Protective Equipment (PPE), several HCPs started working in panic, anxiety, and uncertainty about getting infected and also especially concerning the outcome of the virus [1] [2][5][16][17]. It, therefore, became a challenge to the HRH and the management of healthcare facilities as a whole to ensure HCPs are safe, physically, and mentally capable to carry out their duties in caring for patients [3][4][7]. Several studies have been published on stressors of HCPs in the

COVID-19 pandemic, especially mental stressors but few studies have investigated other factors that may affect their retention from various literature to develop a conceptual framework. The purpose of this paper is to expound on the factors that may inhibit the job retention of HCPs by exploring relevant literature and to develop a conceptual framework on the topic to generate recommendations from authors that may be helpful in future pandemics.

II. METHODOLOGY

This review of the literature was conducted only on scholar.google.com. It was carried out in a step-wise manner by firstly finding papers relevant between 2020-2022. The keywords used were: “human resources for health”, “healthcare professional retention”, “healthcare professional satisfaction”, “healthcare professional dissatisfaction together with “covid-19”, and “pandemic”. With an interest in factors that could inhibit healthcare professional retention, we selected papers based on stipulated inclusion and exclusion criteria.

A. Inclusion Criteria

- Free full-text papers published in the English language with dates.
- Papers that focused on exploring several factors that may threaten HCP retention solely within the COVID-19 pandemic.
- Papers that emphasized the well-being, satisfaction, and retention of HCPs.

B. Exclusion Criteria

- Papers that were published between 2020-2022 on HCP satisfaction or retention with no investigation within the scope of the covid-19 pandemic.
- Papers that emphasized solely one factor that may threaten HCP retention.
- Several publications on the same topic by the same authors were excluded; the most updated publication was selected.

C. Search Results

In total, 20 papers relevant to this study with full text remained and were retrieved.

III. FACTORS THAT INHIBIT HCP RETENTION

Covid-19 was declared a global pandemic by the World Health Organization (WHO) in December 2019 after the virus spread rapidly across many countries[10]. According to Sheather and Fidler [15], HCPs have been working and attending to patients for long hours even before the pandemic was declared. HCPs have been on the frontlines tackling past endemics and pandemics such as Ebola and other infectious diseases [7][11][12] but the demand for the well-being of HCPs escalated after the onset of the COVID-19 pandemic [2][3][8]. HCPs are assets in tackling the pandemic and therefore they should be satisfied both physically and emotionally [3][12]. HCPs are at a higher risk of getting infected [1] [12] and therefore the needs of HCP should be prioritized [2]. Also, [3], emphasized how HCPs especially those with several years of experience are valuable in curbing the

transmission had to be satisfied to subsequently retain them.

The covid-19 pandemic has altered the workflow pattern and workload of HCPs as the number of infected patients increased [9][10][18]. The change in work patterns resulted in increased work conflict among HCPs [4] [18]. Also, Halcomb et al. [5] stated that the quality of care rendered decreased because of the increase in workload on HCPs. This may be attributed to HCPs making mistakes [2] due to an increase in the number of tasks they were to perform and that they received contradictory information on COVID-19 because management spent minimal time communicating and updating them on changes in policies and guidelines. Due to the inconsistency in updates on the developments of the disease, some HCPs feared they may lose their license if they were to make mistakes[11].

According to Sheather and Fidler[15]), tackling the pandemic is heavily dependent on PPEs, hospital beds, and testing kits. Therefore, the global shortage of PPEs became the first point of concern for HCPs as they worried about their safety [1][5] [11] [16]. This resulted in a significant number of HCPs getting infected with the virus as the number of patients increased [7] Savitsky et al., 2021). According to Savitsky et al. (2021), a significant number of HCPs especially nurses died after being infected. Also, Mohammad Alrawashdeh et al.[10]) attributed the shortage to infected HCPs being quarantined at any point in time. This resulted in a global shortage of HCPs [2][14]. According to Chersich et al. [2], several of the HCPs who were quarantined stayed beyond the stipulated isolation period. This decreased the ratio of HCPs to the number of patients making demand greater than supply. Senek et al.[14] described the shortage of HCPs as a crisis among the body of HCPs. In response to this crisis, HCPs had to fulfill their professional duties by taking up additional tasks amid a shortage of PPE and other medical supplies [20]. Jun et al. [7] and Senek M [14] further stated that this even placed them at a higher risk which resulted in increased fear and anxiety of contracting the virus each day. Also, HCPs who had to work with trainees and recruits who were brought to make up for the shortage of HCPs expressed their frustration in having to work with people who were unfamiliar with the [4][14][16][18]. This was the genesis of mental distress and physical exhaustion among a significant number of HCPs [2] [4][15][17][18] [20].

According to [4], the mental stress experienced by HCPs may be attributed to them having difficulty coping with the effects of the pandemic. According to Mohammad Alrawashdeh et al. [10], HCPs didn't only experience stress because of the likelihood of being untested but also experienced occupational burnout which causes physical, mental, and emotional instability. Also, Said and El-Shafei [12] stated that occupational stress affects the intention of HCPs to leave, job satisfaction, and productivity. HCPs experienced moral distress due to having to work in resource-constrained settings and being in a psychological dilemma in deciding on what is right and acceptable [15][20]. Consistently, HCPs were frustrated with the option of choosing between patient safety and their safety [14]. Jun et al.[7] and (Hou et al., [6] stated that employee well-being declined because they

had to work long hours, had little sleep, and had to be distanced from their family. According to Gavin et al[4], HCPs with children experienced higher levels of psychological distress because they worried about their safety in their absence. Those may be found in the category of HCPs who were given alternate accommodation [1] although some of them requested it to protect their family [2]. Some of those who opted to stay in alternate accommodations were scared of transmitting the virus to their family [1]. The pandemic deteriorated the work-life balance of HCPs [8] such that some healthcare professionals were so mentally disturbed and socially starved that they committed suicide (Jun et al., 2020).

As the pandemic progressed, a significant number of HCPs were absent from work because of the decrease in personnel commitment [4]. Consistently, Sheather and Fidler [15] stated that HCPs who were at higher risk of getting infected with the virus decided to retire early. This may be attributed to the fear of contracting the virus among the older workforce who are much more vulnerable to being infected [17]. Also, Kim et al.[8] and Halcomb et al. [5] stated that some HCPs especially nurses decided to put their safety first and therefore opted to quit their profession. According to Bourgeault et al. [1] the safety of HCPs was compromised, and unfortunately for the healthcare delivery system, several countries across the globe couldn't address the demands of these HCPs. This may be so because, the emergence of the pandemic pointed out loopholes in the global healthcare system which HCPs had to suffer for them Bourgeault et al. [1] [2][15]. A major loophole that the pandemic highlighted was that the global healthcare

system is largely underfunded [15]. Also, one major reason why HCPs decided to quit their jobs was for their safety due to insufficient resources and the uncertainty of the outcome of the pandemic (Halcomb et al., 2020).

Also, one major reason why HCPs decided to quit their jobs was due to insufficient management support, communication, and supervision [9] [14] and [2] further explained that when HCPs felt they have not received enough care, eventually lose morale and feel reluctant to continue working. Consistently, [3] stated that the consequences of the pandemic decreased the willingness of some HCPs to work. Also, the management of certain facilities provided little motivation by informing HCPs that there was little they can do to save the situation [11]. This resulted in HCPs having little trust in management[11]. On the other hand, [2] stated that if HCPs have no trust in healthcare management to protect them, it will be difficult for them to fully manifest their supportive role. Also, HCPs did not only require organizational support but that of the public as well, especially through social media [2][6]. Over time, HCPs became concerned about their job security [5] and that COVID-19 caused negative job satisfaction among HCPs [10][20] and subsequently resulted in unemployment[8]. Human resources management and organizational management as a whole have therefore been challenged to ensure the well-being, and satisfaction of HCPs to subsequently retain them[7].

Based on the findings above, a conceptual framework that summarises the factors that inhibit HCP retention during the COVID-19 pandemic is shown in Figure 1 below.

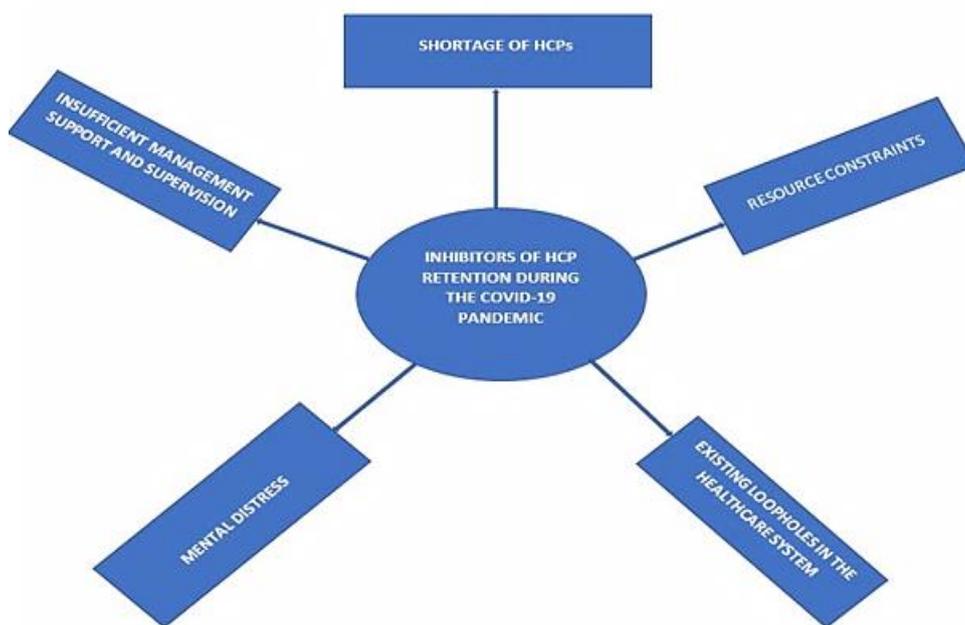


Figure 1: A Framework on the Inhibitors of HCP Retention During the COVID-19 Pandemic

The findings of the inhibitors of HCPs shown in the conceptual framework above are summarised in Table 1 below, which also details the authors and year of publication.

Table 1: Findings of Factors that Inhibit HCP Retention during the COVID-19 Pandemic

INHIBITORS	FINDINGS	AUTHOR (S) AND YEAR
Mental Distress	<ul style="list-style-type: none"> • Fear and anxiety: uncertainty of the outcome of the pandemic; worries about getting infected and infecting others. • Stress: working long hours; increase in workload; work conflict. • Work-life imbalance 	Chersich et al., [2]; Sheather & Fidler[15]; Zhang et al.[20]; Senek et al., [14]; White et al.[17]; Rangachari & Woods[11]; Kim et al.[8]; Mohammad Alrawashdeh et al.[10]; Said & El-Shafei, [12] Lavoie-Tremblay et al.[9]; Vindrola-Padros et al.[16] Zhang, Liu, et al.[20]; Hou et al.[6]; Yu et al.[18]
Shortage of HCPs	Absenteeism, early retirement, and death of HCPs - Long working hours: physical exhaustion - Change in workflow pattern: work conflict	Gavin et al.[4]; Sheather and Fidler[15]; Savitsky et al. 2021; Mohammad Alrawashdeh et al.[10]; Rangachari & Woods[11]; White et al.[17]; Senek et al.[14]; Kim et al.[8]; Said & El-Shafei, [12] Lavoie-Tremblay et al.[9] Zhang, Liu, et al.[20]; Yu et al.[18]
Insufficient Management Support and Supervision	<ul style="list-style-type: none"> • Decreased morale and motivation • Minimal trust in management • Minimal communication from management 	Senek et al.[14]; Chersich et al.[2] [15] [20]; Rangachari & Woods[11]; Lavoie-Tremblay et al., 2022; Hou et al., [6]
Resource Constraints	Shortage of PPEs: fear of getting infected	Bourgeault et al., 2020[1]; Chersich et al., [2]; Halcomb et al.[5] White et al.[17] Rangachari & Woods[11]; Jun et al.[7]; Vindrola-Padros et al., 2020; Zhang, Liu, et al.[20]; Hou et al.[6]
Existing Loopholes in the Healthcare System	<ul style="list-style-type: none"> • The healthcare system is largely underfunded • Unequal distribution of funds across the healthcare system 	Bourgeault et al., 2020[1]; Chersich et al., [2]; Sheather & Fidler [15]; White et al.[17] Said & El-Shafei[12]

IV. DISCUSSION

The findings of the literature review revealed that several factors pose as inhibitors to the retention of HCPs during the pandemic. Shortage of HCPs resulted in HCPs working long hours led not only to HCPs working for long hours leading to physical exhaustion but also to mental stress. The change in the workflow pattern did not only lead to work-conflict among HCPs but also the distortion in their work-life balance which resulted in mental distress. The uncertainty of the outcome of the pandemic, the death of other HCPs, and the fear of getting infected resulted in fear and anxiety led to some healthcare professionals being absent from work while others retired early. HCPs had little motivation and supervision from management which resulted in them having decreased morale and motivation. Also, because the healthcare system is largely underfunded, HCPs received little or no financial motivation. HCPs had little trust in management about their capacity and capability to ensure their safety during the pandemic. This was so because the communication between HCPs and management was strained due to minimal supervision. Also, due to the healthcare sector being largely underfunded and having an unequal distribution of funds, several medical facilities faced challenges with resources, especially with the shortage of PPEs which led to the fear of getting infected. As mentioned earlier, the fear of getting infected is a contributing factor to mental distress in HCPs. It can be said that these inhibitors to HCP retention are linked to each other and therefore one may be a trigger of another or several.

V. RECOMMENDATIONS FROM AUTHORS AND CONCLUSION

Management and leadership beyond clinical expertise are required to tackle the pandemic [1]. HRH and healthcare management have always been responsible for the well-being and satisfaction of HCPs and the onset of the COVID-19 pandemic demands more of their involvement. It has been established from the literature above that the retention of HCPs is valuable in tackling the virus.

Recruiting more HCPs has therefore become imperative and maintenance of existing staff has become a necessity[7]. Organizations should focus on having enough healthcare professionals and the quality of healthcare professionals should be a priority through adequate training[5][16]. To address the shortage of HCPs, Chersich et al.[2] and Bourgeault et al. [1] suggested employing international staff when hiring locally is exhausted. Bourgeault et al. [1] also recommended task-shifting where HCPs such as dentists who may have less work on their hands are to be assigned to COVID-19 wards. [1] further recommended that the number of HCPs can be increased by recruiting retired HCPs and student trainees. Recruitment and task-shifting are fundamental tasks for HRH and management to ensure that trained HCPs are in adequate numbers in COVID-19 units[7]. Jun et al. [7] further recommended that organizational heads must closely work with regulatory bodies to grant licenses to HCPs within a few days. Bourgeault et al. [1] also recommended that allied

health professionals should be given enough training to work in the ICU. Gavin et al. [4] therefore recommended that training can be done easily by involving the use of technology through the various online modes. According to Halcomb et al. [5] and Mohammad Alrawashdeh et al. [10], training is important because having adequate knowledge of the effects and complications of COVID-19 in the healthcare setting is a prerequisite to HCP retention.

The mental health of HCPs as a maintenance function of HRH must be addressed with seriousness[7][15][17]. HCPs especially nurses require mental and psychological health support [4] [8]. Chersich et al. [2] suggested that counseling must be augmented by employing counselors and retired HCPs. Older employees have higher job engagement and retention [8] because they are less likely to experience stress and anxiety [20], and therefore involving older healthcare professionals to provide support and expertise is likely to increase job retention. Sheather and Fidler[15], stated that counseling should be coupled with discussions involving the coping experiences among HCPs. Gavin et al.[4] stated that it is a challenge to increase the resilience of HCPs and psychological support is essential to enable HCPs to be resilient and adaptive. HCPs should be encouraged to speak up when they are mentally disturbed as to when they occur and also they should be adequately trained on how to handle stress and burnout[11]. Rangachari and Woods[11] further recommended that HRH and management should have foresight which entails the ability to increase the coping abilities of HCPs and also be resilient in finding immediate solutions to unprecedented events.

According to Sheather and Fidler [15], HCPs should constantly be reassured especially in their low states, and encouraged that it is not their doing that they are experiencing stress and anxiety but the consequences of the pandemic. Also, Chersich et al.[2], recommended reducing the scope of the responsibility, especially for those who also take on administrative roles will reduce both mental distress and physical exhaustion. Sheather and Fidler[15] and Yu et al. [18], also recommended that healthcare professionals should be allowed to rest after working for long hours or when exhibiting signs of a breakdown. Also, Kim et al.[8] recommended that HCPs should be allowed to spend more time with their family. Rangachari and Woods[11], recommended that food, accommodation, and transportation should be made easily accessible to HCPs. Yu et al. [18] also recommended the shift system to control mental and physical exhaustion. Healthcare management by carrying out their interpersonal role should ensure employee relations are top-notch to ensure teamwork [7][11] by ensuring close communication and cooperation between HCPs[8]. Consistently, [3], suggested that to increase satisfaction, HRH should constantly communicate with HCPs on new developments in the pandemic. Also, involving HCPs in decision-making will make them feel that they are appreciated [2] [11]. Promoting a conducive and positive environment is likely to eliminate the negative feelings of COVID-1 [2] [6] Vindrola-Padros et al., 2020).

To address resource constraints, especially the shortage of PPEs, Chersich et al.[2]) and Bourgeault et al. [1]) recommended the use of telemedicine to ensure HCPs are

socially distant from asymptomatic or patients with mild symptoms who do not require critical care. Management should also plan for HCPs' future requirements [1] [16] of HCPs that ensure their safety. Addressing the personal demands of HCPs[12] requires that there is enough funding, especially for resources and an organized workplace[5]. Funding should be specially allotted to HCPs, especially for recruitment [1], monetary incentives, food, and daily supplies [2]. Giving monetary motivation is the most effective form of motivation that has the capacity of eliminating HCPs' unwillingness to work [3] Chersich et al. [2] recommended that organizations should give allowances as a form of motivation to HCPs, especially to those working in critical care. Also, White et al.[17] recommended special financial support for smaller healthcare facilities such as nursing homes because they receive very less financial support as compared to larger medical facilities. According to Bourgeault et al.[1], job satisfaction of HCPs can be attained by having proficient management, strong teamwork, and a conducive working environment. Also, Zhang et al.[20], recommended that organizational support with specificity to HCPs' needs as they arise is imperative

In conclusion, having good organizational policies which are well implemented ensures employee retention [2]. It requires prioritizing the needs of HCPs under constrained settings[20]. Retaining HCPs is multidimensional and therefore requires not only clinical but cultural and political inputs [1][6]. Therefore, further research that will empirically investigate the factors that inhibit HCP retention highlighted in this literature review is required to fully understand how these factors affect HCPs across various medical facilities.

CONFLICTS OF INTEREST

There are no competing conflicts of interest either financially or personally that could have influenced the outcome of this paper.

ACKNOWLEDGMENT

Regards to the professors of the School of Management and Commerce of Sanskriti University for their support.

REFERENCES

- [1]. Bourgeault, I. L., Maier, C. B., Dieleman, M., Ball, J., MacKenzie, A., Nancarrow, S., Nigenda, G., & Sidat, M. (2020). The COVID-19 pandemic presents an opportunity to develop more sustainable health workforces. In *Human Resources for Health* (Vol. 18, Issue 1). BioMed Central Ltd. <https://doi.org/10.1186/s12960-020-00529-0>
- [2]. Chersich, M. F., Gray, G., Fairlie, L., Eichbaum, Q., Mayhew, S., Allwood, B., English, R., Scorgie, F., Luchters, S., Simpson, G., Haghghi, M. M., Pham, M. D., & Rees, H. (2020). Covid-19 in Africa: Care and protection for frontline healthcare workers. In *Globalization and Health* (Vol. 16, Issue 1). BioMed Central. <https://doi.org/10.1186/s12992-020-00574-3>
- [3]. Elsafty, A., & Ragheb, M. (2020). The Role of Human Resource Management Towards Employees Retention During Covid-19 Pandemic in Medical Supplies Sector - Egypt. *Business and Management Studies*, 6(2), 50. <https://doi.org/10.11114/bms.v6i2.4899>

- [4]. Gavin, B., Hayden, J., Adamis, D., & McNicholas, F. (2020). Caring for the Psychological Well-Being of Healthcare Professionals in the Covid-19 Pandemic Crisis. *Ir Med J*, 113(4), 51.
- [5]. Halcomb, E., McInnes, S., Williams, A., Ashley, C., James, S., Fernandez, R., Stephen, C., & Calma, K. (2020). The Experiences of Primary Healthcare Nurses During the COVID-19 Pandemic in Australia. *Journal of Nursing Scholarship*, 52(5), 553–563. <https://doi.org/10.1111/jnu.12589>
- [6]. Hou, H., Pei, Y., Yang, Y., Lu, L., Yan, W., Gao, X., & Wang, W. (2021). Factors Associated with Turnover Intention Among Healthcare Workers During the Coronavirus Disease 2019 (COVID-19) Pandemic in China. <https://doi.org/10.2147/RMHP.S318106>
- [7]. Jun, J., Tucker, S., & Melnyk, B. M. (2020). Clinician Mental Health and Well-Being During Global Healthcare Crises: Evidence Learned From Prior Epidemics for COVID-19 Pandemic. <https://doi.org/10.1097/HCM.00000>
- [8]. 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 (Switzerland)*, 12(18), 1–9. <https://doi.org/10.3390/su12187276>
- [9]. Lavoie-Tremblay, M., Gélinas, C., Aubé, T., Tchouaket, E., Tremblay, D., Gagnon, M. P., & Côté, J. (2022). Influence of caring for COVID-19 patients on nurse's turnover, work satisfaction and quality of care. *Journal of Nursing Management*, 30(1), 33–43. <https://doi.org/10.1111/jonm.13462>
- [10]. Mohammad Alrawashdeh, H., Al-Tammemi, B., Kh Alzawahreh, M., Al-Tamimi, A., Elkholy, M., al Sarireh, F., Abusamak, M., K Elehamer, N. M., Malkawi, A., Al-Dolat, W., Abu-Ismaïl, L., Al-Far, A., & Ghoul, I. (2021). Occupational burnout and job satisfaction among physicians in times of COVID-19 crisis: a convergent parallel mixed-method study. *BMC Public Health*, 21(811). <https://doi.org/10.1186/s12889-021-10897-4>
- [11]. Rangachari, P., & Woods, J. L. (2020). Preserving organizational resilience, patient safety, and staff retention during covid-19 requires a holistic consideration of the psychological safety of healthcare workers. In *International Journal of Environmental Research and Public Health* (Vol. 17, Issue 12, pp. 1–12). MDPI AG. <https://doi.org/10.3390/ijerph17124267>
- [12]. 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*, 28(7), 8791–8801. <https://doi.org/10.1007/s11356-020-11235-8>
- [13]. Savitsky, B., Radomislensky, I., & Hendel, T. (2021). Nurses' occupational satisfaction during Covid-19 pandemic. *Applied Nursing Research*, 59. <https://doi.org/10.1016/J.APNR.2021.151416>
- [14]. 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), 1–10. <https://doi.org/10.1186/S12912-020-00481-3/FIGURES/1>
- [15]. Sheather, J., & Fidler, H. (2021). Covid-19 has amplified moral distress in medicine. In *The BMJ* (Vol. 372). BMJ Publishing Group. <https://doi.org/10.1136/bmj.n28>
- [16]. Vindrola-Padros, C., Andrews, L., Dowrick, A., Djellouli, N., Fillmore, H., Bautista Gonzalez, E., Javadi, D., Lewis-Jackson, S., Manby, L., Mitchinson, L., Symmons, S. M., Martin, S., Regenold, N., Robinson, H., Sumray, K., Singleton, G., Syversen, A., Vanderslott, S., & Johnson, G. (2020). Perceptions and experiences of healthcare workers during the COVID-19 pandemic in the UK. *BMJ Open*. <https://doi.org/10.1136/bmjopen-2020-040503>
- [17]. White, E. M., Wetle, T. F., Reddy, A., & Baier, R. R. (2021). Front-line Nursing Home Staff Experiences During the COVID-19 Pandemic. *Journal of the American Medical Directors Association*, 22(1), 199–203. <https://doi.org/10.1016/j.jamda.2020.11.022>
- [18]. Yu, X., Zhao, Y., Li, Y., Hu, C., Xu, H., Zhao, X., & Huang, J. (2020). Factors Associated With Job Satisfaction of Frontline Medical Staff Fighting Against COVID-19: A Cross-Sectional Study in China. *Frontiers in Public Health*, 8. <https://doi.org/10.3389/fpubh.2020.00426>
- [19]. Zhang, S. X., Liu, J., Afshar Jahanshahi, A., Nawaser, K., Yousefi, A., Li, J., & Sun, S. (2020). At the height of the storm: Healthcare staff's health conditions and job satisfaction and their associated predictors during the epidemic peak of COVID-19. *Brain, Behavior, and Immunity*, 87, 144–146. <https://doi.org/10.1016/J.BBI.2020.05.010>
- [20]. Zhang, S. X., Sun, S., Afshar Jahanshahi, A., Alvarez-Risco, A., Ibarra, V. G., Li, J., & Patty-Tito, R. M. (2020). Developing and testing a measure of COVID-19 organizational support of healthcare workers – results from Peru, Ecuador, and Bolivia. *Psychiatry Research*, 291. <https://doi.org/10.1016/J.PSYCHRES.2020.113174>