

RESEARCH METHODOLOGY: DISCUSSION
PAPER - METHODOLOGY

Nurse-to-nurse horizontal violence during the covid-19 pandemic and its impact on turnover intention: A cross-sectional study

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Abstract

Background: Nurse-to-nurse (N2N) horizontal violence has been documented among the main determinants of nurses' turnover intention. Even with its utmost importance, inadequate attention has been thus far drawn to the way crisis-induced pressure added to work environments, such as the coronavirus disease 2019 (COVID-19) pandemic, can impact horizontal violence, and then give rise to turnover intention.

Aim: The present study was to investigate the relationship between N2N horizontal violence along with its dimensions and turnover intention among clinical nurses.

Methods: A cross-sectional survey was conducted utilizing the Turnover Intention Questionnaire (TIQ), developed by Kim et al. (2007), and the Negative Acts Questionnaire-Revised (NAQ-R; Einarsen, Hoel, & Notelaers, 2009). The participants, recruited by random sampling, included 295 clinical nurses working in referral hospitals for COVID-19. The data were also analysed using the SPSS software package (ver. 19), via descriptive and inferential statistics, Pearson correlation test and multiple linear regression.

Results: The study participants obtained the mean scores of 52.50 ± 11.85 and 45.38 ± 13.24 for turnover intention and horizontal violence, respectively. Among the dimensions of horizontal violence, the highest value belonged to "work-related bullying," with the mean score of 51.04 ± 15.23 , and the lowest was associated with the "physically intimidating bullying" dimension, with the mean value of 15.90 ± 5.96 . The Pearson correlation test results correspondingly showed that turnover intention was positively correlated with work-related bullying ($r = 0.73$), person-oriented bullying ($r = 0.72$), physically intimidating bullying ($r = 0.53$) and overall horizontal violence ($r = 0.74$). The regression analysis outcomes additionally demonstrated that the work-related and person-oriented bullying dimensions of N2N horizontal violence could predict turnover intention in nurses ($F = 184.66, p < 0.001$).

Implications: The study findings help nursing managers and policymakers to immediately formulate sound measures and guidelines to prevent or at least manage the problems, viz., N2N horizontal violence and turnover intention. These measures can

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be thus in the form of training programs focused on communication, stress reduction and conflict resolution techniques, especially during crises, together with obvious procedures for reporting the incidents of horizontal violence.

KEYWORDS

bullying, COVID-19, horizontal violence, nurse, turnover intention

1 | INTRODUCTION

1.1 | Impact of COVID-19 pandemic on Nurses' working conditions

The outbreak of coronavirus disease 2019 (COVID-19) has so far challenged all healthcare systems and raised unprecedented demands for healthcare providers (HCPs) worldwide (Nogee & Tomassoni, 2020), leading to highly complex and unpredictable conditions in the nursing profession (Shrestha, 2020). As the backbone of healthcare systems, HCPs are now expected to work in an environment transformed by the pandemic (Kalateh Sadati et al., 2021), where they must fulfil their duties at the forefront of treating and caring for patients under the conditions threatening to their own health or even life (Rodríguez-Bolaños et al., 2020). Nurses are thus the largest group of frontline HCPs, often in direct contact with patients and people in general; therefore, they play key roles in treating and preventing the progression of diseases (Abbaszadeh & Ehsani, 2015; Bella Magnaye et al., 2011). Besides, there is strong evidence suggesting a rising trend in the prevalence rate of aggressive behaviours among HCPs, particularly nurses, (Yenealem et al., 2019) due to the critical conditions caused by the COVID-19 pandemic, its prolongation, high infection rate, equipment shortages (especially at the onset of the pandemic), increased number of patients, elevated workload, higher mortality rates, mutation of the virus, re-infection in patients, fear of contracting the disease (8, 11), role overload, unrealistic expectations and role ambiguity (Hauge et al., 2009). Such aggressive behaviours demonstrated by these individuals towards each other are thus called horizontal or lateral violence (American Nurses Association, 2012).

1.2 | Horizontal violence and turnover intention

Horizontal violence can be emotional, verbal or physical, or in the form of discrimination, prejudice and inadequate support (Bambi et al., 2013; Taylor & Taylor, 2017). The victims of this behaviour are often subjected to repeated harassment, abuse and insult, along with the violation of their physical or mental dignity or integrity (Hauge et al., 2009). However, nurses, mostly the experienced ones, do not see themselves as violent individuals or bullies, but tend to consider these negative behaviours a necessity to check their less experienced coworkers. Moreover, some nurses believe that constant criticism is a constructive attitude, or gossiping is a way to

avoid and cope with work stress (Taylor, 2016; Taylor & Taylor, 2017). However, it has been shown that such attitudes can foster distrust among coworkers, erode professionalism and create hostile work environments (Morrison et al., 2017). Horizontal violence can further affect behavioural responses among victims (Hutchinson et al., 2010; Laschinger et al., 2012). As well, the responses provided by nurses to horizontal violence tend to be in the form of increased absenteeism and turnover intention, and ultimately leaving the workplace or even the profession (Berthelsen et al., 2011; Cheung & Yip, 2017; Kim & Park, 2016), which may be devastating for understaffed healthcare centres. In this line, a survey in Iran had explored that many nurses were less willing to attend shifts, regretted being in this profession, expressed their intention to leave the profession and were suffering from psychological turmoil, such as fear, anxiety, aggression, confusion, restlessness and apprehension, because of the challenges caused by this pandemic (Moradi et al., 2021). Other studies had also indicated that turnover intention had significantly amplified among nurses following COVID-19 (Falatah, 2021; Haji & Mohammadimehr, 2021).

Considering that limited studies have been so far completed in Iran in this field, it seems that overlooking this phenomenon poses the risk of the integration of the nursing culture and development into a generational phenomenon, transforming it into a silent epidemic in Iranian healthcare institutions.

1.3 | Conceptual framework

Hostility between nurses at the same level is known as horizontal or lateral violence, which has been defined by some scholars as bullying in this profession. Previous studies have further confirmed the idea that nurses who have experienced horizontal violence can have higher turnover intention (Bashaw, 2019; Kabir et al., 2022), as explained by Kanter's theory of structural empowerment (Kanter, 2008). This theory takes account of three levels of empowerment, that is, the workplace that has the necessary structures to promote empowerment, the psychological belief in one's ability to be empowered, and the acknowledgement of power in the relationships and care that nurses provide (Amor et al., 2021; Favaro et al., 2021). Structural empowerment (at the first level), which generally describes access to four environmental factors, namely opportunity, information, support and resources in the organization, can thus initiate psychological empowerment in nurses (Favaro et al., 2021).

In the present study, it is suggested that structural empowerment has become problematic during COVID-19 due to the lack of equipment and staff and the increase in the number of patients, more workload, unrealistic expectations, and role ambiguity. Moreover, the feelings of powerlessness and lack of control over the situation by nurses have negatively affected peer relationships, augmenting horizontal violence and its consequences, so it seems that:

- Horizontal violence is positively associated with intention to leave.

2 | MATERIALS AND METHODS

2.1 | Participants and procedures

This study was conducted from September 6 to December 21, 2021, at the public referral hospitals in the city of Urmia, selected to process the COVID-19 confirmed and suspected patients. For this purpose, the eligible nurses were randomly recruited from five of these hospitals, considering the criteria of at least 1 year of work experience, working in the mentioned hospitals all through the COVID-19 pandemic and showing consent to participate in the research. The nurses who did not completely fill out the questionnaires or had simultaneously worked in private clinics or hospitals were also excluded. Using the information from previous studies and considering the 10% drop-out rate, the sample size was also calculated to be 335. Out of the questionnaires distributed among the participants, 31 cases were removed because of incompleteness and nine cases were excluded owing to no response, so ultimately 295 questionnaires were analysed (i.e. the response rate of 88%). Since the study was performed during the COVID-19 pandemic, there were more attempts to avoid face-to-face interactions as much as possible and took statistically significant precautions all through unavoidable in-person communications. Therefore, part of the data was collected through online workgroups on WhatsApp. To this end, the group managers were asked to share the digital version of the questionnaires. As well, the nurses who were not part of the groups were given paper questionnaires and asked to return them after 24 h. The research objectives were additionally attached to the questionnaires, and the participants were assured that their answers would remain anonymous and confidential.

2.2 | Research instruments

The data collection was performed by a three-part questionnaire. The first part was related to the demographic and occupational characteristics information, including gender, age, marital status, education, work experience, type of employment contract and monthly overtime hours.

The second part was the Turnover Intention Questionnaire (TIQ), developed by Kim et al. (2007), consisting of 15 items measuring intention to leave the profession by a person, on a five-point

Likert-type scale (viz., *strongly agree* = 5, *agree* = 4, *neither agree nor disagree* = 3, *disagree* = 2, *strongly disagree* = 1). The total score of this questionnaire ranged from 15 to 75. In this study, the mean score of all items was considered as the turnover intention value. Of note, this questionnaire had been already translated into Persian in Iran, and its validity and reliability had been confirmed (Haji & Mohammadimehr, 2021). In this study, the content validity of the Persian version of the questionnaire was established by consulting 12 faculty members at the School of Nursing and Midwifery, affiliated to Urmia University of Medical Sciences, Urmia, Iran, and experts on the subject. The reliability of the questionnaire was further determined to be 0.93 as measured by Cronbach's alpha coefficient.

The third part was the 22-item Negative Acts Questionnaire-Revised (NAQ-R; Einarsen, Hoel, & Notelaers, 2009), measuring a person's exposure to negative acts over the last 6 months, using items designed on a five-point Likert-type scale (namely, *never* = 1, *occasionally* = 2, *monthly* = 3, *weekly* = 4, and *daily* = 5). The NAQ-R total score also ranged from 22 to 120, with higher scores indicating higher exposure to horizontal violence. This questionnaire had three dimensions, viz., work-related bullying, person-oriented bullying, and physically-intimidating bullying. As well, Salimi et al. (2014) had reported Cronbach's alpha coefficients of 0.83, 0.91 and 0.85 for the questionnaire's internal consistency in these three dimensions, and Cronbach's alpha coefficient of 0.94 for the questionnaire as a whole. They had similarly verified the questionnaire's construct validity, convergent validity and correlation between its subscales (Salimi et al., 2019).

2.3 | Ethical considerations

The study participants were assured of the anonymity and confidentiality of their information and were then asked to provide informed written consent. The study was further approved by the Research Committee of Urmia University of Medical Sciences, Urmia, Iran, with the ethics code of IR.UMSU.REC.1399.199.

2.4 | Data analysis

The study data were analysed using the SPSS software package (ver. 19). The qualitative and quantitative data were thus organized in the frequency/percentage and mean/standard deviation formats, respectively. The relationship between the two main variables in this study, namely horizontal violence and turnover intention, was also investigated via the Pearson correlation test, regression analysis and stepwise multiple linear regression. The relationship between the demographic variables and both study variables was also examined through different tests, chosen according to the type of variables. Since the scores obtained for the three dimensions of horizontal violence had various ranges, they were normalized to 0–100 to become comparable. Notably, the statistical significance threshold was considered to be $p = 0.05$.

3 | RESULTS

The present study was performed on 295 nurses. The participants had the mean age of 31.46 ± 6.009 , at the range of 22–52 years old. The majority of the participants ($n = 188$, 63.7%) were also female. As well, 175 nurses (59.3%) were married, 243 cases (82.4%) had a bachelor's degree, and 52 of the respondents (17.6%) were holding a master's degree. Moreover, 117 nurses (39.66%) had permanent employment contracts, and the rest had temporary ones. All nurses were working in COVID-19 inpatient wards and 254 (86.1%) of them had rotating shifts. The nurses also had the mean work experience of 6.96 ± 5.45 and the mean monthly overtime of 56.67 ± 29.60 h. Besides, the mean score of exposure to violence was higher among the married nurses (63.41 ± 11.63) than the single (59.80 ± 11.38), and this difference was statistically significant ($t = -2.64$, $df = 293$, $p = 0.009$). In addition, the married nurses obtained higher turnover intention mean scores (53.71 ± 11.69) than their single peers (50.75 ± 11.92), which was statistically significant ($t = -2.12$, $df = 293$, $p = 0.035$). Furthermore, there was no relationship between the rest of the demographic and work-related characteristics and the outcome variables.

The turnover intention mean score obtained by the nurses was 52.50 ± 11.85 , which was quite high. The horizontal violence mean value was also 45.38 ± 13.24 , with the highest scores belonging to “work-related bullying” with the mean score of 51.04 ± 15.23 , and the lowest associated with the “physically intimidating bullying” dimension with the mean score of 15.90 ± 5.96 (Table 1).

The Pearson correlation test was then utilized to determine any relationships between the dimensions of horizontal violence and turnover intention, as presented in Table 2. Accordingly, a statistically significant direct relationship ($p < 0.001$) was detected between turnover intention and each dimension of horizontal violence. In keeping with the Pearson correlation test results, turnover intention was positively correlated with work-related bullying ($r = 0.73$), person-oriented bullying ($r = 0.72$), physically-intimidating bullying ($r = 0.53$), and overall horizontal violence ($r = 0.74$).

The regression analysis results correspondingly showed that the work-related and person-oriented bullying dimensions could predict ($F = 184.66$, $p < 0.001$) turnover intention. The results of the step-wise linear regression regarding the predictors of turnover intention in terms of the dimensions of horizontal violence additionally

TABLE 1 Demographic characteristics of the study sample, horizontal violence and turnover intention scores.

Variables		N	Percent			
Gender	Male	107	36.3			
	Female	188	63.7			
Marital status	Single	120	40.7			
	Married	175	59.3			
Kind of shift	Fixed	41	13.9			
	Rotating	254	86.1			
Level of education	Master	52				
	Bachelor	243	82.4			
Type of employment contract	Permanent employment contracts	117	39.66			
	Temporary employment contracts	178	60.34			
	Mean	SD	Minimum	Maximum		
Age	31.46	6.009	22	52		
Work experience	6.96	5.45	1	29		
Monthly overtime hours	56.67	29.60	10	130		
Outcome variables	Mean after normalization to [0-100]	SD				
Horizontal violence (overall)	45.38	13.24				
Work-related bullying	51.04	15.23				
Person-oriented bullying	49.46	14.85				
Physically intimidating bullying	15.90	5.96				
Turnover intention	52.50	11.58				
	Outcome variables	Marriage situation	Mean \pm SD	t	df	p
Independent samples t-test	Horizontal violence (overall)	Single	59.80 ± 11.38	-2.64	293	0.009
		Married	63.41 ± 11.63			
	Turnover intention	Single	50.75 ± 11.92	-2.12	293	0.035
		Married	53.71 ± 11.69			

Abbreviation: SD, standard deviation.

revealed that, upon excluding other variables, work-related and person-oriented bullying could have a statistically significant direct effect on turnover intention (Table 3).

With the increase in each unit of work-related and person-oriented bullying, the mean score of turnover intention could thus elevate by 0.454 and 0.312, respectively, which was statistically significant ($p < 0.001$).

4 | DISCUSSION

The study results indicated the high levels of turnover intention in clinical nurses working through COVID-19. In this respect, a survey in Iran had reported the high level of turnover intention in nurses during the pandemic (Haji & Mohammadimehr, 2021), since it had made the conditions in healthcare centres much more difficult (Said & El-Shafei, 2021; Xie et al., 2021). Indeed, Iranian nurses have been under much pressure due to high workload, equipment shortages, forced overtime, fear of COVID-19, poor job security, low government support and failure to fulfil previous promises of support since the onset of the pandemic, which may explain why they have high turnover intention.

The results also showed high levels of horizontal violence in clinical nurses working during the COVID-19 pandemic, mostly in the form of work-related and person-oriented bullying. The level of horizontal violence observed in this study was thus higher than that reported in a previous cross-sectional survey on Iranian nurses (Esfahani & Shahbazi, 2014). Consistent with these finding, a study in Jordan had similarly reported the high prevalence rate of horizontal violence (65.45%) in HCPs in the course of the COVID-19 pandemic (Ghareeb et al., 2021).

TABLE 2 The Pearson correlation test for the relationship between dimensions of horizontal violence and turnover intention.

Independent variables	Dependent variable	<i>r</i>	<i>p</i>
Horizontal violence (overall)	Turnover intention	0.74	<0.001
Person-oriented bullying		0.72	<0.001
Work-related bullying		0.73	<0.001
Physically intimidating bullying		0.53	<0.001

Not much research has been done, however, on the subject of nurse-to-nurse (N2N) horizontal violence in Iran, as it is a cultural taboo. Therefore, the incidence of horizontal violence often remains unreported as there is no well-defined authority to investigate the complaints and deal with the disputes. This implicitly affects the performance of the nurses exposed to violence in physical, mental, and emotional dimensions, putting them under much pressure, a situation that has further deteriorated since the onset of the pandemic. Studies conducted in other countries have also shown that HCPs rarely report the incidents of violence perpetrated by coworkers (Ghareeb et al., 2021; Zafar et al., 2013) and believe that reporting is not likely to make any difference (Pai & Lee, 2011).

In the present study, horizontal violence was found as a strong predictor of turnover intention in clinical nurses, in the sense that nurses experiencing high levels of violence from coworkers were more likely to have higher turnover intention. Similarly, another study had revealed that horizontal violence could cause HCPs to quit their professions (Bashaw, 2019). A survey had also reported higher levels of turnover intention in female nurses who had experienced high levels of horizontal violence (Kabir et al., 2022). While there is no exact information on the emigration of Iranian nurses to other countries, a 2021 report published by the Iranian Ministry of Health and Medical Education has acknowledged a sharp increase in the number of such nurses, and the news agencies have made estimates ranging from 1500 to 6000 cases a year, depending on the sources. Since turnover intention per se is a strong predictor of actual turnover, nurses who remain in their profession for any reason (e.g., inability to quit or emigrate), despite their turnover intention, may experience an invisible and silent turnover, which is very dangerous because they are physically in the workplace, but their minds and souls are not present, which can have irreparable consequences, such as reduced professional performance, lower quality of care, more errors, and endangered patient's safety. Therefore, it is crucial to reduce N2N horizontal violence as much as possible to minimize nurses' turnover intention and provide them with safe work environments.

In the present study, the married nurses expressed the experience of higher levels of horizontal violence and had higher levels of turnover intention than those who were single, which could be attributed to the added pressure of dealing with the problems of the spouse and children and poor work environments. Moreover, it has been concluded that married HCPs tend to develop the fear of

TABLE 3 The results of regression analysis, 95% confidence interval (CI).

Stepwise multiple linear regression	R	R ²	Adjusted R ²	Std. r of the estimate	
Work-related bullying, Person-oriented bullying	.74b	.55	.55	7.90	
Predictors of turnover intention	B	Std. Error	β	T	<i>p</i>
Work-related bullying	1.262	.246	.454	5.137	<0.001
Person-oriented bullying	.520	.147	.312	3.535	<0.001

transmitting the virus to their children, which can affect their aggressive behaviours in the workplace (Moradi et al., 2021). In this study, no relationship was observed between other demographic variables and horizontal violence or turnover intention, probably because it was completed when the COVID-19 pandemic was at its peak, and all nurses were under extreme pressure. Similarly, another survey had found no relationship between horizontal violence and age, gender and work experience (Peng et al., 2021). However, there was one study detecting higher levels of horizontal violence among HCPs with rotating shifts, age of less than 35, work experience of less than 10 years, and male gender (Ghareeb et al., 2021). A study conducted by Cheung et al. (2017) had also reported higher levels of horizontal violence among male nurses (Cheung & Yip, 2017). Therefore, the contradiction in the above-mentioned findings could be due to the discrepancies in the cultural aspects, samples and the research conditions and contexts.

5 | CONCLUSION

Despite the acknowledged presence of horizontal violence in the nursing profession, many aspects of this issue are yet to be fully understood. In this study, the findings showed high levels of horizontal violence and turnover intention, and then, horizontal violence was identified as one of the predictors of turnover intention during the COVID-19 pandemic. Considering the absence of specific policies, regulations and support regarding horizontal violence in Iran, along with the lack of equipment and human resources in organizations, nursing managers and policymakers are suggested to improve the existing situation by structurally empowering organizations and nurses individually and psychologically, through formulating laws, creating support committees and implementing training programs focused on communication, stress reduction and conflict resolution techniques, especially during crises.

5.1 | Limitations

The present study was based on self-report data and the respondents' subjective perceptions towards horizontal violence, so the results might not be entirely accurate. In this respect, further research, using different collection methods, such as in-depth individual interviews, can clearly explain the issue. The second limitation was that all participants were working in public hospitals in the city of Urmia, West Azerbaijan Province, Iran, which meant the findings might not have been generalizable to the nurses working in the private sector and those involved in other areas. To address this issue, similar studies need to be conducted in different areas and within all hospitals. The third limitation was that the NAQ-R asked the respondents to recall the negative behaviours they had experienced over the past 6 months, which might lead to a recall bias. Finally, it was impossible to comment on the causality of the observed relationships because of the cross-sectional nature of

the data. Therefore, further research should be conducted on the way turnover intention is exactly related to horizontal violence.

AUTHOR CONTRIBUTIONS

FN, HH, MMA: study concept; FN and MMA: data collection; FN, HH, MMA: data analysis and interpretation; FN, HH, MMA: manuscript drafting; All authors contributed to the writing of the manuscript.

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CONFLICT OF INTEREST

No conflict of interest has been declared by the authors.

DATA AVAILABILITY STATEMENT

The data that support the finding of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ETHICAL APPROVAL

This research was approved by the ethics committee of Faculty of Nursing and Midwifery, Urmia University of Medical Sciences. Ethics Approval Number: IR.UMSU.REC.1399.199.

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REFERENCES

- Abbaszadeh, A., & Ehsani, S. R. (2015). Nurses' perceptions of caring of emerging avian influenza disease. *Nursing And Midwifery Journal*, 12(11), 973–981.
- American Nurses Association. (2012). *Bullying in the workplace*. Nursing Insider News Maryland.
- Amor, A. M., Xanthopoulou, D., Calvo, N., & Vázquez, J. P. A. (2021). Structural empowerment, psychological empowerment, and work engagement: A cross-country study. *European Management Journal*, 39(6), 779–789.
- Bambi, S., Becattini, G., Pronti, F., Lumini, E., & Rasero, L. (2013). Lateral hostilities among emergency and critical care nurses. Survey in five hospitals of the Tuscany region. *Assistenza infermieristica e ricerca: AIR*, 32(4), 213–222.
- Bashaw, M. (2019). *Horizontal violence in the OR: Does bullying impact intention to leave?*
- Bella Magnaye, R., Muñoz, M., Muñoz, M., Muñoz, R., & Muro, J. (2011). The role, preparedness and management of nurses during disasters. *International Scientific Research Journal*, 3(4), 269–294.
- Berthelsen, M., Skogstad, A., Lau, B., & Einarsen, S. (2011). Do they stay or do they go? A longitudinal study of intentions to leave and exclusion from working life among targets of workplace bullying. *International Journal of Manpower*, 32, 178–193.

- Cheung, T., & Yip, P. S. (2017). Workplace violence towards nurses in Hong Kong: Prevalence and correlates. *BMC Public Health*, 17(1), 1–10.
- Esfahani, A. N., & Shahbazi, G. (2014). Workplace bullying in nursing: The case of Azerbaijan province, Iran. *Iranian Journal of Nursing and Midwifery Research*, 19(4), 409–415.
- Falatah, R. (2021). The impact of the coronavirus disease (COVID-19) pandemic on Nurses' turnover intention: An integrative review. *Nursing Reports*, 11(4), 787–810.
- Favaro, A., Wong, C., & Oudshoorn, A. (2021). Relationships among sex, empowerment, workplace bullying and job turnover intention of new graduate nurses. *Journal of Clinical Nursing*, 30(9–10), 1273–1284.
- Ghareeb, N. S., El-Shafei, D. A., & Eladl, A. M. (2021). Workplace violence among healthcare workers during COVID-19 pandemic in a Jordanian governmental hospital: The tip of the iceberg. *Environmental Science and Pollution Research*, 28(43), 61441–61449.
- Haji, J., & Mohammadimehr, M. (2021). Predicting the intention to leave of the nursing profession in imam khomeini hospital in Mahabad during the corona pandemic period based on the components of job stress and resilience. *Nursing And Midwifery Journal*, 19(1), 41–50.
- Hauge, L. J., Skogstad, A., & Einarsen, S. (2009). Individual and situational predictors of workplace bullying: Why do perpetrators engage in the bullying of others? *Work & Stress*, 23(4), 349–358.
- Hutchinson, M., Wilkes, L., Jackson, D., & Vickers, M. H. (2010). Integrating individual, work group and organizational factors: Testing a multidimensional model of bullying in the nursing workplace. *Journal of Nursing Management*, 18(2), 173–181.
- Kabir, H., Chowdhury, S. R., Tonmon, T. T., Roy, A. K., Akter, S., Bhuya, M. T. R., Hossain, L., Chowdhury, S. A., & Sanjoy, S. (2022). Workplace violence and turnover intention among the Bangladeshi female nurses after a year of pandemic: An exploratory cross-sectional study. *PLOS Global Public Health*, 2(4), e0000187.
- Kalateh Sadati, A., Zarei, L., Shahabi, S., Heydari, S. T., Taheri, V., Jiriaei, R., Ebrahimzade, N., & Lankarani, K. B. (2021). Nursing experiences of COVID-19 outbreak in Iran: A qualitative study. *Nursing Open*, 8(1), 72–79.
- Kanter, R. M. (2008). *Men and women of the corporation* (New ed.). Basic Books.
- Kim, H.-J., & Park, D. (2016). The effects of workplace bullying on turnover intention in hospital nurses. *Journal of Digital Convergence*, 14(1), 241–252.
- Laschinger, H. K. S., Wong, C. A., & Grau, A. L. (2012). The influence of authentic leadership on newly graduated nurses' experiences of workplace bullying, burnout and retention outcomes: A cross-sectional study. *International Journal of Nursing Studies*, 49(10), 1266–1276.
- Moradi, Y., Baghaei, R., Hosseingholipour, K., & Mollazadeh, F. (2021). Challenges experienced by ICU nurses throughout the provision of care for COVID-19 patients: A qualitative study. *Journal of Nursing Management*, 29(5), 1159–1168.
- Morrison, M. F., Lindo, J. M. L., Aiken, J., & Chin, C. R. (2017). Lateral violence among nurses at the Jamaican hospital: A mixed method study. *International Journal of Advanced Nursing Studies*, 6(2), 85–91.
- Nogee, D., & Tomassoni, A. J. (2020). Covid-19 and the N95 respirator shortage: Closing the gap. *Infection Control & Hospital Epidemiology*, 41(8), 958.
- Pai, H. C., & Lee, S. (2011). Risk factors for workplace violence in clinical registered nurses in Taiwan. *Journal of Clinical Nursing*, 20(9–10), 1405–1412.
- Peng, X., Gan, Y., Zeng, Q., Xiong, L., Zhang, F., Xiong, H., Chang, H., Chen, Y., Guan, C., & Wang, J. (2021). Nurse-to-nurse horizontal violence in Chinese hospitals and the protective role of head nurse's caring and nurses' group behaviour on it: A cross-sectional study. *Journal of nursing management*, 30(6), 1590–1599.
- Rodríguez-Bolaños, R., Cartujano-Barrera, F., Cartujano, B., Flores, Y. N., Cupertino, A. P., & Gallegos-Carrillo, K. (2020). The urgent need to address violence against health workers during the COVID-19 pandemic. *Medical Care*, 58, 663.
- 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.
- Salimi, H., Firozjaie, A. M., Najarpourian, S., Ziaaddini, Z., Fini, A., & Yousefzadeh, M. (2019). Investigation of bullying and harassment in the workplace using the psychometric properties of the negative acts questionnaire-revised (NAQ-R) in nurses. *Qom University of Medical Sciences Journal*, 12(11), 60–69.
- Shrestha, G. S. (2020). COVID-19 pandemic: Shortage of personal protective equipment, use of improvised surrogates, and the safety of health care workers. *Journal of Nepal Health Research Council*, 18(1), 150.
- Taylor, R. (2016). Nurses' perceptions of horizontal violence. *Global Qualitative Nursing Research*, 3. <https://doi.org/10.1177/2333393616641002>
- Taylor, R. A., & Taylor, S. S. (2017). Enactors of horizontal violence: The pathological bully, the self-justified bully and the unprofessional co-worker. *Journal of Advanced Nursing*, 73(12), 3111–3118.
- Xie, X.-M., Zhao, Y.-J., An, F.-R., Zhang, Q.-E., Yu, H.-Y., Yuan, Z., Cheung, T., Ng, C. H., & Xiang, Y.-T. (2021). Workplace violence and its association with quality of life among mental health professionals in China during the COVID-19 pandemic. *Journal of Psychiatric Research*, 135, 289–293.
- Yenealem, D. G., Woldegebriel, M. K., Olana, A. T., & Mekonnen, T. H. (2019). Violence at work: Determinants and prevalence among health care workers, Northwest Ethiopia: An institutional based cross sectional study. *Annals of Occupational and Environmental Medicine*, 31(1), 1–7.
- Zafar, W., Siddiqui, E., Ejaz, K., Shehzad, M. U., Khan, U. R., Jamali, S., & Razzak, J. A. (2013). Health care personnel and workplace violence in the emergency departments of a volatile metropolis: Results from Karachi, Pakistan. *The Journal of Emergency Medicine*, 45(5), 761–772.

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