Contents lists available at ScienceDirect

Collegian

journal homepage: www.elsevier.com/locate/colegn

Anxiety among Australian nurses during COVID-19

The emergence of COVID-19 has proved to be a public health emergency on a scale never before seen in our lifetime (Jackson et al., 2020). As nonessential businesses closed their doors and millions of people stayed at home to minimise transmission of the virus, nurses were at the forefront of the health system. Nurses responded to the emergency providing direct patient care both to those with general health conditions and those infected with the virus.

The community has experienced heightened anxiety related to factors such as job losses, school closures, social distancing policies, and a disruption in the availability of food and other essentials (Fisher et al., 2020). In addition, nurses faced concerns for their own personal safety, limited personal protective equipment, and fear of infecting their families and close contacts which have heightened anxiety among nurses (Halcomb et al., 2020; Labrague & De los Santos, 2020). Anxiety is increased by uncertainty and the absence of clear understandings about the course of the pandemic (Fisher et al., 2020). The significant mortality rate faced by health care workers in general, and nurses in particular, has fuelled nurses' concerns (Jackson et al., 2020).

Globally, the prevalence of anxiety among nurses during COVID-19 has been reported to range from between 22.2% (Salari et al., 2020) to 27% (Santabárbara et al., 2021). The prevalence of anxiety amongst nurses has been demonstrated to be specifically related to the fear of becoming infected with COVID-19 due to their close proximity to infectious patients (Hu et al., 2020). Over 120 studies have been published relating to anxiety among health care workers to date, however, many of these have been conducted in countries such as China, the United States of America or Europe, where COVID-19 has had a significant impact. To date there has been no published reports of the prevalence of anxiety among Australian nurses during the COVID-19 pandemic. The Australian situation provides a contrast to countries of high COVID-19 impact as it provides a context with far fewer deaths and infections. Contrasting the Australian experience highlights the need to ensure that the mental health of nurses following the COVID-19 pandemic is considered internationally to ensure that workforce outcomes are optimised.

Between May-June 2020 the authors conducted a cross-sectional survey of nurses and midwives employed in a single metropolitan Local Health District (LHD) within New South Wales (NSW) Australia. The survey sought to examine the impact of COVID-19 on respondents' mental wellbeing. At the time of the survey there were no locally acquired COVID-19 cases in the LHD of interest. The total number of cases in NSW since the beginning of the pandemic was 3,184, with only 56 COVID-19 cases being cared for across the 200+ hospitals (NSW Health, 2020).

Recruitment was undertaken by sending an information sheet with an electronic survey link via the Director of Nursing and Midwifery (DoNM) of the eight hospitals within the LHD, who then emailed the link to the nurses and midwives employed in their respective hospitals. Anxiety was measured using the six-item short form of the Spielberger State-Trait Anxiety Inventory (STAI-6; Marteau & Bekker, 1992). Respondents were asked to rate each item on a 4-point Likert scale (1 = not at all, 2 = somewhat, 3 = moderately, 4 = very much). The total summed scores were prorated (multiplied by 20/6) in order to obtain total scores comparable with those from the full 20-item STAI (range from 20 to 80; Wong et al., 2020). Scores of 44 and above were defined as being indicative of moderate to severe anxiety (Wong et al., 2020).

Five hundred and sixty-eight nurses and midwives responded to the survey. The mean age of the respondents was 42.9 years (SD 12.0) and the majority (88.4%) were female. Respondents had been employed as a nurse or midwife for between 0.5 and 49 years (mean 19.2; SD 12.4 years). Nearly half of the respondents 248 (43.7%) were employed as Registered Nurses (RNs) or Clinical Nurse Specialists (CNSs), 92 (16.2%) were Clinical Nurse Consultants (CNCs), Clinical Nurse Educators (CNEs) or Nurse Practitioners (NPs), 57 (10%) were Nurse Unit Managers (NUMs), or Nurse Managers (NMs) and 17 (3%) were Enrolled Nurses (ENs) or Assistants in Nursing(AINs).

Alarmingly, there was an extraordinarily high prevalence of anxiety among respondents, with an overall anxiety prevalence rate of 56.5% and a mean STAI score of 47.6 (SD 13.4). The prevalence of anxiety among nurses was slightly, but not significantly, higher among nurses working in critical areas (ICU and ED) compared to those working in noncritical areas within the hospitals (60.7% vs 55.8%). The prevalence of anxiety was not significantly different between respondents providing direct patient care (RNs, ENs, AINs, CNSs) and those not providing direct patient care (CNCs, CNEs, NPs, NUMs, NMs; 56.6% vs. 54.4%). There was no statistically significant difference in the mean age (MD −0.65, 95%CI −3.08, 1.78) and duration of employment as a nurse or midwife (MD −0.81, 95%CI −3.28, 1.66) between respondents who had anxiety compared to those who did not.

These results describe a significantly higher prevalence of anxiety prevalence than is reported in current systematic reviews and international studies (Sahebi et al., 2021; Salari et al., 2020; Santabárbara et al., 2021). *So why are Australian nurses more anxious than their counterparts internationally during COVID-19?* While

this study had a modest sample size and was conducted in a single LHD, these limitations are similar to those of other comparable studies internationally. Perhaps it is that Australian nurses and midwives are witnessing the international situation communicated via social and mainstream media and experiencing anxiety around the potential for the local situation to become worse. It could be posited that Australian nurses and midwives have more time to consider and worry about the risks than international counterpart who are 'thrown into the deep end' and overwhelmed with workload. Potentially, Australia has less experience with epidemic and pandemic health crises or other disasters than other countries and health professionals are less prepared for this situation. It may be that the rationale for this finding is a combination of these and other factors.

Regardless of the reasons underpinning the findings of this survey, they highlight the importance of carefully assessing the psychological impacts of events such as the COVID-19 on local groups of nurses and midwives and even on individual clinicians. These findings highlight the importance of intervening early to provide emotional and psychological support for nurses and for not making assumptions on the impact on nurses and midwives based on the severity of the pandemic in their region. The consequences of the high prevalence of anxiety are significant to both the organisation and the individual, which can then have flow on effects to family members and the broader community. People with high levels of anxiety are less motivated, less able to function in the workplace, lack confidence and are less able to plan, concentrate and organise (Fisher et al., 2020). Additionally, high levels of anxiety can result in staff burnout, absenteeism and loss to the workforce (Guixia & Hui, 2020; Labrague & Santos, 2020). Given the ongoing concerns about the shortage of the nursing workforce, this is an outcome that needs to be mitigated.

The COVID-19 infection has caused unprecedented impacts on the physical and mental health of millions of people internationally. As the world emerges from the initial phases of the pandemic, with the second, third and fourth 'waves' coming, it is vital that we assess the impacts on our health workforce and urgently implement and evaluate strategies to promote mental health and wellbeing among nurses and midwives. To ensure a sustainable and robust health workforce this is a central issue requiring global attention.

Ethical statement

This study was approved by the Local Health District Human Research Ethics Commitee where the research was conducted (Approval No 2020/ETH01075).

Conflict of interest

None.

Ritin Fernandez*, Heidi Lord
School of Nursing, Faculty of Science, Medicine & Health, University of Wollongong, Northfields Ave, Wollongong, NSW 2522, Australia Centre for Research in Nursing and Health, Level 1 Research and Education Building, St George Hospital, South Street, Kogarah, NSW 2217, Australia

Lorna Moxham
School of Nursing, Faculty of Science, Medicine & Health, University of Wollongong, Northfields Ave, Wollongong, NSW 2522, Australia Illawarra Health & Medical Research Institute, Keiraville, Australia

Rebekkah Middleton
School of Nursing, Faculty of Science, Medicine & Health, University of Wollongong, Northfields Ave, Wollongong, NSW 2522, Australia

Elizabeth Halcomb
School of Nursing, Faculty of Science, Medicine & Health, University of Wollongong, Northfields Ave, Wollongong, NSW 2522, Australia Illawarra Health & Medical Research Institute, Keiraville, Australia

*Corresponding author.
E-mail address: ritin.fernandez@health.nsw.gov.au (R. Fernandez)

References

Fisher, J. R., Tran, T. D., Hammarberg, K., Sastry, J., Nguyen, H., Rowe, H., et al. (2020). Mental health of people in Australia in the first month of COVID-19 restrictions: A national survey. *The Medical Journal of Australia*. https://doi.org/10.5694/mja2.50831.

Guixia, L., & Hui, Z. (2020). A study on burnout of nurses in the period of COVID-19. *Psychology and Behavioral Sciences, 9*(3), 31. https://doi.org/10.11648/j.pbs.20200903.12.

Halcomb, E., McInnes, S., Williams, A., Ashley, C., James, S., Fernandez, R., et al. (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.

Hu, D., Kong, Y., Li, W., Han, Q., Zhang, X., Zhu, L. X., et al. (2020). *Frontline nurses' burnout, anxiety, depression, and fear statuses and their associated factors during the COVID-19 outbreak in Wuhan, China: a large-scale cross-sectional study*: 24. EClinicalMedicine.

Jackson, D., Anders, R., Padula, W. V., Daly, J., & Davidson, P. M. (2020). Vulnerability of nurse and physicians with COVID-19: monitoring and surveillance needed. *Journal of Clinical Nursing, 29*(19-20). https://doi.org/10.1111/jocn.15347.

Labrague, L. J., & De los Santos, J. A. A (2020). COVID-19 anxiety among front-line nurses: Predictive role of organisational support, personal resilience and social support. *Journal of Nursing Management, 28*(7), 1653–1661.

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

Marteau, T. M., & Bekker, H. (1992). The development of a six-item short-form of the state scale of the Spielberger State—Trait Anxiety Inventory (STAI). *British Journal of Clinical Psychology, 31*(3), 301–306. https://bpspsychub.onlinelibrary.wiley.com/doi/pdfdirect/10.1111/j.2044-8260.1992.tb00997.x?download=true.

NSW Health (2020). *Covid-19 weekly surveillance in NSW epidemiological week 26, ending 27*. Sydney: NSW Health June 2020.https://www.health.nsw.gov.au/Infectious/covid-19/Documents/covid-19-surveillance-report-010720.pdf .

Sahebi, A., Nejati-Zarnaqi, B., Moayedi, S., Yousefi, K., Torres, M., & Golitaleb, M. (2021). The prevalence of anxiety and depression among healthcare workers during the COVID-19 pandemic: an umbrella review of meta-analyses. *Progress in Neuro-psychopharmacology & Biological Psychiatry, 107*, 110247. https://doi.org/10.1016/j.pnpbp.2021.110247.

Salari, N., Khazaie, H., Hosseinian-Far, A., Khaledi-Paveh, B., Kazeminia, M., Mohammadi, M., et al. (2020). The prevalence of stress, anxiety and depression within front-line healthcare workers caring for COVID-19 patients: A systematic review and meta-regression. *Human Resources for Health, 18*(1), 100. https://doi.org/10.1186/s12960-020-00544-1.

Santabárbara, J., Bueno-Notivol, J., Lipnicki, D. M., Olaya, B., Pérez-Moreno, M., Gracia-García, P., et al. (2021). Prevalence of anxiety in health care professionals during the COVID-19 pandemic: a rapid systematic review (on published articles in Medline) with meta-analysis. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 107 110244. https://doi.org/10.1016/j.pnpbp.2021.110244.

Wong, L. P., Hung, C.-C., Alias, H., & Lee, T. S.-H. (2020). Anxiety symptoms and preventive measures during the COVID-19 outbreak in Taiwan. *BMC Psychiatry, 20*(1), 1–9.