RESEARCH ARTICLES

Psychosocial impact of the COVID-19 pandemic on Australian nurses and midwives: a cross-sectional study

AUTHORS

SARA HOLTON BA, GradDipBus, GradDipArts, MGendStud, PhD[1,2]

KAREN WYNTER BSc(Hons), MPhil, PhD[1,2]

JULIE CONSIDINE BN, Grad Dip Nurs, MN, PhD[1,3]

MARYANN STREET BSc PhD[1,3]

ANA HUTCHINSON RN, PhD[1,4]

DAMIEN KHAW BA(Hons), PhD[1,4]

PAULA STEPHENSON RN, Grad Dip Adv Nurs, MN[5]

ALISON M HUTCHINSON BAppSci, MBioethics, PhD[1,6]

CHERENE OCKERBY BA(Hons)[1,6]

KATRINA NANKERVIS RN, MN[7]

SHANE CROWE BN, BEd, ProfCertHlthSysMgt, MACN[8]

MELODY TRUEMAN RN, DipNur, BHSc, MN, AdvDipMgt, MACN[8]

SUSAN SWEENEY PGDipMid, PGDipMgt&HCLead, AdvDipCommSectMgt, MN, MBA[8]

SUELLEN BRUCE RN, CertNurs(Renal), GradCertNursMgt, MN[9]

BODIL RASMUSSEN RN, DipNEd, MEdSt, PhD, FCNA[1,2,10,11]

1 School of Nursing and Midwifery, Centre for Quality and Patient Safety Research in The Institute for Health Transformation, Deakin University, Geelong, Victoria, Australia.

2 Centre for Quality and Patient Safety Research – Western Health Partnership, Deakin University, Geelong, Victoria, Australia.

3 Centre for Quality and Patient Safety Research – Eastern Health Partnership, Deakin University, Geelong, Victoria, Australia

4 Centre for Quality and Patient Safety Research – Epworth Healthcare Partnership, Deakin University, Geelong, Victoria, Australia

5 Clinical Services, Epworth Healthcare, Richmond, Victoria, Australia

6 Centre for Quality and Patient Safety Research – Monash Health Partnership, Deakin University, Geelong, Victoria, Australia

7 Nursing and Midwifery, Monash Health, Clayton, Victoria, Australia

8 Nursing and Midwifery, Western Health, St Albans, Victoria, Australia

9 People, Culture and Communications, Western Health, Footscray, Victoria, Australia

10 Department of Public Health, Faculty of Health and Medical Sciences, University of Copenhagen, København, Denmark

11 Faculty of Health Sciences, University of Southern Denmark, Odense M, Denmark

CORRESPONDING AUTHOR

SARA HOLTON, Deakin University, 1 Gheringhap Street, Geelong, Vic 3220, Australia.
Email: s.holton@deakin.edu.au

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ABSTRACT

Objective: To investigate the psychosocial effects of the COVID-19 pandemic on nurses and midwives working in acute care settings, specifically psychological distress, self-reported concerns, and perceived impact on their work and personal lives.

Background: Little is known about the psychosocial impact of the pandemic on nurses and midwives in Australia, a country with a substantially lower number of COVID-19 cases and deaths than many others. Few studies investigating the prevalence of psychological distress among nurses during the pandemic have been conducted in more than one setting, especially in the Australian context.

Study design and methods: Cross-sectional survey design (STROBE checklist). Nurses and midwives (n=1,611) at four metropolitan tertiary health services in Melbourne, Australia completed an anonymous online survey between 15 May and 31 August 2020, which assessed symptoms of depression, anxiety and stress (DASS-21); concerns related to COVID-19; and other effects of COVID-19. Space was provided for free-text comments.

Results: Approximately one fifth of respondents reported moderate to extremely severe symptoms of depression, anxiety and stress. Fewer years of clinical experience were significantly associated with higher levels of psychological distress. More than half of the respondents were extremely/very concerned about passing COVID-19 on to family members and about their family's health, and almost half were concerned about caring for a patient who had confirmed or suspected COVID-19. Respondents reported that certain precautionary measures such as personal protective equipment (PPE) interfered with their ability to provide optimal patient care. Positive aspects of the pandemic were also reported including a sense of togetherness and cooperation among staff.

Conclusion: The COVID-19 pandemic has had a considerable impact on the psychological wellbeing and work and personal lives of nurses and midwives working in acute care settings in Melbourne, Australia, particularly those with less clinical experience.

Implications for nursing and health services research, policy and practice: Nurses and midwives, particularly those with less clinical experience, would benefit from additional, targeted wellbeing and support initiatives. For those with less experience, initiatives could include being partnered with more experienced colleagues and educators who can provide practical and emotional support and monitor their stress levels.

What is already known about the topic?

- Nurses and midwives have experienced more psychological distress than other healthcare workers during the COVID-19 pandemic.
- Most studies about the psychosocial impact of the COVID-19 pandemic on nurses and midwives have been conducted in a single health service.
- Few studies have concurrently investigated the experiences of nurses and midwives from different health services during the COVID-19 pandemic especially in the Australian context.

What this paper adds

- Despite the relatively low number of COVID-19 cases and deaths in Australia, the COVID-19 pandemic has had a considerable impact on the psychological wellbeing and work and personal lives of Australian nurses and midwives.
- About one in five of the nurses and midwives surveyed reported moderate to extremely severe symptoms of depression, anxiety and stress during the first wave of the pandemic.
- Nurses and midwives with fewer years of clinical experience experienced higher levels of psychological distress than those with more experience.

Keywords: Australia; COVID-19; hospitals; nurses; midwives; mental health

OBJECTIVE

At the time the study was conducted (May-August 2020), most of the published peer-reviewed evidence about the impact of the COVID-19 pandemic on nurses and midwives was from countries with high numbers of COVID-19 cases and deaths, such as China,[1,2] and the United Kingdom (UK).[3] Australia has recorded relatively low numbers of COVID-19 cases and deaths in comparison to other countries.[4] Although evidence is starting to emerge about the impact of the COVID-19 pandemic on Australian nurses' and midwives' psychological wellbeing and their work and personal lives, most studies have been conducted in a single setting,[5] or have included nurses and midwives as part of a broader investigation of healthcare workers in general.[6,7] Recent reviews about the prevalence of psychological distress among nurses during the COVID-19 pandemic have identified few studies that have been conducted in more than one setting and none of these were from Australia.[8,9]

Understanding the impacts of the COVID-19 pandemic on nurses and midwives is important in planning appropriate support services, ensuring nurses and midwives can provide high quality patient care, and optimising their psychological wellbeing.[10] The aim of this study was to investigate the psychosocial effects of the COVID-19 pandemic on nurses and midwives working in Melbourne, Australia, specifically psychological distress, self-reported concerns, and perceived impact on their work and personal lives.

BACKGROUND

The COVID-19 pandemic led to unprecedented and rapid changes to healthcare delivery, and evidence is emerging about the immediate impact of the pandemic on healthcare workers such as nurses and midwives. Symptoms of anxiety,[1,11-15] depression,[1,11-15] and pandemic-related stress or distress,[1,11] as well as fear,[14] nervousness, fatigue, frequent crying, and suicidal thoughts[2] have been reported. Nurses and midwives appear to have experienced more psychological distress than other healthcare workers during the COVID-19 pandemic.[1,10,16]

Little is known about the impact of the COVID-19 pandemic on the personal and work lives of nurses and midwives. During previous outbreaks of infectious diseases such as Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome Coronavirus (MERS-CoV) and H1N1 influenza, healthcare workers reported concerns about their own and family members' health.[17-21] A recent Australian study conducted during the COVID-19 pandemic found that most of the hospital clinical staff surveyed were also concerned about their own health and infecting their families, friends and colleagues.[22] Further research is required to identify other concerns nurses and midwives may have experienced during the pandemic or are specific to COVID-19 as well as the effects of the pandemic on their personal and work lives and psychological wellbeing.

The aim of this study was to investigate the immediate psychosocial effects of the COVID-19 pandemic on nurses and midwives working in acute care settings in Melbourne, Australia. The specific objectives of the study were to assess: 1) nurses' and midwives' levels of depression, anxiety and stress; 2) the proportion of nurses and midwives in the mild, moderate, severe and extremely severe diagnostic categories for depression, anxiety and stress; 3) factors significantly associated with higher levels of depression, anxiety and stress; 4) nurses' and midwives' self-reported concerns about COVID-19; and 5) the impact of the pandemic on their work and personal lives.

STUDY DESIGN AND METHODS

DESIGN, SETTING AND PARTICIPANTS

A cross-sectional survey design was used; nurses and midwives employed at the study health services during the recruitment period (May–August 2020) were invited to complete a self-administered anonymous online survey.

The Australian health system includes both public and private providers. Public hospitals provide free or low-cost care and are funded by the government. Services in private hospitals are paid for directly by patients or their health insurer.[23] Nurses and midwives were recruited from four major metropolitan health services in Melbourne, the capital city of the State of Victoria, Australia; three are public health services which provide acute tertiary services, subacute care, specialist clinics and community health services. The other is a private not-for-profit health service which provides acute medical, surgical and rehabilitation services. The health services are located in different metropolitan regions of Melbourne (i.e. eastern, western, southern and inner-city) and the public health services provide care for more than half of Melbourne's population.

At the time of the study, the State of Victoria was in 'Stage 3' restrictions which included limits on indoor and outdoor gatherings (up to five visitors in the home, groups of up to 10 people outdoors),[24] physical distancing, remote learning for school-aged children, and working from home for non-essential workers. As of 15 May 2020, there had been 1,543 cases of COVID-19 in Victoria (most in metropolitan Melbourne) and 18 deaths; nine people were in hospital, including seven patients in intensive care.[25] During data collection, all of the participating health services were affected by COVID-19 clusters in their regions, and provided care for patients with COVID-19.

Approximately 22,740 nurses and midwives are employed at the four health services. To obtain a statistical confidence level of 95% with 5% margin of error, a sample size of 378 was required.[26]

The research adhered to the STROBE guidelines for cross-sectional studies.

PROCEDURE

The survey was available in Qualtrics (Provo, UT, USA), an online survey platform, for approximately four weeks at each health service during May to August 2020. The same survey was used at each health services and the data was collected concurrently. An invitation including the link to the survey was sent to the group email address for nursing/midwifery staff at each health service, followed by a reminder email 2–3 weeks later.

The survey was informed by similar published studies on the psychosocial effect of infectious disease outbreaks (e.g. SARS, MERS-CoV) on healthcare workers,[17,19-21,27,28] and the research team's clinical experience. Respondents' psychological wellbeing was assessed using the DASS-21, a widely used validated psychometric instrument.[29]

The survey included mostly fixed-response questions and assessed:

1. Sociodemographic and employment characteristics: sex, age, country of birth, professional role (e.g. nurse, midwife), living with school-aged children (yes/no), employment status (full time/part time/casual), years of clinical experience and years employed at health service.
2. Psychological wellbeing: Depression, anxiety and stress symptoms during the past week were assessed using the DASS-21.[29] In this study, Cronbach's α was 0.894, 0.777 and 0.899 for the Depression, Anxiety and Stress subscales.
3. COVID-19 concerns: six items about concerns related to the effects of COVID-19 on personal and family health, rated using a 5-point Likert scale ranging from 'not concerned' to 'extremely concerned' (the items are listed in Table 6).
4. Impact of COVID-19 infection control measures: nine items assessing the impact of COVID-19 precautionary measures, were rated using a 3-point Likert scale ranging from 'does not affect my ability to do my job' to 'affects my ability to do my job a lot' (the items are listed in Table 6).
5. Personal and work impacts of COVID-19: 15 items on work impacts and 11 items on personal impacts of COVID-19 were rated on a 5-point Likert scale ranging from 'strongly disagree' to 'strongly agree' (the items are listed in Table 6).

Space was also provided at the end of the survey for respondents to make free-text comments in response to the question 'Have we missed anything? If you have anything else you would like to tell us about the impact of COVID-19 on you or your role at [name of health service] please write it in the box below'.

DATA MANAGEMENT AND ANALYSIS

Data were analysed using IBM SPSS Statistics version 26 (IBM Corp., Armonk, NY, USA). Descriptive statistics were used to summarise the data.

DASS-21 subscale scores and the proportion of respondents scoring in clinical ranges were calculated as outlined by the instrument's authors,[29] subscale scores were not generated if responses to more than one item in the relevant subscale were missing. Using one-sample t-tests, the findings were compared with DASS-21 scores reported for adults in the general population and healthcare workers in other studies both prior to and during the COVDI-19 pandemic.

Associations between DASS-21 subscale scores and sociodemographic variables were examined using Mann–Whitney U-tests, Kruskal–Wallis tests or Spearman's *r* coefficients.

Variables significantly associated with DASS-21 subscales scores ($p<0.05$) in the univariate analyses were included in multiple regression models with the DASS-21 Depression, Anxiety and Stress subscale scores as outcome variables.

Responses to questions about respondents' concerns, interference of infection control measures and impact of COVID-19 on respondents' work and personal lives were summarised using frequencies and percentages.

Free-text comments were analysed using content (conceptual) analysis in order to identify the presence and meaning of certain themes or concepts.[30] The findings have been used to complement the quantitative data and illustrative quotes provided.

ETHICS APPROVAL

Completion of the survey was taken to indicate consent. The study was approved by the human research ethics committees (HRECs) of the participating health services: Eastern Health HREC LR20/035, 5 May 2020; Epworth Healthcare HREC EH2020-558, 5 May 2020; Monash Health HREC RES-20-0000-297A, 29 May 2020; and the Western Health Low Risk Ethics Panel HREC/20/WH/62913, 5 May 2020.

RESULTS

SAMPLE AND RESPONSE

Of the approximately 22,740 nurses and midwives employed by the four participating health services, 1,611 completed the survey, giving an overall response rate of 7.1% (range 1.2% - 13.0% response at each health service).

Most respondents were registered nurses (RN), female, born in Australia and employed on a part-time basis; approximately one-third lived with school-aged children. On average the respondents were about 40 years of age; had 15 years of clinical experience; and had been employed at their health service for almost nine years. The proportion of female respondents and those in each professional role (e.g. RN, midwife) was similar to those among all registered nurses and midwives in Victoria[31] (Table 1). A total of 1,000 free-text comments were provided by the respondents.

TABLE 1: RESPONDENTS' SOCIODEMOGRAPHIC CHARACTERISTICS

Characteristic	Sample nurses/midwives (n=1611)	Victorian registered nurses/midwives (n=121,167)[31]
Female	1470 (93%)	89.2%
Age (years), Range (Mean)	21-70 (39.9)	
Born in Australia	1002 (63%)	
Live with school aged children	495 (31%)	
Work full-time	433 (27%)	
Years practised, Range (Mean)	0-51 (15.4)	
Years employed at health service, Range (Mean)	0-47 (8.6)	
Professional role		
Registered nurse	1190 (75.0%)	70.2%
Enrolled nurse	97 (6.1%)	18.7%
Nurse practitioner	13 (0.8%)	0.4%
Nurse and midwife	119 (7.5%)	6.6%
Midwife	89 (5.6%)	1.3%
Other	77 (4.9%)	

PSYCHOLOGICAL WELLBEING

Overall, approximately one in five nurses and midwives surveyed reported moderate to extremely severe symptoms of depression (n=324, 20.8%), anxiety (n=311, 20.0%) and stress (n=292, 18.7%). There were no significant differences between nurses and midwives in the proportion reporting moderate to extremely severe symptoms of depression, anxiety or stress (Table 2) or their mean scores on the DASS-21 subscales (Table 3).

TABLE 2: PROPORTION OF NURSES AND MIDWIVES SCORING IN THE NORMAL AND CLINICAL RANGES OF THE DASS-21 SUBSCALES

Score ranges for clinical cut-off points[29]	n (%) scoring in each range		
	Nurses	Midwives	Total sample
Depression	*n=1358*	*n=203*	*n=1562*
Normal (0-4)	950 (70.0)	140 (69.0)	1,091 (69.8)
Mild (5-6)	130 (9.6)	17 (8.4)	147 (9.4)
Moderate (7-10)	174 (12.8)	30 (14.8)	204 (13.1)
Severe (11-13)	44 (3.2)	8 (3.9)	52 (3.3)
Extremely severe (≥14)	60 (4.4)	8 (3.9)	68 (4.4)
Anxiety	*n=1355*	*n=203*	*n=1560*
Normal (0-3)	911 (67.2%)	127 (62.6)	1040 (66.7)
Mild (4-5)	175 (12.9%)	34 (16.7)	209 (13.4)
Moderate (6-7)	124 (9.2%)	13 (6.4)	137 (8.8)
Severe (8-9)	69 (5.1%)	12 (5.9)	81 (5.2)
Extremely severe (≥10)	76 (5.6%)	17 (8.4)	93 (6.0)
Stress	*n=1358*	*n=202*	*n=1561*
Normal (0-3)	962 (70.8)	140 (69.3)	1,103 (70.7)
Mild (4-5)	145 (10.7)	21 (10.4)	166 (10.6)
Moderate (6-7)	116 (8.5)	20 (9.9)	136 (8.7)
Severe (8-9)	98 (7.2)	18 (8.9)	116 (7.4)
Extremely severe (≥10)	37 (2.7)	3 (1.5)	40 (2.6)

[a] Total N's are different to the N for the total sample (n=1,611) and nurse (n=1,378) and midwife (n=208) subsamples due to missing data.

TABLE 3: RESPONDENTS' SCORES ON THE DASS-21 SUBSCALES

DASS-21 Subscale	Nurses	Midwives	Total sample	p value
Depression	*n=1358*	*n=203*	*n=1562*	
Mean (SD)	3.71 (4.12)	3.82 (4.31)	3.72 (4.15)	p=0.812
Minimum	0.0	0.0	0.0	
Maximum	21.0	21.0	21.0	
Anxiety	*n=1355*	*n=203*	*n=1560*	
Mean (SD)	3.11 (3.24)	3.41 (3.68)	3.14 (3.30)	p=0.535
Minimum	0.0	0.0	0.0	
Maximum	18.0	19.0	19.0	
Stress	*n=1358*	*n=202*	*n=1561*	
Mean (SD)	5.72 (4.56)	5.89 (4.58)	5.75 (4.58)	p=0.587
Minimum	0.0	0.0	0.0	
Maximum	21.0	21.0	21.0	

The sample's mean score on the Depression, Anxiety and Stress subscales of the DASS-21 was significantly higher than normative data for the Australian general population[32] before the COVID-19 pandemic (p<0.001 for all); reported data for Australian nurses[33] prior to COVID-19 (p<0.001 for all); and healthcare workers in Singapore[34,35] during the COVID-19 pandemic (p<0.001 for all); but significantly lower than Portuguese nurses[36] during COVID-19 (p=0.008 Depression; p<0.001 Anxiety and Stress) (Table 4).

Sex, country of birth, having school-aged children living at home, employment status, age, years of clinical experience and years employed at the health service were all significantly associated with at least one DASS-21 subscale score and were therefore included in the regression models. Years of experience was highly correlated with age (r=0.869, p<0.001) and years employed at the health service (r=0.706, p<0.001), thus only years of experience was included.

In multiple regression models, fewer years of clinical experience and being born in Australia were significantly associated with higher DASS-21 Depression, Anxiety and Stress scores (p<0.001 for all three subscales). Not having school-aged children living at home was also significantly associated with higher DASS-21 Depression (p<0.001), Anxiety (p<0.001) and Stress (p=0.006) scores. Being male was significantly associated with higher DASS-21 Anxiety (p=0.027) and Stress scores (p=0.007) (Table 5).

SELF-REPORTED CONCERNS ABOUT COVID-19

More than half of the respondents were extremely or very concerned about passing COVID-19 on to family members and about their family's health, and almost half were extremely/very concerned about caring for a patient who had confirmed or suspected COVID-19 (Table 6).

> *"My mum is in aged care and I worry about her catching COVID."*

TABLE 4: SEVERITY OF MENTAL HEALTH SYMPTOMS

DASS-21 Scale	Study sample *(Australian nurses and midwives during COVID-19)* (mean, SD)	Australian general population *(before COVID-19)*[a] (mean)	Australian nurses *(before COVID-19)*[b] (mean)	Singaporean doctors and nurses *(during COVID-19)*[c] (mean, SD)	Critical care health workers *(various countries, mainly Australia; during COVID-19)*[d] (mean, SD)	Portuguese nurses *(during COVID-19)*[e] (mean, SD)	Australian general population *(adults, no mental health diagnosis, during COVID-19)*[f] (mean, SD)
Depression	3.72 (4.15) (n = 1,562)	2.57; p<0.001	2.88; p<0.001	2.54 (5.23); p<0.001	3.9 (4.15); p=0.090	4.0 (3.8); p=0.008	3.82 (3.49); p=0.349
Anxiety	3.14 (3.30) (n = 1,560)	1.74; p<0.001	2.17: p<0.001	2.45 (4.28); p<0.001	3.4 (3.75); p=0.002	4.2 (4.0); p<0.001	2.08 (2.56); p<0.001
Stress	5.75 (4.58) (n = 1,561)	3.99; p<0.001	4.80; p<0.001	3.82 (5.74); p<0.001	7.0 (4.8); p<0.001	7.3 (4.5); p<0.001	5.25 (3.75); p<0.001

[a] Crawford et al.[32] Hegney et al.[33]; N=132 [c] Tan et al.[34]; N=296 [d] Hammond et al.[7]; N=3,770 (nurses, n=2,269) [e] Sampaio et al.[36]; N=767 [f] Rossell et al.[48]; N=5,158

TABLE 5: SOCIODEMOGRAPHIC CHARACTERISTICS ASSOCIATED WITH DASS-21 SUBSCALE SCORES (MULTIPLE REGRESSION MODELS)

Independent variables	Depression		Anxiety		Stress	
	Standardised coefficients Beta	Sig	Standardised coefficients Beta	Sig	Standardised coefficients Beta	Sig
Sex (female)	–.037	p=0.140	–.054	p=0.027	–.067	p=0.007
Country of birth (born in Australia)	.095	p<0.001	.079	p=0.001	.097	p<0.001
School-aged children (live with)	–.096	p<0.001	–.088	p<0.001	–.068	p=0.006
Employment status (work full-time)	.007	p=0.793	–.022	p=0.374	.019	p=.447
Years of experience	–.202	p<0.001	–.294	p<0.001	–.228	p<0.001

TABLE 6: RESPONDENTS' PSYCHOSOCIAL CONCERNS ABOUT AND IMPACT OF COVID-19 ON WORK AND PERSONAL LIVES

Respondents' psychosocial concerns about COVID-19 (n (%) extremely/very concerned)	**n (%)**
Passing COVID-19 on to family members (n=1,545)	930 (60.2%)
Your family's health	869 (59.4%)
Caring for a patient who has or has suspected COVID-19 (n=1,543)	672 (43.6%)
Your colleagues having COVID-19 (n=1,544)	605 (39.2%)
Hospital patients having COVID-19 (n=1,543)	565 (36.6%)
Falling ill as a result of COVID-19 (n=1,545)	473 (30.6%)
Interference of infection control measures with work (n (%) affects ability to do job a lot/a little)	**n (%)**
Social distancing from colleagues (n=1,508)	1,010 (67.0%)
Staying away from work when you have any signs of illness (n=1,283)	837 (65.2%)
Restricted face-to-face meetings or gatherings (n=1,476)	930 (63.0%)
Mask (n=1,470)	846 (57.6%)
Goggles/eye shields (n=1,364)	620 (45.5%)
Imposed self-isolation on return from overseas trip (n=627)	224 (35.7%)
Face shields (n=916)	611 (33.3%)
Restricted access to some or all hospital sites (n=1,384)	433 (31.3%)
More frequent handwashing or sanitising (n=1,514)	252 (16.6%)
Gloves (n=1,436)	200 (13.9%)
Impact of COVID-19 on respondents' work lives (n (%) strongly agree/agree)	**n (%)**
It has been a learning experience (n=1,512)	1,370 (90.6%)
My job puts me at risk of getting COVID-19 (n=1,537)	1,269 (82.6%)
My awareness and knowledge of disease control has increased (n=1,524)	1,178 (77.3%)
I feel more stress at work (n=1,538)	1,079 (70.2%)
I have had to do work tasks that I don't usually do (n=1,519)	851 (56.0%)
There is an increased sense of togetherness and cooperation among the staff (n=1,525)	849 (55.7%)
I have had to do more work than I usually do (n=1,527)	797 (52.2%)

Respondents' psychosocial concerns about COVID-19 n (%) extremely/very concerned)	**n (%)**
I have had to cancel or postpone my annual leave because of the COVID-19 outbreak (n=1,382)	596 (43.1%)
I am disappointed that I have had to cancel or postpone my annual leave due to COVID-19 (n=1,260)	541 (42.9%)
I have had to retrain or do training courses so I can do a role/job I normally wouldn't (n=1,465)	485 (33.1%)
There is more conflict amongst colleagues at work (n=1,514)	420 (27.7%)
I don't feel very prepared to care for patients with COVID-19 (n=1,509)	402 (26.6%)
The situation has brought me closer to my manager (n=1,512)	358 (23.7%)
I have been less busy than usual (n=1,528)	255 (16.7%)
I have considered resigning because of COVID-19	248 (16.2%)
Impact of COVID-19 on respondents' personal lives (n (%) strongly agree/agree)	n (%)
I have avoided public or crowded spaces (e.g. shops, restaurants, public transport) (n=1,492)	1,314 (88.1%)
I have avoided interacting with my friends and extended family (n=1,421)	1,175 (82.7%)
My personal or family's lifestyle has been affected (n=1,517)	1,226 (80.8%)
People close to me have been concerned about my health (n=1,457)	1,086 (74.5%)
I have a greater appreciation of life and work (n=1,526)	927 (60.7%)
People treat me and my family differently because I work at a hospital (n=1,531)	711 (46.4%)
The COVID-19 situation has brought me closer to my family (n=1,536)	705 (45.9%)
My family and friends are worried they might get infected from me (n=1,423)	639 (44.9%)
People avoid me and my family because I work at a hospital (n=1,512)	536 (35.4%)
I am likely to suffer financial losses (n=1,520)	345 (22.7%)
I avoid telling people that I work at a hospital (n=1,532)	423 (27.6%)

THE USE AND EFFECTS OF COVID-19 PRECAUTIONARY MEASURES

Respondents reported that certain COVID-19 precautionary measures such as personal protective equipment (PPE) interfered with their ability to do their job. About two-thirds indicated that social distancing from colleagues, staying away from work due to illness symptoms, and restricted face-to-face meetings or gatherings had impacted their ability to do their duties (Table 6).

> *"I find it tiring to wear COVID PPE all day long. I hate it but I get the reason."*

WORK IMPACTS OF COVID-19

Most respondents were concerned that their job put them at risk of being infected with COVID-19, and agreed that they felt more stress at work due to the pandemic and that they have had to do work tasks that they would not normally do (Table 6).

> *"I feel anxious and stressed a lot of the time about the future and [this] has affected my sleep. I feel rundown a lot of the time and so cannot go into work ... I am scared I will have the virus and spread it to my colleagues and the vulnerable [people] that I care for."*

"I was seconded into a temporary role at the commencement of the COVID action plan and it was quite stressful."

However, the majority of respondents also reported positive impacts of the pandemic including that it had been a learning experience, their awareness and knowledge of disease control had improved, and there was an increased sense of togetherness and cooperation among staff (Table 6).

"[Ward name] has been an awesome team to be working with at this time. Feeling very grateful."

"I believe we have had a strong response to the challenges at [name of health service]. It has been an overall positive experience."

PERSONAL IMPACTS OF COVID-19

The majority of respondents agreed that they had avoided public or crowded spaces and interacting with their friends and family due to COVID-19; and that their personal or family's lifestyle had been affected by the pandemic (Table 6).

"Rostering and changes from COVID regarding family responsibilities such as home schooling, partners business and financial stability changed suddenly and made it very stressful…"

DISCUSSION

The COVID-19 pandemic has had a considerable impact on the psychological wellbeing, and personal and work lives of nurses and midwives working in acute care settings in Melbourne, Australia. One in five of the nurses or midwives surveyed reported moderate to extremely severe symptoms of depression, anxiety and stress. The nurses and midwives in this study also had significantly higher levels of depression, anxiety and stress than norms and reported data for the general Australian population and nurses before the COVID-19 pandemic as well as doctors and nurses in Singapore during the pandemic. Less experienced nurses and midwives also reported significantly higher levels of depression, anxiety and stress than their colleagues with more years of clinical experience. There were no significant differences between nurses and midwives in terms of their psychological wellbeing. Nurses and midwives were particularly concerned for their own and their family's health, and caring for patients with COVID-19.

PSYCHOLOGICAL WELLBEING

The findings of this study are consistent with those of others which have also found that healthcare workers especially nurses have experienced symptoms of depression, anxiety and stress during the COVID-19 pandemic.[1,10,35] However, comparison of the mean DASS-21 subscale scores of the Australian nurses and midwives in this study with those reported in studies conducted in other countries suggests that country specific factors such as the number of COVID-19 cases and deaths, and experience with previous coronavirus pandemics may be associated with healthcare workers' psychological wellbeing. Portuguese nurses experienced significantly higher levels of depression, anxiety and stress during the COVID-19 pandemic compared to Australian nurses and midwives in this study.[36] Similar to many European countries, Portugal had a considerably higher number of COVID-19 cases and deaths than Australia.[4] It is likely that this contributed to the relatively poor psychological wellbeing of Portuguese nurses as the Portuguese nurses were more likely to be caring for infected patients and/or have cared for patients who had died from COVID-19. In contrast, the nurses and midwives in this Australian study had significantly higher levels of depression, anxiety and stress than those reported for nurses and doctors in Singapore.[34,35] Although Australia had recorded considerably fewer confirmed COVID-19 cases since the beginning of the pandemic than Singapore at the time of this study (August 2020; 17,895 vs 52,512),[37] Singapore had also experienced a high number of cases and deaths during the 2003 SARS pandemic and as a result, strengthened its pandemic management capabilities making it better able to reduce the number of infections and minimise the impact of COVID-19 on its healthcare system and workers.[38]

Both nurses and midwives are at high risk for work-related depression, anxiety and stress[39] yet few studies have compared their wellbeing. At the time this study was conducted, little was known about the impact of the COVID-19 pandemic on the wellbeing of midwives particularly in Australia; most research had focused on 'frontline' nurses and doctors. This study found no significant difference in the wellbeing of nurses and midwives. In contrast, a study conducted in the UK found that midwives had slightly lower wellbeing scores than nurses (though it is not reported if the difference was statistically significant)[40] which may reflect the different measures used to assess wellbeing between these studies. However, it may be that although midwives experienced stress and anxiety during the pandemic due to challenges providing woman-centred care[41], like nurses they also experienced 'silver linings' or positive aspects including collaborative relationships and the development of new skills and knowledge[41] resulting in similar levels of depression, anxiety and stress.

Nurses and midwives with fewer years of clinical experience also reported higher levels of depression, anxiety and stress than those with more years of experience. Similarly, a recent study of UK nurses' experiences of working during the COVID-19 pandemic found that nurses with less experience had higher levels of anxiety and depression and lower resilience.[42] It may be that more experienced nurses and midwives have higher levels of clinical confidence and expertise and accordingly, feel more prepared to deal with the challenges of providing patient care during a pandemic

or other adverse events due to their knowledge and prior experiences,[42,43] and this has a protective effect on their wellbeing. It has also been suggested that graduate nurses experience transition shock or emotional distress when they commence their first professional role.[44] This may have contributed to the poorer psychological wellbeing reported by the nurses and midwives in this study who had fewer years of clinical experience.

CONCERNS AND IMPACT OF COVID-19 ON WORK AND PERSONAL LIVES

Nurses and midwives have direct and sustained patient contact and therefore, are at increased risk of COVID-19 infection. Consistent with this, the main concerns reported by nurses and midwives in this study and others conducted during the COVID-19 pandemic were the impact of COVID-19 on their own health and the risk of infecting others particularly their family, friends and colleagues.[3,5,36,45] These concerns reflect the substantial proportion of healthcare workers who had been infected with COVID-19 at the time of the study. As of August 2020, 2,692 COVID-19 cases had been diagnosed in Victorian healthcare workers with nurses reporting more cases than medical practitioners and at least 89% of the nurse cases were acquired at work, mostly in hospital settings.[46]

STRENGTHS AND LIMITATIONS

A large and diverse sample of nurses and midwives working in four different Victorian health services during the COVID-19 pandemic in Australia was surveyed for this study. A validated psychometric instrument, the DASS-21, was used to assess symptoms of depression, anxiety, and stress. The study is limited by the cross-sectional survey design, which cannot reveal causal relationships. The study was conducted at four large metropolitan health services in Melbourne and therefore, may not be generalisable to rural health services or those in other states of Australia or countries.

CONCLUSION

The COVID-19 pandemic has had a considerable impact on the psychological wellbeing and work and personal lives of nurses and midwives working in acute care settings in Melbourne, Australia, despite the relatively low number of COVID-19 cases and deaths in this country. Nurses and midwives, particularly those with less clinical experience, would benefit from additional, targeted, and ongoing support and systemic wellbeing initiatives during the current and future pandemics.

IMPLICATIONS FOR NURSING AND HEALTH SERVICES RESEARCH, POLICY, AND PRACTICE

The findings of this study suggest that nurses and midwives, particularly those with less clinical experience, would benefit from additional, targeted support and ongoing wellbeing initiatives that assist them to address their personal and work concerns. As suggested by the World Health Organization, less experienced nurses and midwives may benefit from being partnered with more experienced colleagues who can provide support and monitor their stress levels.[47] Managing the concerns and wellbeing of nurses and midwives is important in attracting and retaining staff and ensuring they can provide high quality patient care.

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