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Global emotional and spiritual well-being and resilience of Advanced Practice Nurses during the COVID-19 pandemic: A cross-sectional study

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Abstract

Aim: To evaluate the impact of the COVID-19 pandemic on the emotional and spiritual well-being and resilience of a global sample of Advanced Practice Nurses.

Design: A web-based cross-sectional mixed methods study. Survey data were collected from Advanced Practice Nurses globally over a 2-month period ending on 31 August 2020.

Methods: The Warwick-Edinburgh Mental Well-being Scale, FACIT-12 Spiritual Well-being Scale and Connor-Davidson Resilience Scale 10 were used to quantify emotional and spiritual well-being and resilience of Advanced Practice Nurses' globally. The survey was distributed internationally using snowball sampling via a secure platform (Qualtrics). Results were analysed using various bivariate tests for associations and group differences.

Results: Nine hundred and twenty-eight Advanced Practice Nurses from 53 countries participated in the study. Study participants reported meaningfully lower scores in resilience and emotional well-being compared with non-pandemic scores. Participants from countries with well-developed Advanced Practice Nurses roles reported lower resilience and well-being scores compared with those from countries where Advanced Practice Nurses roles are still being developed. Each scale revealed significant positive associations with the other scales.

Conclusions: Emotional and spiritual well-being and resilience of Advance Practice Nurses has been significantly impacted during the COVID-19 pandemic. Regardless of their work location, work hours, credential or demographics, the APNs in our study reported lower levels of resilience and mental well-being compared with typical scores on the instruments.

KEYWORDS
Advanced Practice Nurse, COVID-19, emotional well-being, mixed methods, resilience, spiritual well-being

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Tweetable abstract: Advanced Practice Nurses' emotional and spiritual well-being and resilience has been significantly impacted during the COVID-19 pandemic.

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1 | INTRODUCTION

As of June 2021, over 178 million people across the world have tested positive for the novel coronavirus SARS-CoV-2, while over 3.8 million individuals have succumbed to COVID-19, the disease it causes (Johns Hopkins University, 2021). Nurses constitute 59% of the global healthcare work force (World Health Organization, 2020) and, of note, almost half of all healthcare workers that have tested positive for SARS-CoV-2 (Gómez-Ochoa et al., 2021). Advanced Practice Nurses (APN), the term most commonly used globally for Nurse Practitioners and Clinical Nurse Specialist are generalists or specialized nurses who have acquired the expert knowledge base, clinical competencies and complex decision-making skills at an advanced level (International Council of Nurses, 2020). The APN characteristics are always shaped by the country context and may vary from country to country. APNs have been an integral component of global response to the COVID-19 pandemic and have been called on to work at the full extent of their competencies during this health crisis (Rosa et al., 2020). APN's have a higher level of professional responsibility when compared with other classes of nurses due to their increased autonomy and accountability. Emerging evidence shows that healthcare personnel who carry a higher level of professional responsibility to patients have an increased likelihood of experiencing moral distress (Braquehais et al., 2020), yet few studies examine the well-being of the advanced practice nursing workforce separately from the regular nursing or healthcare workforce (Kang et al., 2020; Khalid et al., 2016; Lung et al., 2009; Maunder et al., 2006).

2 | BACKGROUND

Severe stress, immediate and long-term psychological impacts of viral outbreaks on healthcare professionals and on nurses have been well-documented during both the current COVID-19 pandemic as well as past epidemics (Kang et al., 2020; Lancee et al., 2008; Maunder et al., 2006; McAlonan et al., 2007; Nickell et al., 2004; Serrano-Ripoll et al., 2020). Although the full scale of the COVID-19 pandemic impact on the health and well-being of healthcare providers is yet unknown, the psychological impact of the COVID-19 pandemic on front-line workers has long surpassed that of the SARS and MERS epidemics due to its' unprecedented global spread and high death rate (Hall, 2020). The consequences of poor psychological health of healthcare workers are known to greatly increase absenteeism (Barello et al., 2020; Brborović et al., 2017; Dyrbye et al., 2019) and can lead to healthcare worker burnout and compassion fatigue (Kelker et al., 2021; Rees et al., 2015; Zhang et al., 2018). This in turn impacts the patient care and patient safety (Cheng et al., 2020; Garcia et al., 2019; Liu et al., 2018).

Nguyen et al. (2020) identified that front-line health workers who have direct patient contact have an increased risk for positive COVID-19 testing when compared with the general population. Of the healthcare personnel that have tested positive, nurses have

IMPACT STATEMENT

Severe stress and psychological impacts of severe viral outbreaks have been documented in the nursing workforce, but Advanced Practice Nurses specifically and their resilience, emotional and spiritual well-being during viral outbreaks have not yet been examined. This research will have an impact pertaining to the acknowledgement, education and prevention of serious mental health problems, burnout and post-traumatic stress disorder for Advanced Practice Nurses worldwide.

SUMMARY STATEMENT

What is already known about the topic?
- As front-line providers nurses are disproportionately exposed to and infected with COVID-19
- Advanced Practice Nurses have faced increased practice-related demands during the global COVID-19 pandemic
- The ability to cope well in stressful environments is related to resiliency and emotional and spiritual well-being

What this paper adds

This study identifies how the COVID-19 pandemic has affected Advanced Practice Nurses' emotional and spiritual well-being and resilience globally.

significantly higher odds of mortality compared with other healthcare personnel (Jackson et al., 2020). The International Council of Nurses [ICN] (2021) have confirmed that 2710 nurses from 59 countries have died from COVID-19 and estimates there to be more than 20,000 COVID-19 healthcare worker fatalities worldwide.

Increased resilience has been hypothesized to act as a protective factor against the negative impacts of occupational stress especially in healthcare workers in outbreak environments (Lancee et al., 2008). Resilience is defined by Windle et al. (2011, p.2) as the 'process of negotiating, managing and adapting to significant sources of stress or trauma', or the ability to 'bounce back' from adverse events (Rees et al., 2015). Resilience is also largely understood to be a dynamic process where individuals use resources to cope with and learn from adversity (Grafton et al., 2010). Resilience in the healthcare workforce has been increasingly examined in healthcare-related mental health research (Windle et al., 2011), as interventions have been shown to increase resilience (Connor & Davidson, 2003). A recent Cochrane Review called for more research about resilience in healthcare providers as the pandemic continues (Pollock et al., 2020).

There is an increasing body of literature that explores the contribution of spiritual well-being to personal resilience (Grey, 2017). Rogers and Wattis (2020) define spirituality as what brings an individual hope, meaning and purpose. Spiritual well-being is often confused with religiosity. Those who have a faith may

well relate this to their sense of spirituality however spirituality is innately human and far wider than faith (Wattis et al., 2017). Miner-Williams (2006) suggests that there may be aspects of spirituality that are universal and shared regardless of the presence or absence of a specific religious form of belief and expression. Spiritual well-being relates to the way we live, relate and perceive the world around us and is often linked with positive attributes (Wattis et al., 2017). Research has found that healthcare workers who have higher levels of spiritual well-being are more likely to integrate spiritual care into their own practice leading to positive patient outcomes (Markani et al., 2018). Further, Rajabipoor Meybodi and Mohammadi (2021) identified that healthcare workers who are more resilient are those who have higher levels of spiritual well-being. Spiritual well-being can increase tolerance of psychological and physical stress (Le et al., 2019).

3 | THE STUDY

3.1 | Aim

The aim of the study was to investigate the emotional and spiritual well-being and resilience of Advanced Practice Nurses globally during the COVID-19 pandemic.

3.2 | Purpose

Understanding that the COVID-19 pandemic has the potential to have such a wide-reaching and long-term impact on healthcare systems around the world, it is vital to examine resilience as well as measure the emotional and spiritual well-being of the APN workforce. A baseline understanding of global levels of resilience and emotional and spiritual well-being increases our understanding of the ability of the APN workforce to sustain their place as an integral part of the healthcare system during this global crisis. The purpose of this study is to examine the overall resilience, emotional and spiritual well-being in the APN workforce and to describe associated factors.

3.3 | Design

A secure cross-sectional web-based survey using Qualtrics software (Qualtrics, 2020) was designed using the Warwick-Edinburgh Mental Well-being Scale, the FACIT-Spiritual Well-Being Scale and the Connor-Davidson Resilience Scale 10. The survey was open from 01 July to 31 August 2020.

3.4 | Participants

Snowball sampling was used to distribute the survey through professional and personal networks of the research team to a global APN target audience including Clinical Nurse Specialists (CNS) and Nurse Practitioners (NP). A CNS is defined as an APN who provides expert clinical advice and care based on established diagnoses in specialized clinical fields of practice along with a system approach in practicing as a member of the healthcare team (International Council of Nurses, 2020). The NP is defined as an APN who integrates clinical skills associated with nursing and medicine to assess, diagnose and manage patients in primary healthcare (PHC) settings and acute care populations as well as ongoing care for populations with chronic illness (International Council of Nurses, 2020).

3.5 | Data collection

Survey data were collected from Advanced Practice Nurses globally over a 2-month period ending on 31 August 2020. A web-based cross-sectional survey was distributed internationally using snowball sampling via a secure platform (Qualtrics). Results were analysed using various bivariate tests for associations (e.g. Spearman rank correlations) and group differences (e.g. one-way ANOVA). For all statistics used in this study, diagnostics were investigated to identify data conditions that may undermine interpretations and when concerns arose, adjustments using non-parametric techniques were made to increase statistical validity.

3.6 | Ethical considerations

Approval was obtained from the Ethics committees and Institutional Review Board of the principal investigator's university and at co-researchers' respective institutions in Canada and the United States. Information about the study and contact information for additional information or concerns was provided to all study participants. Completion of electronic survey was voluntary. At the start of the survey information was given to participants and consent obtained. Data were protected under secure management at the principal investigator's institution. Any data shared was anonymized and accessed through secure password protected platforms. The STROBE research criterium was adhered to for this study.

3.7 | Data analysis

To help address the purpose of the study, means and standard deviations were used to summarize continuous outcomes while counts and relative frequencies were used to summarize categorical variables. Medians and ranges are also reported due to the presence of non-normality in some of the outcome variables. Spearman's rank correlation coefficients were used to evaluate the bivariate association between continuous variables. The Welch's t-test was used to facilitate study of group differences, unless a predictor had three or more categorical levels, in which case, a one-way ANOVA was implemented with post hoc testing done under Tukey's HSD test.

For all statistics used in this study, diagnostics were investigated to identify data conditions that may undermine interpretations and when concerns arose, adjustments were made to increase statistical validity (e.g. use of the Kruskal–Wallis *H* test when non-normality was present instead of the one-way ANOVA). All inferential analyses were conducted under an alpha of .05. Missing data were low with less than 5% of the observations missing across the variables in this study.

3.8 | Validity, reliability and rigour

The Warwick-Edinburgh Mental Well-being Scale (WEMWBS) measures subjective mental well-being and psychological functioning of adults. The scale was unaltered and used with permission from the authors. WEMWBS scores are validated for use with adults over 16 years of age and consists of 14 positively worded questions asking responders to answer questions related to their thoughts and feelings over the past 2 weeks on a 5-point Likert scale ranging from 'none of the time' to 'all of the time'. Scoring ranges from 14 to 70, with higher scores being associated with more positive emotional well-being (Taggart et al., 2015). The WEMWBS is used commonly in recent nursing research (Ahmad et al., 2015; Choi & Lee, 2020; Oates, 2018; Oates et al., 2017; Wood et al., 2020). Responses were scored according to the WEMWBS manual (Tennant et al., 2007). Cronbach's alpha on the WEMWBS scores was .920 in the present sample.

The Functional Assessment of Chronic Illness Therapy- 2-Factor Non-Illness Spiritual Well-Being (FACIT-Sp-12) Version 4 was used to measure spiritual well-being of APNs. The tool was used with permission from authors. The scale consists of eight questions concerning meaning and peace, and four questions concerning faith, and scored according to the Administration and Scoring Guidelines provided in the online manual at www.facit.org. The FACIT-Sp is used in current nursing research (Bormann et al., 2017). Item 10, which speaks to the degree of strength respondents obtain from their spirituality, was excluded consistent with the scoring practices observed in the literature (e.g. Bredle et al., 2011), the 11 items were used to compute Meaning and Faith subscale scores by summing across the relevant items. Cronbach's alpha on the Meaning and Faith subscale scores were .879 and .82, respectively.

Resilience was measured using the 10-point Connor-Davidson Resilience Scale (CD-RISC-10) with permission from authors. The scale was unaltered as outlined in the instruction manual, with a higher score corresponding to greater resilience (measured from 0 to 100). CD-RISC-10 scores are verified for clinical practice use and are rated as one of the top resilience measures with strong internal consistency and construct validity (Windle et al., 2011). The high value of this tool is reflected in its' repeated use in recent relevant scholarly literature (Cai et al., 2020; Guo et al., 2018; Trip et al., 2018; Turner, 2015). Responses on the Connor-Davidson Resilience scale were summed to compute composite resiliency scores in keeping with the expectations outlined in the manual (Davidson, 2020).

Cronbach's alpha on the Resilience scores was .887 in the present sample.

4 | RESULTS

Responses were received from APNs in 53 countries, however, low response rates in 49 countries did not allow for further statistical analyses of data from those countries individually. Where possible, grouping of data by region and level of APN development was used to further represent the findings globally.

Demographic information is displayed in Table 1. Participants in this study (N = 928) were distributed across 53 countries with the highest number of respondents coming from the United Kingdom (UK), United States of America (USA), Canada, Ireland, Netherlands and Australia. Participants were approximately 47.56 (SD = 10.81) years old and largely female (88.90%, n = 825). The majority of respondents indicated they had completed a master's degree (67.03%, n = 622) and were serving as a Nurse Practitioners (NP; 61.75%, n = 573). Participants also indicated they had been in their professional role for approximately 8 years, though the range of experience was diverse. More than half (55.93%; n = 517) indicated they work between 37 and 48 h per week.

4.1 | Warwick and Edinburgh Well-being Scores

Participants in the present study exhibited an average WEMWBS score of 48.59 (SD = 8.42) with values ranging between 20.00 and 70.00 (*Mdn* = 49.00).

4.2 | Connor-Davidson Resilience Scores

Resiliency appears to be meaningfully lower in our sample with a mean of 29.30 (SD = 5.936), $t(898) = -12.620$, $p < .01$, $d = -.421$.

4.3 | Functional Assessment of Chronic Illness Therapy (FACIT)-Spiritual Well-being Scores

Participants exhibited an average Meaning and Faith subscale scores of 22.17 (SD = 5.96) and 6.28 (SD = 3.61), respectively. Meaning subscale scores ranged from 3.00 to 32.00 with a median of 23.00 while scores on the Faith subscale ranged from 0.00 to 12.00 with a median of 6.00.

All of the major study scales yielded significant, positive associations (see Table 2). A Spearman's correlation indicated a moderately small association ($r_{sp} = .371$, $t[890] = 11.87$, $p < .01$) exists between the Faith and the Connor-Davidson Resilience scale. Otherwise, significant, moderate to high bivariate correlations were observed across all other associations with coefficients ranging between .494 and .791.

TABLE 1 Summary of demographic characteristics

Variables	M (SD)	Mdn (min, max)	% (n)
Age	47.56 (10.81)	48.00 (20.00, 81.00)	
Years as APN	10.51 (8.95)	8.00 (<1.00, 48.00)	
Gender			
Female			88.90 (825)
Male			10.34 (96)
WHO Region			
African			3.34 (31)
Americas			48.28 (448)
Eastern Mediterranean			1.19 (11)
Europe			37.28 (346)
Southeast Asia			1.72 (16)
Western Pacific			4.63 (43)
Education			
Bachelors			11.75 (109)
Masters			67.03 (622)
Doctoral			14.98 (139)
APN role			
NP			61.75 (573)
ACP			13.36 (124)
CNS			12.61 (117)
APN Student			4.42 (41)
Hours working per week			
Not currently working			3.02 (28)
1–12			3.39 (50)
13–24			7.33 (68)
25–36			20.04 (186)
37–48			55.93 (519)
>48			7.97 (74)

Abbreviations: ACP, Advanced Clinical Practitioner; APN, Advanced Practice Nurse; CNS, Clinical Nurse Specialist; M, mean; Max, maximum; Mdn, median, Min, minimum; NP, Nurse Practitioner; SD, standard deviation.

TABLE 2 Spearman correlation coefficients among study scales

	1	2	3	4	5
1. WEMWBS	1.000				
2. Connor-Davidson	0.607**	1.000			
3. Faith	0.494**	0.371*	1.000		
4. Meaning	0.791**	0.614*	0.553**	1.000	

*$p < .05$; **$p < .01$.

Results from Kruskal–Wallis H tests indicated that area of work––primary versus acute versus CNS––was unrelated to the WEMWBS ($\chi^2 = 1.606$, $df = 2$, $p = .448$), Faith ($\chi^2 = 4.232$, $df = 2$, $p = .121$), Meaning ($\chi^2 = 5.369$, $df = 2$, $p = .068$) and Connor-Davidson Resilience ($\chi^2 = 2.619$, $df = 2$, $p = .270$) scales and subscales. No additional post hoc testing was conducted given the non-significant H tests.

Comparison of the major outcomes between participants in the countries with the highest response rates (USA, Canada and UK) revealed several significant trends. As displayed in Table 3, participants from the UK exhibited significantly lower levels of well-being, resiliency, faith and meaning, compared with participants from the USA and Canada. In contrast, participants from Canada and the USA generally did not differ across the outcomes except for the faith measure. Participants in Canada tended to report significantly lower levels on our measure of Faith ($M = 5.84$, SD = 3.17) compared with participants from the USA ($M = 7.21$, SD = 3.58), who reported the highest levels on the Faith measure overall.

As displayed in Table 4, participants who were identified as working in countries with developing APN roles (n = 77) exhibited higher mean levels of well-being, resilience and spirituality than participants who were identified as serving in countries with developed APN roles (n = 782). All of the mean differences were statistically significant under the Welch's t-test and may be different substantively

TABLE 3 Comparison of participants in the United States, Canada and United Kingdom

	n	M (SD)	Mdn (range)	One-way ANOVA and Tukey's HSD	
1. WEMWBS				$F(2, 713) = 21.12, p < .01, \omega^2 = .04$	
United States	264	3.49 (0.59)	3.50 (1.93–5.00)	US vs. CA	$q = 0.01, p = 1.00$
Canada	172	3.49 (0.54)	3.50 (2.21–4.79)	US vs. UK	$q = 8.19, p < .01$
United Kingdom	280	3.21 (0.57)	3.21 (1.43–4.58)	UK vs. CA	$q = 7.25, p < .01$
2. Connor-Davidson				$F(2, 698) = 17.51, p < .01, \omega^2 = .04$	
United States	257	29.97 (5.21)	30.00 (9.00–40.00)	US vs. CA	$q = 0.15, p = 1.00$
Canada	166	29.91 (6.16)	30.00 (0.00–40.00)	US vs. UK	$q = 7.55, p < .01$
United Kingdom	278	27.33 (5.88)	27.50 (7.00–40.00)	UK vs. CA	$q = 6.54, p < .01$
3. Faith				$F(2, 693) = 54.43, p < .01, \omega^2 = .13$	
United States	254	7.21 (3.58)	7.00 (0.00–12.00)	US vs. CA	$q = 5.90, p < .01$
Canada	165	5.84 (3.17)	5.00 (0.00–12.00)	US vs. UK	$q = 14.65, p < .01$
United Kingdom	277	4.26 (3.00)	4.00 (2.00–12.00)	UK vs. CA	$q = 6.95, p < .01$
4. Meaning				$F(2, 694) = 21.14, p < .01, \omega^2 = .05$	
United States	253	22.74 (5.76)	23.00 (5.00–32.00)	US vs. CA	$q = 0.07, p = 1.00$
Canada	166	22.58 (5.44)	23.00 (4.00–32.00)	US vs. UK	$q = 8.35, p < .01$
United Kingdom	278	19.76 (6.06)	20.00 (3.00–32.00)	UK vs. CA	$q = 7.33, p < .01$

TABLE 4 Comparison of study outcomes between countries with a developed and developing APN role under Welch's *t*

	Developing APN role		Developed APN role		Welch's t		
Variable	M (SD)	Mdn (min, max)	M (SD)	Mdn (min, max)	t (df)	p	d
1. WEMWBS	3.93 (0.57)	3.93 (2.43, 5.00)	3.42 (0.59)	3.43 (1.43, 5.00)	7.44 (92.81)	<0.01	0.89
2. Resilience	30.92 (5.68)	31.00 (0.00, 40.00)	29.14 (5.85)	29.00 (0.00, 40.00)	2.55 (92.61)	0.01	0.31
3. Meaning	25.10 (4.78)	26.00 (10.00, 32.00)	21.85 (6.00)	22.50 (3.00, 32.00)	5.55 (101.11)	0.01	0.60
4. Faith	9.95 (2.52)	11.00 (3.00, 12.00)	5.82 (3.47)	5.00 (0.00, 12.00)	13.14 (106.46)	0.01	0.30

Abbreviations: d, Cohen's d; M, mean; Max, maximum; Mdn, median; Min, minimum; SD, standard deviation.

as well, given the magnitude of the Cohen's *d* estimates across comparison appear to be nontrivial (see Table 4).

5 | DISCUSSION

This study sought to quantify the level of overall resilience, emotional and spiritual well-being in an international APN workforce. Responses were received from APNs in 53 countries, however, low response rates in 49 countries did not allow for further statistical analyses of data from those countries individually. Where possible, grouping of data by region and level of APN development was used to further represent the findings globally.

Regardless of their work location, work hours, credential or demographics, the APNs in our study reported lower levels of resilience and mental well-being compared with typical scores on the instruments. All three scales yielded significant, positive associations. This is in stark contrast to findings from a pre-COVID study of well-being in UK APNs which found the well-being of APNs comparable to the general population (Wood et al., 2020). Perhaps it is not

surprising that APNs in this study, irrespective of the demographics, reported meaningfully lower scores for resilience and mental well-being than expected. The unprecedented global crisis caused by the COVID-19 pandemic with over half the world in quarantine, triggered generalized weariness, uncertainty and mental distress across all healthcare professionals (El-Hage et al., 2020). The disease characteristics of COVID-19 such as the rapid spread, severe symptoms, death among healthcare professionals and lack of knowledge about the disease further contributed to mental distress (El-Hage et al., 2020). Organizational factors such as staff shortages, scarcity of resources, including personal protective equipment (PPE), ventilators and shortage of beds, extended working hours and worries about not being able to provide competent care when redeployed, have also been reported to contribute to burnout and stress (El-Hage et al., 2020; Hoernke et al., 2021; Wood et al., 2020). Furthermore, concern for personal health, infecting family members and friends, long periods of isolation, perceived lack of support, job insecurity and mandatory lockdowns have been identified as having a negative impact on psychological health and well-being (El-Hage et al., 2020; Giorgi et al., 2020). In addition, those with sufficient access to full

personal protective equipment have been subjected to the physiologic and psychologic stressors related extended use of PPE. PPE-related stressors of dyspnoea, physical and mental fatigue, changes in lung volumes and ventilation, heat stress, vision restrictions, decreased manual dexterity and impaired communication, may have negatively impacted performance and further contributed to work-related stress (Davey et al., 2021; Ruskin et al., 2021).

The average WEMWBS score appears to be meaningfully lower in our samplecompared with typical scores on the scale. Likewise, resiliency

appears to be meaningfully lower in our sample compared with levels reported as typical for the scale (Davidson, 2018, p. 9). Resiliency and emotional and spiritual well-being are vital for the workforce to endure. Of particular concern reduced emotional and spiritual well-being and resilience is likely to have an impact on the high level of care required for patients and communities coping with COVID-19. Interestingly, lower scores and decreased levels of well-being and resiliency were seen in countries with a developed APN role, while APNs in countries that are developing the role exhibited higher levels of well-being, resilience and spirituality. It may be theorized that those developing new roles need greater levels of self-reliance and resiliency as they are engaged in pioneering endeavours. Researchers may wish to further examine the unanticipated observation of stronger resiliency of APNs in developing countries with negative economic impact (Bottan et al., 2020).There is a growing body of research related to enhancing healthcare provider resiliency (Giorgi et al., 2020; Hofmeyer & Taylor, 2021; Pollock et al., 2020; Rieckert et al., 2021). Nurse well-being and resiliency have been evaluated, but primarily in high-income countries with well-established APN roles (Cooper et al., 2020; Kapu et al., 2021). Resiliency has, however, been explored from a health systems perspective in emerging and low resource settings (Bhandari & Alonge, 2020). Grafton et al. (2010) identify resilience as a resource. Nurses can learn to draw on this during stressful situations and use the situation as a learning resource to restore and strengthen their well-being. Additionally, resilience can be developed through self-care activities which nurture mind, body and spirit enhancing self-awareness self-efficacy, confidence, sense of purpose and meaning (Jackson et al., 2007). Kester and Wei (2018) recognizes that resilience can also be built by organizations recognizing the value of nurses and offering formal education programmes for example 'Master Resilience Trainers' to support nurses to identify their triggers to stress, practice self-care and recognize signs of burnout.

Future research could evaluate in more detail the intersection of healthcare system and infrastructure as a factor in APN resiliency and well-being. Research is also needed to explore ameliorating COVID-19 associated stress in APNs through the enhancement of resiliency and spiritual well-being.

5.1 | Limitations

The study has several limitations. First, given that surveys were available in the English language, only participants with English language proficiency could be included. In addition, the study design makes it challenging to establish causal relationships from cross-sectional analysis. Healthcare systems and regulation of Advanced Practice Nurses differ from country to country thus potentially limiting generalizability of our findings. Furthermore, potential difficulty in recalling past experiences, thoughts or feelings in the midst of the COVID-19 crisis, may contribute to recall bias. Finally, some countries had very few participants limiting the ability to draw comparisons.

6 | CONCLUSION

Like all healthcare workers, globally APNs have faced significant challenges during the COVID-19 pandemic. Emotional and spiritual well-being and resilience have been impacted significantly. If this is not addressed, it is likely to have an ongoing effect on the workforce and a deleterious impact on patient care. This study provides early data collected near the start of the pandemic. A follow-up study using the same research strategy will be conducted in summer 2021 to capture the trends associated with the long duration of the COVID-19 pandemic.

It is of paramount importance that support is provided to APNs to prevent burnout and/or mental health problems. Policy makers, employers and professional bodies need to be informed of these findings to implement interventions to support APNs. There is an urgent need for this to be actioned.

CONFLICT OF INTEREST

No authors declare any perceived, potential or real conflicts of interest according to the section 'Conflict of Interest' in the Editorial Policies and Ethical Considerations section of the JAN author guidelines.

AUTHOR CONTRIBUTIONS

Study design: TEAM. Data collection: TEAM, Data analysis: TEAM. Study supervision: MR. Manuscript writing: TEAM. Critical revisions for important intellectual content: TEAM.

PEER REVIEW

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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