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An online survey measuring resilience and mental health in nurses working in respiratory clinical areas during the COVID pandemic

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Abstract

The COVID pandemic has had a significant impact on all healthcare staff, particularly nurses who have been on the frontline of the pandemic response. Our programme of work focused on the experiences of nurses working in respiratory clinical areas during the pandemic, and here we report a summary of our findings so far*.

Our online survey received two hundred and fifty-five responses mostly from women (89%, 226/255), aged over 35 (79%, 202/255). Just under 21% (40/191) experienced moderate to severe or severe symptoms of anxiety with similar levels for depression (17.2%, 31/181). 18.9% (34/180) had a low or very low resilience score. Regression analysis showed that younger nurses with less experience had higher levels of anxiety and depression and had lower resilience. Participants highlighted concerns about the working environment, PPE, the quality-of-care individuals were able to deliver, and impacts on mental health to nurses and their families.

Nurses experienced significant levels of anxiety and depression, with moderate to high levels of resilience. Support for staff is essential both throughout the pandemic and afterwards and it is important that this is tailored for individuals and targeted at those at higher risk. We need to learn from these experiences and make sure we support healthcare staff in any future pandemics.

* The full methodology and results have been published elsewhere (N. J. Roberts *et al.*, 2021; N.J. Roberts *et al.*, 2021)

Introduction

The impact of the COVID-19 pandemic on the delivery of healthcare has been challenging, putting a significant strain on the provision of healthcare, mostly in critical care and respiratory services. During the first wave of the pandemic in line with increased hospitalisations there was also a rise in sickness levels in healthcare professionals (West, 2020), which could be attributed to a wide range of factors such as increased infection (Bird *et al.*, 2020) and the psychological impact of the pandemic (Lai *et al.*, 2020). A recent United Kingdom (UK) survey on nursing mental health during the pandemic (Ford, 2020) found that over 80% experienced increased levels of stress and a third of participants described their mental health and wellbeing as bad or very bad during the pandemic. This article summarises our programme of work so far around the experiences of nurses working in respiratory areas during the pandemic from two published articles the first examining levels of resilience, anxiety and depression in this sample (Roberts *et al.*, 2021a) and the second (N.J. Roberts *et al.*, 2021b) focusing on the experiences of nurses during the first wave. The survey was administered online and promoted using the professional respiratory societies. Quantitative and qualitative analysis was undertaken of the survey data (for further details Roberts *et al.*, 2021a; N.J. Roberts *et al.*, 2021b)

Survey results from the first COVID wave in May 2020

The survey received two hundred and fifty-five responses, mostly from women (89%), aged over 35 (79%, mean age 45). Fifty-eight percentage usually worked in an acute setting, 57.3% (146/255) had changed their role due to the pandemic, and 48.6% (124/255) were undertaking aerosol generating procedures (e.g. spirometry, non-invasive ventilation) which may be perceived as high risk.

Anxiety, depression and resilience scores

Nearly 29% (55/191) experienced mild anxiety and 20.9% experienced moderate severe to severe anxiety. Scores were similar for depression, with 17.2% experiencing moderate to severe symptoms. 65% had a moderate or moderately high resilience score, showing that individuals may possess some of the characteristics of resilience but these need strengthening (Wagnild, 2009).

Regression analysis

Several variables were identified as potentially significantly important in influencing anxiety, depression and resilience scores: ethnicity, participant age, years of experience, usual clinical setting, undertaking aerosol generation procedures and providing support to their household. Briefly, three models were designed to assess the variables which would predict depression score (>10 equating to moderate depression), model one, which included both age and years of qualification, was the best fitting, although age was not significantly associated with depression, it was shown that the ability to provide support to the household (financial, heat, food, emotional) was important in all three models ($p<0.01$) (Roberts *et al.*, 2021a).

For predictors of anxiety, three models were estimated, model 1 and 3 were the best fitting models, which both included age. Across all three models there was a consistent association between scoring above the threshold (>10) for anxiety and support in the household, those indicating difficulties in household support had over 6 times greater odds of meeting the criteria for anxiety than those with no such difficulties (Roberts *et al.*, 2021a).

Concerns over working environment

Most respondents (65.5%) were worried that their job put them at increased risk of passing on the virus. Just under fifty percent were worried about getting the virus (45.5%) or becoming exhausted (29.8%). Just over 28% (72/255) were concerned about PPE and 27.8% (71/255) were worried about long term stress. Some reported that family members were worried about them working in a "*dangerous environment*" (ID79) and one respondent reported her daughter asked *"if I will die or if*

she will die" [ID48]. Several respondents (n=12) reported changes in their working pattern or job role potential causing "*social isolation from family*" [ID 103] and increased working "*Impacting on family life"* [ID 172]

Provision of mental health services and support from management

Many participants stated they had been provided with access to mental health services, such as self-referral to services, email support/signposting services, telephone support, counselling services, chaplaincy, huddles/hubs, occupational support and webinars but had not necessarily accessed.

Respondents reported that they had received some management support: flexible working patterns (32.5%), emotional support (29.4%) and clear leadership (28.6%). A minority (n=17) reported little or no support.

Discussion

This is a summary from two published papers (Roberts *et al.*, 2021a; Roberts *et al.*, 2021b) on the experiences of nurses working in respiratory clinical areas during the COVID-19 pandemic. Resilience is an individual's ability to 'bounce back' in difficult circumstances (Tugade and Fredrickson, 2004). It has been shown to be important in the ability to cope in crisis situations, such as the COVID-19 pandemic.

Resilience levels were comparable to other studies (Callegari *et al.*, 2016)(Wagnild, 2011), just under half (46.7%) had a moderate or a lower resilience score. Resilience is influenced by some personal characteristics as well as environmental factors (Alkaissi *et al.*, 2019). Several studies have shown that resilience increases with age and work experience (Sull, Harland and Moore, 2015)(Ang *et al.*, 2018)(Purvis *et al.*, 2019). Personal characteristics can help build resilience such as hope, self-efficacy and work life balance (Hart, Brannan and de Chesnay, 2014).

Around 20% of the participants experienced moderate-to-severe depression (17%) or anxiety (20.9%), higher than levels in the general population and general medical practice (Spitzer *et al.*, 2006; Martin *et al.*, 2005). However pre-pandemic, the nursing workforce had high levels of mental health issues (Nolan and Smojkis, 2003). The regression analysis identified key factors such as age/experience and ability to provide support to their household as important factors for predicting depression and anxiety.

Around half of the participants felt adequately prepared for the pandemic, although many still had concerns about catching the virus themselves, studies have shown increased risk for healthcare workers (Mutambudzi *et al.*, 2020) and nurses in respiratory wards (Bird *et al.*, 2020).

Participants expressed concern regarding their own mental health, one other study has reported higher prevalence in nurses of thinking about suicide (Havaei *et al.*, 2020). In our study, the majority of respondents were aware of available mental health services but for many this was not accessed, perhaps due to stigma, or lack of access, or a lack of recognition of symptoms (Missel *et al.*, 2020). Participants set up their own informal networks to get and provide peer support, highlighted by others as crucial for self-care (Hu and Chen, 2020; Teoh, K Kinman, 2020). COVID-19 psychological support is a key component to staff recovery from COVID. This needs to be available to all in a format that works for them (Tracy *et al.*, 2020). Less than a third of the nurses felt they had additional support from their management team, a lack of visibility of management has been highlighted by some elsewhere (O'Halloran, 2020). Individual accessible strategies that all can do to manage psychological distress have been also suggested (Heath et al, 2020). WHO guidelines also provide

guidance for healthcare workers and team leaders to minimise the impact on mental health (WHO, 2020).

Conclusions

The findings from this programme of work so far have highlighted the experiences of nurses caring for respiratory patients during the first wave of the pandemic. The nurses who responded were overall, fairly resilient, and had significant nursing experience. However, a proportion of respondents' experienced significant symptoms of anxiety or depression and some experienced difficulties providing support to their households.

Concerns were raised over the working environment, the supply and availability of adequate PPE, the quality-of-care individuals were able to deliver, and the resultant moral injury suffered where nurses experienced profound breaches of moral expectations. An overwhelming fear was related to the spread of infection to families and friends, and the impact of adjusting working patterns to respond to demand from clinical responsibilities. Participants acknowledged experiencing concern regarding their own mental health and although both formal and informal support was available, there were inconsistent provision. This highlights the importance of social support mechanisms, organisational and management signposting to resources and support on self-care needed for healthcare staff and their families if necessary.

Support for staff is essential both throughout the pandemic and afterwards and it is important all support for individuals to build their resilience and reduce anxiety and depression, is prioritised. This can be done using organisations, NHS management and professional bodies to implement interventions and programmes(Aiello *et al.*, 2011) to support employees. Psychological support needs to be available and in a form which can be tailored to the individual's needs (Lai *et al.*, 2020; Huang *et al.*, 2020;Smith, Ng and Ho Cheung Li, 2020). Some interventions have been implemented as part of the response to COVID, however, as expected, NHS mental health services are already overburdened while we continue to recover from the pandemic.

As part of the next stage of this programme of work we disseminated a second survey over the winter period of 2020 to identify changes in resilience, anxiety and depression as well as fatigue. The findings are being reviewed and predominately explore changes in confidence and experiences during the pandemic and preparedness for winter and the next potential COVID wave.

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Figure 1

Implications for practice
• A significant proportion of nurses experienced moderate to high levels of anxiety and depression during the first wave of the pandemic • Younger less experienced nurses were more likely to report anxiety and depression • Our survey results show that most participants had not used the organisational support for mental health but had set up informal groups and buddies within their teams • Tailored support is needed for all staff and should be particularly aimed at those at higher risk (younger/less experienced staff). A multi-pronged approach is needed to support staff at an individual, team, departmental and organisation level to ensure all staff feel supported and resilience and well-being is enhanced.