

The psychological effects of working in the NHS during a pandemic on final year nursing and midwifery students - PART 1

Abstract

Resilience in nursing and midwifery is being able to manage ethically adverse situations without suffering moral distress and is key to mental well-being, staff retention and patient safety (Lachman, 2016).

This study looked at the incidence of burnout in a small cohort of nursing and midwifery students who had been deployed to work in the National Health Service (NHS) during the Covid-19 pandemic. The aim of this research was to ask what the psychological effects were for nursing and midwifery students who had worked during the pandemic. The students were employed as Band 4 aspirant nurses and midwives in acute NHS Trusts in the south of England.

The findings suggested that student midwives reported higher levels of emotional exhaustion and depersonalisation than student nurses but overall, both cohorts of students reported moderate levels of burnout.

Keywords

Burnout, nursing and midwifery students, moral distress, psychological distress, resilience

Key Points

- Student nurses and midwives suffered similar levels of moderate burnout working in the NHS during the pandemic
- Student midwives reported higher levels of emotional exhaustion and depersonalisation than student nurses
- There is a need for deeper understanding of moral distress and burnout in healthcare
- More focus is needed on educating healthcare students on the importance of resilience and burnout

Introduction

In response to the need to increase staffing and to boost resilience in the NHS due to the Covid-19 pandemic, the Nursing & Midwifery Council (NMC), Health and Care

Professions Council (HCPC) and Approved Educational Institutions (AEI's) were tasked by Health Education England (HEE) to modify their courses for final year nursing, midwifery and allied health professionals. The students were given a choice of continuing with their studies and delaying their clinical practice until August 2020 or to deploy and work in the National Health Service (NHS). The 3rd year student nurses and midwives who chose to deploy were then accelerated into clinical placements that offered a band 4 salary and temporary registration, thereby boosting staffing throughout the NHS (Health Education England, 2020). These students were then placed in NHS Trusts near to their home base and this was managed by Health Education England (HEE) supporting the AEs and the local NHS Trusts (HEE, 2020). The expectation was that students would complete their academic work as well as working 30 hours a week as paid employees in the NHS. Deploying students into the workforce was the NMC's response to the Coronavirus Bill published on the 17th March 2020 (DHSC, 2020)

The Coronavirus (Covid-19) is a new type of virus within the Coronavirus family, which originated in Wuhan, China, in late 2019. It is a highly virulent pathogen spreading through respiratory droplets, saliva or nasal excretions from an infected patient. Covid-19 virus is the 7th in the family of Coronaviruses which include the SARS and MERS viruses (Andersen et al, 2020). Most patients with Covid-19 are either asymptomatic or have mild to moderate flu like symptoms. However, there are a cohort of patients in which Covid-19 causes profoundly serious disease necessitating hospital admission and in some cases, intensive care of which there is around 3% mortality (WHO, 2021).

The World Health Organisation (WHO) declared the Covid-19 outbreak as a global pandemic on 11th of March 2020 due to its rapid spread around the world. On the same day there were 3 recorded cases in the UK. At this stage there was no widespread testing across the UK (DoH 2020). By mid-March 2021 over 128 000 people in the UK had died from the disease (DoH, 2021). Worldwide there have been 120 million infected cases with over 2.5 million deaths (WHO, 2021).

This is the first of a two part article that present findings from the study.

Part 1 presents quantitative data arising from the administration of the Maslach Burnout Inventory Human Services Survey (Maslach et al, 2001) to measure the level of burnout and moral distress reported by participants, whereas part 2 will present the lived experience of deployment as described by nursing and midwifery students.

Research Question

The research team were interested in the psychological impact on final year student nurses and midwives working in the NHS in the midst of an international health crisis.

We considered that the pandemic was a unique opportunity to understand the stresses placed on final year students who were paid as part of the workforce and therefore no longer held supernumerary status in the clinical workplace.

Background

The researchers were interested in the psychological impact of caring and how this linked to resilience and retention in the workforce. This concept of moral resilience and moral distress and the impact on nurses and other healthcare professionals is now more widely accepted in healthcare (West et al, 2020; Eaton, 2019; Laminani, Borghi and Argebto 2017). Epstein et al (2020) describe it as the cost of caring and suggest that employers have a duty to mitigate this. The effect of moral distress can be deleterious to the mental well-being of the healthcare practitioner but it can also impact on the quality of care given to patients (Henrich et al, 2017). For clarity, moral distress occurs when a healthcare provider is unable to give the care that they believe that the patient should receive. This then causes an ethical dilemma, which leads to psychological distress (Eaton, 2019). It is variously described in literature as vicarious traumatisation, PTSD, secondary trauma, emotional exhaustion, compassion fatigue and burnout – all terms used to describe the distress caused by working in extreme conditions (Epstein et al, 2020; Gökçen et al, 2013) Moral distress is the result of a moral event combined with psychological distress (Morley et al, 2019) This description allies well with this research investigating the psychological impact on healthcare students. Moral distress is also linked to lack of resilience – described by Tubbert (2015) as the art of bouncing back from adversity – a

description that is pertinent to this study. Resilience in healthcare is central to mental well-being of the healthcare professional as it enables them to have greater moral courage and self confidence in challenging ethically difficult situations (Lachman, 2016). This is key to the philosophical and conceptual framework of this research as we prepare student nurses and midwives for the workforce.

There have been some reflective case studies published by students about their experiences of working during a pandemic (Leigh, Bolton and Cain, 2020; d'Aquin 2020) but few investigating the resilience or the emotional impact on the students. A study of 758 nurses and midwives in Turkey during April 2020 looked at the psychological impact of working during this pandemic and concluded that the staff suffered significant psychological distress (Aksoy and Kocak, 2020). Although this study was conducted early on in the pandemic, the results point to high levels of stress in healthcare workers. A further study in Wuhan, the epicentre of the pandemic produced similar results and that during the outbreak phase, the nurses suffered from higher levels of depression, anxiety and PTSD (Cai et al, 2020). Dos Santos (2020) conducted a study of 58 student nurses in South Korea and reported that most of the nursing students would leave the profession after graduation and the reason given was personal sacrifice – exposure to Covid-19. If all nursing students thought this, it would have a devastating effect, not only on the nursing profession but on patient care.

The long-term mental health of healthcare professionals is a concern as it has implications that impact on the individual and the organisation. Resilience and stoicism are common traits in nurses, however, long term overexposure to high levels of stress as experienced during the Covid-19 pandemic, is similar to combat (Nelson and Kamisky, 2020).

There are a few studies looking at short-term extreme stresses in the working environment in the UK, but we could find none looking at a prolonged time of stress in newly qualified staff. A small study conducted in Northern Ireland concluded that emotional exhaustion was linked to burnout and increased sickness rates (Gillespie and Melby, 2003). However, this was a study of nurses who had a wide variety of experience. We also know that health workers – both doctors and nurses over the age of 40 are more likely to suffer burnout with prolonged stress

in particular in acute settings (Gökçen, 2013). The concept of transformation from third year student, apprentice to qualified, in these circumstances is unique to the Covid-19 pandemic. This study is pertinent as it seeks to identify why student nurses and midwives report burnout and what we in education can do to mitigate this through academic support and teaching.

Sample

A total of 53, 3rd year student adult, paediatric, mental health nurses and midwives were surveyed out of a cohort of 246. We sent an electronic survey to 246 healthcare students with a response rate of 22%.

Data

The students who had chosen to deploy were recruited via the University email system inviting them to participate in the research. There were also announcements regarding the research placed on the University virtual learning environment, encouraging participation. An information sheet about the research and consent form were provided and these required completion before they could access the online questionnaire. The data was collected over a period of 8 weeks during the pandemic, while the students were in clinical practice.

Ethics

The ethical approval for the study was granted by the University's Institute of Healthcare Research. All data was collected through a Microsoft Forms questionnaire and no names or email addresses were recorded.

Methodology

Measuring the psychological impact using only a quantitative approach would not do justice to the individuals' narrative – and therefore, qualitative questions were added to the questionnaire. Pauly et al, (2012) argues that emotions such as distress cannot be quantitatively measured and adequately explained. We fully acknowledge that the statistical power of the quantitative data has no statistical

validity outside the group of participants and has no wider validity, however the qualitative narrative will add to a wider exploration in the second paper.

Study measures

Burnout was evaluated using the Maslach Burnout Inventory Human Services Survey (MBI-HSS), which has been validated for use in healthcare professionals and students (Maslach et al. 2001; Dyrbye et al. 2010). The MBI-HSS is a 22-item questionnaire, with each item scored using a seven-point Likert scale from 0 (never) to 6 (every day) (Maslach et al. 2009). The 22 items on the MBI-HSS are divided into three domains, which are emotional exhaustion (EE: 9 items), depersonalisation (DP: 5 items) and a self-perceived lack of personal accomplishment (PA: 8 questions). Burnout on each of these domains can be identified when scores exceed validated thresholds of ≥ 27 (EE) and ≥ 13 (DP), or when scores are lower than the threshold of ≤ 31 (PA), which is reverse scored. A participant was classified as having burnout on a dichotomous scale if they had high EE and either high DP or low PA (Maslach et al. 2009).

Statistical analysis

Internal consistency of the three subscales of the MBI-HSS was estimated using Cronbach's alpha, with an alpha level of 0.7 considered to be satisfactory (Cronbach 1951). Descriptive statistics were used to characterise participants, including group comparisons for age and programme of study. Owing to the small sample size, all nursing specialties were grouped together and compared to midwives, while age groups were created based on tertiles of the ages in years and classified as young, middle, and older. Normality of the three subscale scores was evaluated using the Kolmogorov-Smirnov test. All sub-scales were non-normal, therefore non-parametric statistics were used for comparisons of scores between groups. The Kruskal-Wallis H test was used to compare groups for subscale scores, while the Chi-squared test was used to compare groups for burnout. All statistical tests were carried out using SPSS version 26 (IBM, Armonk, NY, USA), with an alpha level of $p < 0.05$ used for statistical significance.

Results

Of the potential 246 participants, a total of 54 completed the survey, which represents a response rate of 22%. The participants were fifty female and four male students aged 30.9 ± 8.7 years. With respect to the programme of study, there were 35 nursing (65%) and 19 midwifery (35%). The specialties of the nursing students were 21 adult (39%), 9 mental health (17%), and 5 child field (9%).

The internal consistency of the three subscales using Cronbach's alpha ranged from very good to excellent. The best consistency was for EE (0.91: 95% confidence interval 0.87-0.94), with similar scores for DP (0.81: 0.71-0.88) and PA (0.80: 0.71-0.87).

The scores of students for the three subscales are shown in Table 2. There were significant differences between nursing and midwifery students for both EE and DP subscales, with midwifery students having higher burnout levels for both subscales. There were no significant differences between age groups for any of the burnout subscales.

Table 2. Burnout scores in nursing students

Group	EE	PA	DP
All students	22.4 ± 9.8	34.9 ± 5.6	6.2 ± 5.0
Nursing	20.4 ± 9.5	35.4 ± 5.8	5.4 ± 5.2
Midwifery	$26.2 \pm 9.3^*$	33.9 ± 5.2	$7.6 \pm 4.4^*$
Young (≤ 24 years)	21.4 ± 8.3	36.2 ± 6.1	5.4 ± 4.2
Middle (25-33 years)	20.7 ± 9.7	34.8 ± 4.9	5.4 ± 4.9
Old (≥ 34 years)	25.6 ± 11.0	34.2 ± 5.9	7.6 ± 5.9

Values are means \pm SD

*Significantly different from nurses ($P < 0.05$).

The percentages of students having burnout, according to the specified thresholds are presented in Table 3. There were no significant differences between nursing and midwifery students or between age groups for the likelihood of burnout.

Table 3. Burnout levels in nursing students

Group	EE	PA	DP	Burnout
All students	19 (35%)	15 (28%)	8 (15%)	11 (20%)
Nurses	10 (29%)	7 (20%)	5 (14%)	5 (14%)
Midwives	9 (47%)	8 (42%)	3 (16%)	6 (32%)
Young (≤ 24 years)	5 (29%)	4 (24%)	2 (12%)	3 (18%)
Middle (25-33 years)	6 (33%)	4 (22%)	2 (11%)	3 (17%)
Old (≥ 34 years)	8 (44%)	6 (33%)	4 (22%)	5 (28%)

Values are frequencies and percentages

Discussion

Throughout the pandemic, healthcare professionals have been working in extreme conditions, working long shifts wearing Personal Protective Equipment (PPE) and caring for patients with high levels of acuity and sudden deaths, likely more than they had ever seen. Some of the students who were deployed had the added stress of working in practice, studying and home schooling children. Additionally some had the added stress of living away from home in order to protect their families. A high percentage of the student cohort were from BAME (Black, Asian Minority Ethnic) backgrounds and they were caring for patients with Covid-19, knowing that they could be more at risk than their white peers of becoming seriously ill (Tonkin, 2020). In addition to this, they were coping with the reality of healthcare professionals being infected with and dying of Covid-19 (Turale et al, 2020). There was no preparation for this for the students, other than an induction by the NHS Trusts and from the results from this research, this support differed from Trust to Trust. An interesting finding from the responses was that student midwives suffered from higher levels of emotional exhaustion and depersonalisation than student nurses. According to published research, this is a known phenomena in midwifery. The results of a study of 150 student midwives indicated that high levels of stress or burnout combined with low levels of resilience resulted in high levels of attrition – students leaving University or within the first year of registration (Eaves and Payne,

2019). Research into moral distress in midwifery points to high levels of psychological distress as midwives are prevented from practising to the high ethical standards expected of them (Sharazad et al, 2019). From point of registration, midwives practice autonomously and report higher levels of stress. This stress may have been replicated by the aspirant midwives as they were not supernumery in practice. However, long-standing organisational factors such as staff and bed shortages also contribute to the emotional exhaustion of the staff, as there is a constant balancing act between capacity and demand (Yelland et al, 2013).

West et al (2020) discuss the loss of autonomy where nurses and midwives feel that their integrity is compromised if they are prevented from giving compassionate care. This could be an underlying reason for the student midwives having higher instances of emotional exhaustion and depersonalisation than nurses, although there was not a significant difference in the rate of overall burnout for both nurses and midwives. Moderate burnout was present in both cohorts of student nurses and midwives, a finding commensurate with a study by Hu et al (2020) who recently conducted a large scale cross-sectional study of 2014 qualified nurses in Wuhan, China and found that they reported moderate levels of burnout and high levels of fear. The study linked resilience to lower levels of burnout and self-efficacy.

Although there was not a significant difference in burnout with age in this study, the levels of emotional exhaustion and depersonalisation were higher in the older age range. This finding is common throughout the healthcare profession and has been widely documented (Schooley et al, 2016; deSouza et al, 2011)

The qualitative questions asked in the questionnaire revealed a rich source of data which builds on the theme of burnout and moral distress and will be discussed in the second paper.

Limitations

This study did not include a question about fear, which on reflection would have added deeper insight into the psychological impact of working in the NHS during a pandemic, on the healthcare students. The sample size was small (53 students out of a possible 246), despite the efforts of the researchers to recruit the students. Due to restrictions on visiting the NHS Trusts, the researchers were unable to see the

students and inform them of the study, relying on emails for contact and this may have also impacted on numbers of participants. Some students have since reported that they had not checked their emails as they were too busy working in practice and completing academic studies. The study could have also included allied healthcare professionals which may have boosted the sample size but the researchers chose to focus on nursing and midwifery.

Conclusion

Students need moral courage and resilience to work safely under stressful conditions. This research highlights the need for greater understanding of the psychological impact on student nurses and midwives working under extreme conditions. Although this research had a relatively small sample size, the students surveyed reported a moderate degree of burnout. The long-term impact of this is higher attrition rates before and after registration and staff leaving the profession early. Research published before the pandemic indicated that nursing students had already suffered mild levels of moral distress in clinical practice (Gibson, Duke and Danita 2020). The recommendations from this research are that moral distress, moral courage and resilience should have a higher profile within the nursing and midwifery curriculum in order to prepare and support the future workforce. Part 2 of this research will focus on the results from the comparative analysis of the free text questions.

Reflective questions

- What do you understand by the terms moral distress and burnout?
- Can you recognise burnout in yourself and in your peers?
- What can you do to promote staff and students' resilience in your workplace?

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