First insights into post-pandemic distress in a high secure hospital: Correlates among staff and patients

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MANUSCRIPT DETAILS

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ABSTRACT:

This preliminary study is designed to gauge the enduring psychological impacts of the COVID-19 pandemic on both patients and staff in a high secure settings.

The study involved 31 patients and 34 staff from a high secure setting, who completed assessments to discern the link between COVID-19-related distress and various factors. These evaluations focused on coping strategies, resilience, emotional reactivity, ward atmosphere, and work-related aspects.

Results indicated that 31.2% of staff met the clinical cut-off for potential PTSD due to COVID-19-related distress. Emotional reactivity, staff shortages, secondary traumatic stress, and coping strategies were positively correlated with distress, while resilience showed a negative association, suggesting a mitigating role. Notably, distress among patients was comparatively lower, with only 3.2% experiencing significant levels.

CUST_RESEARCH_LIMITATIONS/IMPLICATIONS__(LIMIT_100_WORDS) :No data available.

The authors postulate that increased staff burdens during the pandemic may have led to long-term distress, while their efforts to maintain minimal service disruption potentially shielded patients from psychological impacts, possibly lead to staff 'problem-focused coping burnout'. This highlights the need for in-depth research on the enduring impacts of pandemics, focusing on mechanisms that intensify or alleviate distress. Future studies should focus on identifying effective coping strategies for crisis situations, such as staff shortages, and strategies for post-crisis staff support.

CUST_SOCIAL_IMPLICATIONS_(LIMIT_100_WORDS) :No data available.

Building on evidence of negative impacts on frontline workers and forensic inpatients during the pandemic, this study delved into the longer-term psychological repercussions that persisted post-pandemic. It sheds light on lasting distress levels and their correlates. These insights are crucial for formulating effective responses and strategies for future pandemics or analogous crises, highlighting the need for sustained support for staff grappling with long-term distress arising from such events.

First insights into post-pandemic distress in a high secure hospital: Correlates among staff and patients

Abstract

Purpose: This preliminary investigation aims to examine the psychological impact of the COVID-19 pandemic on patients and staff within a high secure service.

Design/Methodology/Approach: To discern the connection between COVID-19-related distress and multiple factors, the study involved 31 patients and 34 staff who completed assessments evaluating coping strategies, resilience, emotional reactivity, ward atmosphere, and work-related aspects.

Findings: Results demonstrated that around a third of staff (31.2%) experienced COVID-19-related distress levels that met the clinical cut-off for possible Post Traumatic Stress Disorder (PTSD). Emotional reactivity, staff shortages, secondary traumatic stress and coping strategies were all positively correlated with COVID-19 related-distress. Resilience was negatively associated with distress, thus acting as a potential mitigating factor. In comparison, the prevalence of distress among patients was low (3.2%).

Originality/Value: The authors postulate that the added burdens on staff during the pandemic might have contributed to their distress. Nonetheless, staff might have inadvertently safeguarded patients from the pandemic's psychological ramifications by providing a 'service of little disruption,' potentially leading to 'problem-focused coping burnout.' These findings underscore the imperative for further research capturing the enduring impacts of pandemics, particularly scrutinizing factors that illuminate the mechanisms through which distress is either intensified or alleviated across different groups. An avenue worth exploring is identifying effective coping styles for pandemics.

Keywords: COVID-19; Distress and PTSD; Occupational distress; Forensic patients; Secure hospitals.

The COVID-19 pandemic created a plethora of challenges within the workplace, with a noted impact on the role of psychiatric nurses and expectations of their role in the workplace (Negri *et al.,* 2023; Zhang *et al.,* 2020). Rapid changes to the working conditions of staff in secure healthcare settings, such as the mandatory use of Personal Protective Equipment (PPE), physical distancing, halting of visitor access, and cessation of group-based activities, were implemented in response to the pandemic (Ardebili *et al.,* 2021; Negri *et al.,* 2023). Additionally, healthcare workers based in psychiatric hospitals were managing a fear of infection and transmission, limited availability of PPE, insufficient staffing levels, and limited disease specific knowledge to guide transmission control (Swinkels *et al.,* 2022).

Public healthcare crises are well-accepted as conditions that induce negative impacts on individuals who provide health related services (Tam *et al.,* 2004; Tzang 2004). These impacts include increased psychological distress, (Stefanatou *et al.,* 2022), burnout (Deakin, 2022; Ghahramani *et al.,* 2021), development of PTSD symptoms (Xiong *et al.,* 2020) and secondary traumatic stress (Aafjes-van Doorn, *et al.,* 2020). Forensic hospitals are also not immune from these effects; Baker et al. (2022), for example, noted how forensic staff reported increased anxiety, stress, and depression during the pandemic, thereby emphasising the need for further research to explore the unique needs of staff working in secure settings. Staff shortages are also recognised as a significant issue in healthcare (Totman et al, 2011) and secure settings, resulting in limited therapeutic engagement, affecting ward dynamic, quality of patient care and overall job satisfaction (Oates *et al.,* 2021). The impact of such shortages during a pandemic have not, however, been considered as a factor that could add to distress. One potential mechanism influencing this dynamic is coping strategies. The reduced staff numbers during the pandemic are likely to have increased the reliance on coping mechanisms. Situations that overwhelm an individual's capacity to adapt and manage stress

have been linked to the development of post-traumatic stress disorder (PTSD) or related symptoms (Łaskawiec *et al.,* 2022). Indeed, there has been a noted rise in PTSD among front-line healthcare workers during the COVID-19 pandemic (Geng *et al.,* 2022).

Furthermore, staff well-being during challenging times, such as a pandemic, is significantly influenced by the coping strategies they employ (López-Vazquez and Marvan, 2003). These strategies are commonly categorised into three types: problem-focused, which involves efforts to alter aspects of a stressful situation; emotion-focused, centred on managing emotional responses to stress; and avoidant, which includes tactics like denial or behavioural disengagement (O'Connor and O'Connor, 2003).In relation to COVID-19, findings have demonstrated that problem-focused coping mediates the relationship between risk perception of COVID-19 infection and healthcare staff well-being (Krok *et al.,* 2020). Increased psychological distress has also been linked with avoidant coping behaviours and psychological inflexibility, with the latter inducing greater use of avoidant coping strategies and poorer health outcomes (Dawson and Golijani-Moghaddam, 2020). Increased distress is also noted to be associated with external factors in nurses, such as the presence of loss and unresolved grief experiences, which are external to the workplace (Rahmani *et al.,* 2023).

In addition to factors elevating and/or associating with distress, previous research has also explored the effects of protective factors in the context of COVID-19 pandemic, in terms of what could assist in the management and/or reduction of distress. Studies focusing on resilience and distress have showed that resilience is adaptive (Kalisch *et al.,* 2017) and was negatively associated with COVID-19 related stress (Köhne *et al.,* 2023; Yıldırım and Solmaz, 2022). Others have explored compassion satisfaction, which refers to the sense of fulfilment derived from alleviating the suffering of others (Stamm, 2009). Such satisfaction has been identified as a factor mitigating the impact of occupational distress and burnout (Sukut *et al.,* 2021; Yıldırım *et al.,* 2021).

Research into the psychological effects of COVID-19 on secure forensic services has been limited (Baker et al, 2022; Challinor *et al.,* 2021). This is surprising when it is accepted that such environments are largely isolated with a need for raised levels of staff to maintain safety and security. Any threat to staff levels is an area of noted concern. In addition, it is expected that the impact of COVID could present with specific challenges to staff and patients in secure settings, particularly in forensic hospital settings where patients are at an elevated risk of negative COVID-19 impacts due to mental and related physical health needs. This placed more emphasis on staff to prevent transmission since the only means of COVID-19 entering the site is via those leaving it, namely the staff and not the patient group. It also meant that staff members were in an enclosed setting during their entire working day, with the management of transmission between staff and those they return to post working day a challenge. Consequently, assessing the reported levels of distress during this period becomes crucial, along with understanding the associated risk and protective factors. A recent review suggests that the destabilizing effects of the pandemic may not become fully apparent immediately afterward but rather emerge more clearly after the pandemic has subsided. This delayed response might manifest as a condition termed post-pandemic stress disorder, a potential long-term consequence highlighted by recent studies (Łaskawiec *et al.,* 2022).

The implemented pandemic measures taken in psychiatric hospitals had several implications for patients in high secure settings. This included a loss of external social visitation and limited accessibility to meaningful activities (Royal College of Psychiatrists, 2020). It is likely that social movement and distancing rules induced feelings of isolation and loneliness (Coffey and Coleman, 2001; Hwang *et al.,* 2020). Previous research has certainly indicated that patients who perceived social distancing measures as restrictive and punishing tended to be at an increased risk for developing symptoms of post-traumatic stress and an overall decline in mental health (Hao *et al.,* 2020). Diminished contact with peers, caregivers,

family, and friends, alongside disruptions to daily routines may have certainly caused distress and exacerbated pre-existing psychiatric conditions (Cordellieri *et al.,* 2021; Wang *et al.,* 2018), as well as increased emotional reactivity and lack of impulse control (Janiri *et al.,* 2020). However, equally, some research in (non-forensic but residential) psychiatric patients found such patients did not experience additional stress during the pandemic, suggesting that assumptions cannot be automatically made (Burrai *et al.,* 2020).

Emotional reactivity is a variable of particular interest. This has been associated with a raised likelihood of psychological distress following COVID-19 infection (Janiri *et al.,* 2020). This is supported by previous, non-pandemic, research that highlights how those with heightened emotional reactivity might be at risk of adverse health outcomes during prolonged periods of distress (Ripper *et al.,* 2018). This is, of course, of substantial relevance considering the prolonged nature of the COVID-19 pandemic and accepted challenges in emotional reactivity already noted in forensic populations. Given the uncertainties, changes in care, and increased restrictions induced by the pandemic, it is likely that the well-being of patients residing within forensic settings were negatively impacted, therefore highlighting the current study as an important area of research (Tomlin *et al.,* 2020).

The current small-scale study aimed to explore the longer-term psychological impacts of the COVID-19 pandemic on patients and staff in high secure forensic services. It aims to assist with a preliminary understanding of experienced distress levels and the factors exacerbating and/or mitigating against this. The psychological distress stemming from the COVID-19 pandemic, particularly among frontline workers, is well documented. However, the extent to which this distress has persisted post-pandemic remains unclear. This preliminary study seeks to assess the long-term psychological impact of the pandemic on staff and patients in a high secure setting. The goal is to provide insights that could guide the management of residual distress and inform strategies for handling future pandemics or

emergency situations, such as staff shortages or natural disasters, which similarly affect inpatient care. The current study has the following hypotheses:

1. Distress will positively relate to isolation due to COVID-19 contact, testing positive for COVID-19, in both patients and staff, noticing a change in staffing and/or losing a close family member or friend due to COVID-19.
2. Emotional reactivity will positively relate to distress in staff and patients.
3. Avoidant coping and/or emotion-focused coping will positively relate to distress in both staff and patients, whereas problem-focused coping will negatively associate.
4. Resilience will negatively relate to distress in staff and patients.

Method

Participants

Participants were sampled from a high secure hospital in the UK, which houses adult men. A total of 31 out of 177 eligible secure service patients (age range: 23 to 64, $M = 36.04$, $SD = 10.03$) consented to participate. Additionally, 34 staff members (36.1% male, 58.3% female, 5.6% undisclosed gender; age range: 21 to 56, $M = 40.53$, $SD = 12.91$) from various professional backgrounds, including consultants, nurses, psychologists, and ward assistants, participated.

Materials

The following measures were completed, with reliabilities also indicated. Patients completed the following measures:

Impact of Events Scale-Revised (IES-R; Creamer et al, 2003; Weiss, 2007), adapted to COVID-19 is a 22-item measure assessing subjective distress caused by traumatic events. The IES-R was adapted with participants being asked to think about the symptoms relating to the COVID-19 pandemic ($\alpha = .89$). Items are rated on a scale from 0 (not at all) to 4 (extremely) and included statements such as, “Any reminder brought back feelings about it”.

Higher scores on this measure reflect greater levels of psychological distress related to the COVID-19 pandemic.

Brief COPE (Carver, 1997), a 28-item instrument of coping styles measuring emotional support (α = .92). Items are rated on a scale from 1 ('I haven't been doing this at all') to 4 ('I've been doing this a lot') and included items such as, "I've been criticising myself" and, "I've been expressing my negative feelings".

Essen Climate Evaluation Schema (EssenCSE; Schalast *et al.,* 2008), a 17-item measure of experiences of ward atmosphere (α = .76). It comprises three domains (therapeutic hold, experienced safety and patient cohesion), each with five items, rated from 1 (not at all) to 5 (very much). Items include statements such as, "This ward has a homely atmosphere".

Brief Resiliency Scale (Smith *et al.,* 2008), a six-item measure of resilience (α = .72). Items are rated from 1 (strongly disagree) to 5 (strongly agree), including statements such as, "I tend to bounce back quickly after hard times" and, "It does not take me long to recover from a stressful event".

Emotional Reactivity Scale (Nock *et al.,* 2008), a 21-item measure of emotional reactivity (α = .95), which is rated on a scale from 0 (not at all like me) to 4 (completely like me), including items such as, "My feelings get hurt easily" and, "I experience emotions very strongly".

Staff participants completed the same measures as patients, with an addition of the *Professional Quality of Life Scale: Compassion Satisfaction and Compassion Fatigue* (ProQOL v.5; Stamm, 2009). This 30-item measure of staff satisfaction and stress at work (α = .72), asks for items to be rated on a scale of 1 (never) to 5 (very often). The instrument includes statements such as, "My work makes me feel satisfied" and captures three aspects of professional quality of life: compassion satisfaction, burnout and secondary traumatic stress.

In addition, *questions capturing the impact of COVID-19* were also collected, all answered as a yes/no, as follows: 1.) Have you tested positive for COVID-19? 2.) Has a family member or close friend tested positive for COVID–19? 3.) Having to isolate due to testing positive for COVID-19 or having symptoms of COVID-19? 4.) Having to isolate due to coming into contact with someone who tested positive for COVID-19? 5.) Having a family member or close friend who had to isolate? 6.) Suffering a loss of a family member or close friend who tested positive for COVID-19? 7.) Have you noticed a change in the number of staff on the ward during the COVID pandemic? (Yes/No) (followed by – if yes, more or less staff?).

Procedure

This study was approved by the NHS Health Research Authority in March 2022. Responsible Clinicians were contacted to ensure that patients possessed the capacity to participate. Data was collected between May 2022 and December 2022. Participants were recruited on the wards of the HSS and provided with a printed questionnaire pack for completion. Staff participants were recruited both online via internal mail and in-person at the hospital, with the option to complete the questionnaires online utilising Qualtrics, or on paper. Both staff and patients were provided with an informed consent when asked to participate in the study.

Data Analysis Plan

Data analysis was conducted using SPSS 28.0 software. Non-parametric tests were utilised due to uneven distribution of participants across the COVID-19 impact questions.

Evaluating potential PTSD prevalence: The IES-R (Impact of Event Scale-Revised) was employed with a cut-off score of 33 to assess the prevalence of potential PTSD related to the COVID-19 pandemic.

Exploring distress and pandemic related factors: The Mann-Whitney U test was utilized to investigate how distress correlates with various factors, including isolation due to COVID-19 contact and the loss of close family members or friends because of COVID-19.

Mitigating and risk factors for distress: Kendall's tau-b was applied to examine correlations between distress and various measured factors, such as coping styles and ward atmosphere. This analysis helped identify the strength and direction of these relationships.

Comparing coping styles: A Friedman two-way ANOVA was conducted to determine if participants favoured certain coping styles over others when relating to COVID-19 pandemic.

For each analysis, effect sizes were calculated to assess the magnitude of observed effects. Originally, regression analyses were planned to identify predictors of COVID-19 related distress. However, this approach was revised due to the limited number of participants and the broad range of predictors, which could compromise the analysis's power and reliability. The adapted plan focuses on non-parametric methods which are more suitable for the data and capable of providing initial insights into the factors associated with COVID-19 related distress.

Results

Data screening

No univariate or multivariate outliers were detected in the patient sample. However, in the staff sample, three univariate outliers were identified on the Impact of Events Scale. These outliers were adjusted by reducing them to the second-to-last highest score plus one. No multivariate outliers were observed.

Prevalence of patient distress, impact of COVID-19 items, coping, resilience and emotional reactivity.

One patient out of 27 (3.1%) presented with a score above the cut-off of 33 on the IES-R indicating a possible diagnosis of PTSD. The prevalence rates of COVID-19-related

issues were also examined, along with average presentation across the measures (see Tables 1 and 2).

<Insert Table 1>

<Insert Table 2>

A Mann-Whitney U test was also conducted to compare the level of COVID-19-related distress between participants who reported experiencing a decrease in staff and those who did not. Results revealed no significant difference in distress between those who noticed a decrease in staff (*Mean Rank* = 14.07, *n* = 21) and those who did not (*Mean Rank* = 11.10, *n* = 5), *U* = 40.50, *p* = .45. Similar results were obtained for the comparison between those that had to isolate, due to a positive test and distress (*U* = 2.00, p = .16), as well as those that had to isolate, due to a COVID contact and distress (*U* = 80.00, *p* = 1.00). Lastly, no difference was observed between distress levels in those that tested positive for COVID–19 and those that did not (U= 18.00, *p* = .18), those whose family or friend(s) had COVID-19 and those that did not (U = 50.00, *p* = .22), those whose family had to isolate and those whose family did not (*U* = 61.50, *p* = .77), or those that lost someone due to and those who did not COVID-19 (*U* = 39.00, *p* = .72).

To assess the size and direction of the linear relationship between coping, emotional reactivity, resilience, ward atmosphere and distress, Kendall's tau-b was performed. Kendall's tau-b indicated a moderate positive correlation between emotional reactivity and distress ($\tau = .42$, $p < .001$). Resilience, therapeutic hold, experienced safety, patient cohesion, problem-focused coping, emotion-focused coping, and avoidant coping were not significantly related to distress.

To assess whether patients used one type of coping more frequently than the other, a Friedman two-way ANOVA was conducted. This indicated significant variation in coping rankings across the three coping styles ($\chi_2 F = 20.28$, *df* = 2, *N* – Ties = 27, *p* = <.001).

Follow-up pairwise comparisons using Wilcoxon Signed Rank test (Bonferroni adjusted α=.017) indicated a significant difference between avoidance coping and problem-focused coping, (Z = -3.55, p = <.001, two-tailed). The test statistic was 7.63, indicating that problem-focused coping scores were significantly higher than avoidance coping scores with *r* = .78, indicating a large effect. A significant difference between avoidance and emotion-focused coping was also observed (Z = -2.93, *p* =.003, two-tailed) with a large effect *r* = .64, . The negative mean rank of 10.70 for avoidance coping indicated lower ratings compared to emotion focused coping. The difference between emotion-focused and problem-focused coping was also significant (Z= -2.71, *p* = .007, two tailed), problem focused coping had a negative mean rank of 12.40 indicating that patients used it to a significantly higher level.

Prevalence of staff distress, impact of COVID-19 items, coping, resilience, emotional reactivity and professional satisfaction

Twelve staff out of 33 (31.2%) presented with a distress score above the cut-off of 33, indicating a possible diagnosis of PTSD (Creamer *et al.,* 2003). Staff reported low (12.8%) to moderate (38.5%) levels of compassion satisfaction, moderate (43.6%) to high (41.0%) levels of burnout, and moderate (30.8%) to high (43.6%) levels of secondary trauma stress. The prevalence rates of COVID-19-related issues were also examined, along with average presentation across the measures (see Tables 3 to 5).

<Insert Table 3 here>

<Insert Table 4 here>

<Insert Table 5 here>

A Mann-Whitney *U* test was conducted to compare the level of distress between staff who reported noticing a decrease in staff and those who did not. Staff that noticed reduced staffing levels also reported higher distress levels (*Mean Rank* = 17.61, *n* = 16) compared to

those that did not (*Mean Rank* = 10.41, *n* = 9: *U* = 30.50, *z* = -2.35, *p* = .02), with a medium effect size (r=.47). Testing positive for COVID-19 and distress (*U* = 68.00, *p* = .43), family or a friend having COVID-19 (*U* = 21.00, *p* = .61), family having to isolate (*U* = 62.50, *p* = .06), were not significantly different. Similar results were obtained for the comparison between those that had to isolate, due to a positive test and distress (*U* = 65.00, *p* = .35), as well as those that had to isolate, due to a contact and distress (*U* = 64.50, *p* = .22). Staff that lost someone due to COVID-19 reported higher distress levels (*Mean Rank* = 18.09, *n* = 17) than those that did not (*Mean Rank* = 10.63, *n* = 12: *U* = 49.50, *z* = -2.33 *p* = .02), with a medium effect size r=.47.

To assess the size and direction of the linear relationship between coping, emotional reactivity, resilience, professional quality of life, ward atmosphere and distress, Kendall's tau-b was performed. A strong positive correlation between secondary trauma stress and distress was found ($\tau = .54$, $p < .001$), as well as emotional reactivity and distress ($\tau = .60$, $p < .001$), suggesting that higher levels of secondary traumatic stress and emotional reactivity are associated with increased distress. A strong negative association between resilience and distress was observed ($\tau = -.59$, $p < .001$), indicating that higher levels of resilience are associated with lower distress. Additionally, there were moderate positive associations between problem-focused coping and distress ($\tau = .29$, $p = .04$), emotion-focused coping and distress ($\tau = .32$, $p = .046$), and avoidant coping and distress ($\tau = .32$, $p = .02$). Burnout, compassion satisfaction and ward atmosphere variables were not significantly related to distress.

Coping styles among staff members were examined using a Friedman two-way ANOVA. Rankings of coping varied significantly across the three coping subscales ($\chi_2 F = 16.36$, $df = 2$, N – Ties = 28, $p = <.001$). Moderate effect size (0.292). Follow-up pairwise comparisons with the Wilcoxon Signed Rank test and a Bonferroni adjusted $\alpha = .017$

indicated a significant difference between avoidance coping and problem-focused coping, (Z = -3.86, p = <.001, two-tailed), with problem-focused coping scores significantly higher than avoidance coping scores, with a large effect (r = .73). A significant difference between avoidance and emotion-focused coping was also observed (Z = -3.93, p <.001, two-tailed), with a large effect (r = .74). The negative mean rank of 13.35 for avoidance coping suggested lower ratings compared to emotion focused coping. The difference between emotion-focused and problem-focused coping was non-significant (Z= -1.89, p = .059, two tailed).

Discussion

A third of staff reported distress levels connected to COVID-19 that equated to a possible diagnosis of PTSD, whereas this was not mirrored in the patient sample, where only one patient presented with such distress. Findings also demonstrated a positive association between COVID-19-related distress and secondary trauma stress in staff, with the latter well-accepted in the literature as linked to mental health challenges in healthcare workers, before and after the onset of the pandemic (e.g. Aafjes-van Doorn, *et al.,* 2020; Ariapooran, *et al.,* 2022). The only finding in relation to patient distress was an association between increased distress and increased emotional reactivity, which is expected considering the nature of the population (i.e. forensic). For staff, however, the distress levels were correlated with multiple variables, suggesting a more complex picture had emerged and suggesting that staff were experiencing COVID-related distress differently to patients, with marked levels in some, corresponding to findings of previous research (Xiong *et al.,* 2020).

It could be speculated that these findings were a product of the staff environment changing due to the pandemic, but not that of patients, certainly not to an appreciable level. Forensic patients may have been more isolated from the pandemic changes, as a result of their placement in a closed environment. The absence of raised distress in patients is also

consistent with the findings of Burrai et al. (2020) in non-forensic residential psychiatric patients. In that study, factors such as provision of COVID-19 related information, consistent access to medication, treatment, and support from mental health professionals throughout the pandemic were credited for this lack of *additional* stress. The current study did not assess these variables but, nevertheless, a third of patients did not notice a change in staffing, suggesting that a proportion of patients noted no staff impacts. Equally, it is possible that the setting and timing of the current study contributed to lower patient distress levels. The high-secure nature of the setting, which already imposes marked restrictions on freedom, might have contributed to patient's ability to adapt to additional restrictive measures. Such measures may not have been perceived as starkly by them, as a result of their adjustment already to a closed restrictive setting. Diverging from prior research that focused on the psychological impact during the height of the COVID-19 pandemic, this study, conducted after the pandemic's third wave, observed a lesser impact on patients, possibly due to greater acclimatization to the new circumstances. Furthermore, the findings suggest that patients generally did not perceive significant staff changes, and most did not experience personal loss due to COVID-19, factors which might have contributed to their lower distress levels. This context allows the study to emphasize an assessment of the residual, rather than immediate, impacts in the post-pandemic period on patients.

In addition, it is worth noting that staff members who had experienced loss of a close friend or family member reported higher levels of distress. This supports prior research linking unresolved grief to adverse health outcomes and increased distress among hospital nurses (Rahmani *et al.,* 2023). It notes the impact of experiences external to the workplace. The current study extends the findings of Rahmani (2023) by demonstrating how forensic psychiatric nurses are similarly vulnerable to the adverse impact of complicated grief, with this associated in this instance with COVID-19. It also points to a higher burden on staff to hide their emotional

reactions from patients, which could be expected to further promote distress through the process of emotional labour (Hochschild, 1983), namely where the inner distress is managed so not to reveal it to others, in the workplace.

There were several other factors contributing to distress levels among staff members. Staff shortages have widely been acknowledged as a prevalent challenge in high secure services (Oates, *et al.,* 2021), which were further exacerbated during COVID-19, resulting in additional stressors, which echoes the findings of burnout (Deakin, *et al.,* 2022). Consistent with these observations, higher distress was found among staff members who reported staff shortages. Clearly this could represent both a perception and/or a reality, but both are essential to account for and likely not captured sufficiently in the current study. For example, staff members may perceive an impact, but it may be the absence of *specific* staff grades (e.g. qualified, unqualified) that causes the challenges and ensures task burden falls on staff who are already over-burdened. Interestingly, burnout per se was not associated with COVID-19-related distress in this sample, suggesting other factors were important. Totman et al.'s (2011) observations in general healthcare settings appear worthy to note here, namely that staff shortages are a key factor influencing *staff morale*, leading to feelings of frustration, and impacting their well-being. Thus, it could be features of morale that were important mitigating and/or facilitating factors; if staff felt they were 'in this together' and morale was raised, this may have had a protective effect. This is speculative but points again to the importance of capturing the specifics of the sample and the uniqueness of having a shared prolonged experience (i.e. a pandemic).

Connected to this, almost all staff in the current study reported noticing a *change* in staff, suggesting staffing as a potential mechanism through which distress was increasing. However, as noted, the specific change is not fully captured (e.g. less qualified staff? More unqualified staff?). This would represent a useful avenue for future research, particularly in

relation to determining the additional mechanism through which distress was increasing. For example, there is a possibility that despite reduced staff level, staff may have compensated by exerting additional effort, which could have led to patients' needs being met despite staff shortage, thus, not resulting in additional distress for patients. However, the burden would raise for staff and could, arguable, lead to elevated distress being noted.

Similarly, ward atmosphere did not impact on distress levels, either for staff or patients. This may suggest that, at the later stage of the pandemic when the study was conducted, the subcategories of ward atmosphere (i.e., patient cohesion, experienced safety, and therapeutic hold) were not significantly affected by the pandemic. Indeed, the scores obtained for patient cohesion, experienced safety, and therapeutic hold (in the patient sample) were similar to those reported in previous research conducted in secure settings, prior to the pandemic (Tomlin and Tonkin, 2023). This finding suggests that the ward atmosphere in high secure services was not adversely affected in the long term, despite assessments being conducted after the third wave of the pandemic, rather than at its height. This could explain why the observed atmosphere was comparably stable and consistent with pre-pandemic studies. Although local guidelines at the high secure hospital continued to impact ward operations, they apparently did not significantly diminish the overall ward atmosphere. This could represent another factor that could be speculated as contributing to the absence of COVID related distress in patents – in essence, the business of the ward and the factors relating to atmosphere had potentially remained unaltered.

Another interpretation may be that the high secure services implemented pandemic restrictions in a manner that did not have a detrimental impact on the ward atmosphere. This would concur with Tomlin et al. (2019) who noted how patients viewed restrictions more favourably when they perceived them as reasonable and justified. Thus, it may be that the service effectively conveyed the reasoning behind restrictions and established their legitimacy to both patients and staff. As a result, this could have resulted to a relatively unchanged

perception of safety, patient cohesion, and therapeutic relationships. Thus, while the burden had increased on staff, it could be speculated they were effective in presenting a 'service of little disruption' to patients, thereby protecting their well-being. Importantly, it may be the perception of little disruption that is important to convey and perhaps shifting the concept of emotional labour (Hochschild, 1983) to emotional *organisational* labour, where a workplace hides from their clients the challenges staff are facing and coping with for their benefit.

This study also offered some insights into coping styles utilised by staff and patients. The most utilised styles for both were problem-focused coping, followed by emotion-focused and avoidance coping. Problem-focused coping strategies are linked to adaptive health behaviours and greater psychological well-being in healthcare professionals (Krok *et al.,* 2020). However, contrary to our expectations, staff who reported higher levels of COVID-19 related distress also tended to report utilising problem-focused coping more frequently. One explanation behind this unexpected finding could be that patients and staff who felt heightened level of distress simply employed more problem-focused strategies as a means to cope. During a pandemic, the effectiveness of such coping may have actually had more limitations. We propose this could have led to 'problem-coping burnout' where during a pandemic the utility is reduced as autonomy to use several coping strategies and approaches is restricted. Put simply, no amount of problem-focused coping can solve all challenges faced. This could have increased burden on staff to 'solve problems' and ultimately engage in a futile and fatiguing approach to cope. Indeed, research has yet to explore the impact of prolonged problem focusing coping, with the current study highlighting this as a further factor to consider. As expected, avoidant and emotion-focused coping were also associated with higher distress levels amongst staff (but not among patients), therefore making the findings in relation to problem-focused coping more intriguing and yet, equally, providing a drive to locate an effective 'pandemic coping style', which is of yet not captured by research.

In addition, previous research has highlighted resilience as a protective factor against distress (e.g. Kalisch *et al.,* 2017), which supports the findings from the current study where a negative relationship between resilience and COVID-19-related distress among staff members was indicated. This aligns further with longitudinal research that has demonstrated the predictive value of resilience in mitigating pandemic-induced distress (Köhne *et al.,* 2023), and further emphasising the importance of resilience as a protective factor, at least for staff. How resilience can be fostered would be a useful avenue to consider since this is not always an internally driven factor (i.e. attribute/character trait) but can be a taught skill (i.e. ability). Exploring this in more detail, considering *how* it related to both distress and problem-solving coping would be useful to consider; the latter can form part of resilience capability and could assist the research journey towards identifying a pandemic coping style.

The study is not without limitations. Causality cannot be inferred regarding the cause of distress in staff, and thus suggested mechanisms are speculative. In addition, the generalisability of our findings is limited by the relatively small participation rate, especially among staff members. It is further possible that those particularly affected by the pandemic found it too distressing to participate in this study although, equally staff with elevated levels of distress may have been motivated to engage to outline their experiences. Finally, data was collected during the later stages of the COVID-19 pandemic, and thus limiting insights into the impact in earlier periods. Nevertheless, our preliminary findings highlight that COVID-19-related distress was in particular affecting staff, who had a raised burden of keeping services working. This burden may have led to patients being safeguarded from the effects of the pandemic as they were shielded from marked change and experienced a 'service of little disruption.' This was also a likely impact of the nature of the closed setting, which is inherently restrictive.

Implications for practice

- Address and alleviate the heightened distress among frontline workers, emphasising the urgency of interventions due to the significant and ongoing burdens exacerbated by the pandemic (Ouyang *et al.,* 2022; Boitet *et al.,* 2023).
- Prioritise the development and implementation of interventions to mitigate the lasting psychological effects of COVID-19, especially targeting the well-being of frontline workers.
- Develop advanced data collection methods for future pandemics, or staff shortage crises, integrating strategies to explore effective coping mechanisms during such crises.
- Undertake and replicate comprehensive research in various secure facilities to understand the long-term consequences of the pandemic, focusing on its psychological and social impacts.

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Table 1

COVID impact items: Patients

	Yes	No	n/a
Isolate due to a positive COVID test	26 (81.3%)	1 (3.1%)	5 (15.7%)
Isolate due to contact	10 (31.3%)	17 (53.1%)	5 (15.7%)
Lost someone due to COVID	4 (12.5%)	23 (71.9%)	5 (15.7%)
Noticed fewer staff on the ward	22 (68.8%)	5 (15.6%)	5 (15.7%)

Table 2

Distress, ward atmosphere, coping, resilience and emotional reactivity levels reported by patients

	n	Mean (SD)	Min/Max attainable score
Distress	27	11.78 (12.09)	0-88
Ward atmosphere total	21	36.70 (8.39)	0-60
Therapeutic hold	27	12.89 (3.56)	0-20
Patient cohesion	27	10.56 (4.09)	0-20
Experienced safety	27	13.26 (4.63)	0-20
Coping			
Avoidance	30	10.90 (5.16)	8-32
Emotion focused	30	22.07 (10.83)	12-48
Problem focused	30	16.83 (9.24)	8-32
Resilience	27	20.77 (4.64)	6-36
Emotional reactivity	27	23.41 (18.17)	0-84

Note: Higher scores equate to higher levels on each construct.

Table 3

COVID impact items: Staff

	Yes	No	Missing
Tested positive	23 (59 %)	8 (20.5%)	8 (20.5%)
Isolate due to a positive COVID test	23 (59%)	8 (20.5%)	8 (20.5%)
Isolate due to contact	20 (51.3%)	10 (25.6%)	9 (23.1%)
Lost someone due to COVID	19 (48.7%)	12 (30.8%)	8 (20.5%)
Noticed fewer staff on the ward	30 (76.9%)	1 (2.6%)	8 (20.5%)

Table 4

Distress, ward atmosphere, coping, resilience, emotional reactivity and work satisfaction levels reported by staff

Variable	*n*	Mean (SD)	Min/Max attainable score
Distress	33	29.18 (25.96)	0-88
Ward atmosphere total	21	32.90 (6.34)	0-60
Therapeutic hold	21	14.48 (4.09)	0-20
Patient cohesion	21	8.86 (3.64)	0-20
Experienced safety	21	9.57 (2.29)	0-20
Coping			
Avoidance	28	11.18 (2.92)	8-32
Emotion focused	28	22.11 (7.32)	12-48
Problem focused	28	16.71 (2.33)	8-32
Job satisfaction			
Compassion satisfaction	23	27.52 (9.31)	10-50
Secondary traumatic stress	23	22.26 (9.30)	10-50
Burnout	23	26.26 (6.17)	10-50
Resilience	27	11.81 (6.99)	6-36
Emotional reactivity	30	30.70 (23.13)	0-84

Table 5

Prevalence and severity of compassion satisfaction, burnout and secondary traumatic stress in staff

Dimension	*n*	Prevalence (%)
Compassion satisfaction (<37)	18	46.2%
Low	5	12.8%
Moderate	15	38.5%
High	7	5.1%
Burnout (>27)	21	53.8%
Low	6	15.4%
Moderate	17	43.6%
High	16	41.0%
Secondary traumatic stress (>17)	11	28.2%
Low	10	25.6%
Moderate	12	30.8%
High	17	43.6%