

POSTTRAUMATIC STRESS SYMPTOMS, EXPERIENCES OF TRAUMA, AND COPING AMONG PAKISTANI FRONTLINE NURSES CARING FOR COVID-19 PATIENTS: A QUALITATIVE STUDY

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ABSTRACT

Nurses delivered much of the direct care to COVID-19 patients and were repeatedly exposed to death, infection risk, and shortages of equipment, yet little is known about how Pakistani nurses experienced and managed posttraumatic stress symptoms (PTSS). This qualitative study explored PTSS, experiences of trauma, perceived psychological impact, and coping strategies among nurses who cared for COVID-19 patients during peak pandemic waves. Eight registered nurses working in COVID wards and intensive care units of public hospitals in Islamabad and Rawalpindi were recruited through purposive sampling and took part in individual semi-structured interviews conducted in Urdu and basic English. Data were analysed using Braun and Clarke's thematic analysis. Four themes were generated: (a) symptoms related to trauma (altered sleep, changes in temperament, emotional reactivity, diminished interest in social life, flashbacks); (b) threats and stress due to COVID-19 (increased workload, direct threat to self and others, sense of isolation, lack of knowledge and equipment); (c) psychological impact of trauma (increased mental health concerns, burnout and compassion fatigue, elevated death anxiety, lack of optimism about the future); and (d) strategies to cope (sharing workload with the team, emotional support from colleagues). Seven of eight nurses described flashbacks, and accounts spanned several DSM-5 symptom clusters, although no diagnostic assessment was used. Peer teamwork and emotional support were the only coping resources reported, and no participant had received formal counselling. Peer solidarity seems to have been an informal resource of resilience where organizational support was absent and institutional psychological services should be built around it.

I. INTRODUCTION

The coronavirus disease 2019 (COVID-19) pandemic put unprecedented pressure on health systems and the people who worked in them. Nurses (the largest professional group in the global health workforce [WHO, 2020]) bore much of this burden: they were bedside care providers to dying patients 24/7; they worked long shifts wearing PPE; death kept happening repeatedly (treatment protocols were uncertain, supplies scarce). Occupational exposure of this kind is a recognized pathway to trauma. According to the Diagnostic and Statistical Manual of Mental Disorders (5th ed., text rev.; DSM-5-TR; American Psychiatric Association [APA], 2022), posttraumatic stress disorder (PTSD) may follow direct experience, witnessing, or repeated or extreme exposure to the aversive details of actual or threatened death or serious injury. It is characterized by intrusion, avoidance,

negative alterations in cognition and mood, and marked alterations in arousal and reactivity that persist for more than one month. Posttraumatic stress symptoms (PTSS) can also occur below the diagnostic threshold and still impair functioning; they are the focus of the present study. Evidence on the scale of the problem is substantial but variable. A meta-analysis of 65 studies covering 97,333 health care workers (HCWs) in 21 countries estimated the pooled prevalence of PTSD at 21.5% (Li et al., 2021). A later meta-analysis of 119 studies (117,143 participants, 42.8% of them nurses) estimated that 34% of HCWs reported PTSS and 14% reported severe symptoms, with prevalence falling after vaccines were introduced (Andhavarapu et al., 2022). Nurses appear especially exposed. Nurses and staff working in COVID-19 units showed a higher risk of PTSD in a global meta-analysis (Yunitri et al., 2022), and pooled estimates among nurses indicate high levels of anxiety and stress (Varghese et al., 2021) and of sleep disturbance (Al Maqbali et al., 2021). Women and nurses also reported more anxiety and depression than men and physicians in an early review of HCWs (Pappa et al., 2020).

Prevalence figures alone do not explain how symptoms arose or how nurses lived with them. A qualitative systematic review found that frontline nurses experienced psychological, social, and emotional distress and needed greater psychological and social support (Xu et al., 2021). Interviews with US critical care nurses described trauma during the pandemic, the use of substances to cope, and the weakening of existing support systems (Foli et al., 2021). Moral injury, the distress that arises when circumstances prevent professionals from acting in line with their moral values, has been proposed as a further source of harm for frontline staff (Greenberg et al., 2020; Williamson et al., 2020). Fear of death, a transdiagnostic vulnerability, was also intensified by the constant visibility of mortality during the pandemic (Menzies & Menzies, 2020). In Pakistan, early reports indicated that more than 10,000 HCWs had been infected and many had died (Salman et al., 2022). Research on Pakistani nurses has been mainly quantitative and has centred on fear, anxiety, and secondary trauma. Fear of COVID-19 was associated with secondary trauma, psychological distress, and turnover intention among 380 nurses, with leadership support examined as a buffer (Khattak et al., 2020). Fear of exposure affected the mental health of 250 nurses in 12 public hospitals, with social support examined as a moderator (Xu et al., 2021), and occupational self-efficacy weakened the link between fear and secondary traumatic stress among 243 nurses in Karachi (Li et al., 2022). Qualitative accounts exist but have been broad. A descriptive survey of 210 nurses reported anxiety, distress, depression, and exceptional workload in resource-constrained facilities (Sethi et al., 2020), and interviews with 30 female nurses in Islamabad and Rawalpindi identified social responses, effects on physical and mental health, and experiences of handling COVID-19 patients as major themes (Afzal et al., 2023). Studies that measured PTSS directly in Pakistani HCWs are scarce; one, among doctors at a Rawalpindi military hospital, found that 13.3% screened positive on the Impact of Event Scale-Revised and 2.9% had severe symptoms (Mohsin et al., 2022). How nurses themselves experienced, understood, and managed posttraumatic stress symptoms therefore remain poorly documented.

A positive psychology perspective asks not only what harms people but also what sustains them. A systematic review concluded that coping behaviours, psychological resilience, and social support are associated with better mental health among HCWs, who commonly used problem-focused strategies such as seeking social support and praying alongside emotion-focused strategies (Labrague, 2021). Among front-line nurses, organizational support, personal resilience, and social support have been examined as predictors of COVID-19 anxiety (Labrague & De los Santos, 2020), and coping self-efficacy has been studied alongside acute stress reactions as a factor in subsequent distress (Shahrour & Dardas, 2020). The Battle Buddies programme showed that a peer-support resilience intervention could be rapidly deployed for HCWs (Albott et al., 2020), and the posttraumatic growth literature reminds us that distress and positive change can coexist (Tedeschi & Calhoun, 2004). Pakistani evidence on coping is limited: religious coping, acceptance, and planning were most common among 398 HCWs in Punjab, but PTSS were not assessed and nurses' experiences were not examined in depth (Salman et al., 2022). Foli and Thompson's (2019) middle-range theory of nurses' psychological trauma offers a framework for linking such experiences to their sources. It distinguishes avoidable and unavoidable trauma at individual, professional, and organizational levels and identifies forms including vicarious and secondary trauma, insufficient-resource trauma, system-induced trauma, second-victim trauma, and disaster-related trauma. It predicts negative outcomes (e.g., mental health problems, substance use, turnover) as well as positive ones (individual resilience, posttraumatic recovery). The theory has informed research on frontline nurses during the pandemic (Foli et al., 2021), and nurses with probable PTSD reported more disaster-related and system-induced trauma than nurses without probable PTSD (Chiu et al.,

2023). The Neuman systems model (Neuman & Fawcett, 2011) complements it by framing prevention at primary, secondary, and tertiary levels, a lens used here to interpret institutional support.

Three gaps motivate the present study. First, Pakistani research on nurses has measured fear, anxiety or secondary trauma quantitatively; PTSS-specific evidence is largely from doctors and to our knowledge nurses' own accounts of PTSS have not been explored in depth. Second, little is known about what sustains nurses where formal psychological support is lacking – this information is needed to design interventions which build on existing strengths. Third, to our knowledge nursing specific trauma theory has not been used to interpret Pakistani nurses' accounts so as to link individual symptoms with organisational conditions. A qualitative approach suits these gaps because it captures how symptoms are lived, attributed, and managed. The study therefore aimed to (a) explore the presence of PTSS among nurses who worked closely with COVID-19 patients, (b) explore their experiences during peak pandemic periods in COVID wards and intensive care units (ICUs), (c) examine the perceived impact of COVID ward duties on their mental health, and (d) identify the strategies they used to manage stress and burnout.

II. METHOD

A qualitative design with purposive sampling was used to obtain in-depth understanding of nurses' experiences. Individual semi-structured interviews allowed participants to express their experiences in their own words and data were analysed thematically.

Participants

Participants were eight registered nurses working in public hospitals in Islamabad and Rawalpindi (P.A.E.C. General Hospital, PIMS, PAF Hospital, CMH Rawalpindi and Poly Clinic Islamabad). Inclusion criteria were: qualified nurse; experience of caring for COVID-19 patients during peak waves; currently employed in a public hospital in Islamabad or Rawalpindi; adequate comprehension of Urdu and basic English. Nurses who declined consent, had no COVID-19 care experience, previously had mental illness or physical disability were excluded. Participants were aged 22 to 40 years and worked in COVID wards and ICUs both. Apart from having cared for COVID-19 patients no minimum length of professional experience was required. Interviews took place at participants' workplaces in well-lit ventilated rooms that were comfortable and private.

Measures

After reviewing literature an interview guide was developed on PTSD-related symptoms, experiences during peak COVID-19 days, COVID ward duty effects on mental health and ways stress and burnout were managed.

Procedure

Data were collected in the following order: Ethical approval for the study was obtained (see Ethical Considerations); nurses who met inclusion criteria were purposively selected and adequate rapport with each one was built before formal procedures started; each nurse was informed about purpose of the study and written informed consent was taken along with basic demographic information; individual semi-structured interviews with each participant were carried out using interview guide (in Urdu and basic English) at workplaces of participants in well-lit ventilated rooms arranged to be comfortable and private; audio-recordings were made of interviews; recordings were transcribed and (where necessary) translated from Urdu into English. Transcripts were then thematically analysed as described below. The research supervision committee of the National University of Modern Languages, Islamabad approved ethical aspects of the research. Participation was voluntary and written informed consent was obtained from all participants. They were assured confidentiality and right to withdraw. They were also informed that data would only be used for academic and research purposes. The transcribed data were analysed using Braun and Clarke's (2006) thematic analysis: familiarization, generation of initial codes, grouping of codes into categories, and development and review of broader themes. To reduce researcher bias, themes were verified by a second expert.

III. RESULTS

Table 1: Themes and Subthemes Generated from the Interviews

Theme	Subthemes
Symptoms related to trauma	Altered sleep; changes in temperament; emotional reactivity; diminished interest in social life; flashbacks of trauma
Threats and stress due to COVID-19	Increased workload; direct threat of affecting self and others; sense of isolation; lack of knowledge and equipment
Psychological impact of trauma	Increased mental health concerns; burnout and compassion fatigue; elevated death anxiety; lack of optimism about the future
Strategies to cope	Sharing workload with the team; emotional support from colleagues

Analysis through the Braun and Clarke model yielded four main themes and 15 subthemes (Table 1). The themes were originally in Urdu; they were translated into English with care and are presented below in English translation.

Theme I: Symptoms Related to Trauma

Altered Sleep

One of the prominent hyperarousal symptoms was sleep disturbance. Nurses described being unable to sleep after 20-hour shifts because they experienced flashes of last breathing and critical patients. One of the participants narrated that her sleep pattern had changed a lot and she could not sleep at night. When she lay down with an intention to sleep, she got clear image flashes of those patients and their deaths and woke up suddenly in fear. Another had turned to sleeping pills, yet reported that when she stopped, the same pattern returned and thoughts of those days filled the night.

Temperament Changes

Nurses reported elevated irritability and anger linked to workload, families who abandoned patients, and the lack of room to express frustration. One of the participants explained, “My anger has increased a lot. I was screaming and shouting at home, my courage was finished. Even now I get irritated over small things.”

Emotional Reactivity

Nurses described being emotionally “drained” and more vulnerable than before. One of the participant nurses said that she had been strong, but now news of a death or the sight of a new COVID patient triggered sudden fear, an elevated heart rate, feelings of helplessness and crying episodes. Another described watching people die within hours as traumatizing for both families and health professionals.

Diminished Interest in Social Life

Withdrawal and loss of work motivation were also reported by some of the participants. One of them reported that she now called her long-distance mother only a few times a month and, after work, simply prayed, ate and lay down with an intention to sleep, though she had previously been socializing and was an outgoing person. Another participant reported that her social life had “completely ended” and had been only partly rebuilt.

Flashbacks of Trauma

Seven of eight nurses described vivid re-experiencing. One of them explained, “Even now it starts playing before my eyes like a movie: every patient’s face, silently crying families, young children who lost their parents.” Another reported clear mental picture triggered by the corridor used to bring patients in, or a patient with a similar name, and said she preferred not to talk about that period.

Theme II: Threats and Stress Due to COVID-19

Increased Workload

Nurses told me double shifts, 24 hour stays and then documentation: “It was ten times more than normal working days. We hadn’t had no time for anything except caring for patients”. One woman said she had been in the hospital for 76 hours without eating or taking care of herself.

Direct Threat of Affecting Self and Others

Fear of carrying infection home dominated accounts. One mother of two said she kept herself apart from her family, bathed and washed clothes on arrival and cleaned door handles repeatedly; she was also extremely anxious about her children’s mild fevers.

Sense of Isolation

Nurses were housed in the hospital to limit transmission, cut off from family for months. One of the participating nurses likened the experience to being in a prison and noted that most of her colleagues became sick. Another described being lodged on a hospital floor, emotionally drained, frightened and exhausted, though conditions improved later.

Lack of Knowledge and Equipment

Participants recalled no guidelines, uncertainty about which medicines to administer, and a situation “like a world war,” with shortages of PPE, beds and ventilators, even in capital-city hospitals.

Theme III: Psychological Impact of Trauma

Increased Mental Health Concerns

Nurses reported persistent feelings of stress, anxiety and depression: “Every patient required attention, mentally we ourselves became disturbed even now if a patient with COVID-19 comes, anxiety and stress start at once.”

Burnout and Compassion Fatigue

One nurse said isolation and workload had led her to consider quitting: “I had no energy to see more deaths or deal with more patients even now I feel drained; I just keep going.”

Elevated Death Anxiety

Seeing around 30 deaths in a day while working 20-hour shifts left nurses constantly worrying that family members or their patients would die, and they developed a fear of dying such a painful death themselves.

Lack of Optimism About the Future

One participant said the pandemic taught her that one can die early and unexpectedly, which changed how she viewed planning; others described uncertainty and a diminished sense of direction.

Theme IV: Coping Strategies

Sharing Workload with the Team

Although staff were often infected and workforce shortages became common, nurses managed by covering each other’s pending tasks: “Whoever was free would take over the pending work.”

Emotional Support from Colleagues

Since nurses could not express their emotions at work, they described sitting together after shifts and telling each other their traumatic experiences while emotionally supporting one another. “Even now when I am terrified my colleagues emotionally support me”. No participant reported formal counselling or therapy.

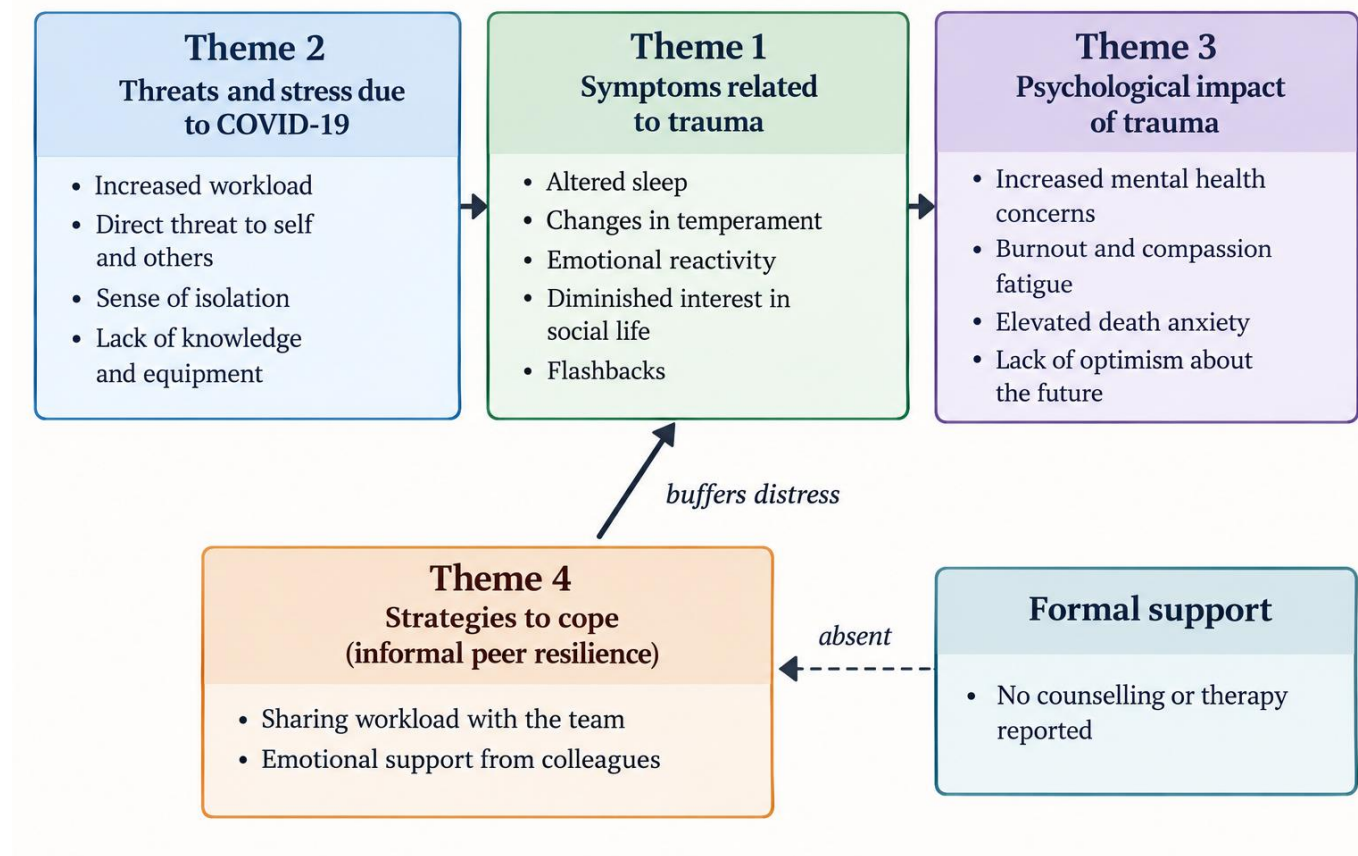
Figure 1: Thematic Map of Nurses' Experiences of Trauma and Coping

Figure 1 shows how the themes relate. Participants linked the threats and stresses of COVID-19 care (Theme 2) to their trauma symptoms (Theme 1) and to wider psychological consequences (Theme 3), while peer coping (Theme 4) was the only support they reported.

IV.DISCUSSION

Posttraumatic stress symptoms, experiences of trauma, psychological impact and coping were examined among Pakistani nurses who cared for COVID-19 patients at peak waves. Nurses reported trauma related symptoms from all DSM-5-TR clusters; they explained these as overload, infection threat, isolation and lack of knowledge/equipment; lasting consequences (burnout, death anxiety, reduced optimism) were also noted. They were almost entirely supported by colleagues (none reported counselling). Interviews were not used to assess clinical diagnoses or prevalence so results describe PTSS presence but not clinical diagnosis or prevalence.

Trauma Symptoms Across Diagnostic Clusters

The accounts fell into all four DSM-5-TR clusters (APA, 2022). Intrusion was most prominent: seven of eight nurses reported vivid re-experiencing (images of dying patients; cue triggered memories evoked by a hospital corridor or patient with same name). Avoidance was avoidance of talking about that period and withdrawal from relationships. Negative mood/cognition alterations were emotional drain, loss of interest, reduced optimism and heightened arousal irritability, sudden fear with raised heart rate and disturbed sleep. Sleep disturbance linked intrusion and hyperarousal: intrusive images woke nurses at night, and the participant who used sleeping pills reported that symptoms returned when she stopped. Sleep problems are common among nurses globally (Al Maqbali et al., 2021), and reliance on substances to cope has been documented among US critical care nurses (Foli et al., 2021), although in the present study it emerged from a single account and warrants further exploration. The frequency of flashbacks cannot be read as prevalence. The sample was small and purposive, and recruiting nurses with direct COVID-19 experience may have favoured those with more to report. Meta-analyses place PTSS in HCWs at roughly one-fifth to one-third (Andhavarapu et al., 2022; Li et al., 2021), whereas a screening study of doctors at

a Rawalpindi hospital found lower rates (Mohsin et al., 2022). Differences in profession, measurement, and timing, including the lower PTSS associated with vaccination (Andhavarapu et al., 2022), together with the retrospective nature of our interviews, make direct comparison inappropriate. What the present data add is detail: they show how intrusion operated in nurses' everyday lives and that symptoms were described as continuing into the present. Because nurses have been found to be at higher risk than other groups (Yunitri et al., 2022), such detail is useful for planning screening that targets them.

Sources of Trauma: Insufficient Resources, Threat, and Isolation

Theme 2 identifies the conditions nurses linked to their symptoms, and these fit Foli and Thompson's (2019) framework closely. The absence of guidelines and shortages of PPE, beds, and ventilators, described as "like a world war," correspond to insufficient-resource trauma. Repeated witnessing of death, around 30 in a day for one nurse, corresponds to secondary and disaster-related trauma, and prolonged hospital lodging away from family reflects organizational decisions that individual nurses could not change. This organizational origin is consistent with evidence that nurses with probable PTSD reported more disaster-related and system-induced trauma (Chiu et al., 2023), and with Pakistani studies describing exceptional workloads in resource-constrained facilities (Sethi et al., 2020) and the effects of COVID-19 care on nurses' mental and physical health (Afzal et al., 2023). Fear of carrying infection home (nurses distancing themselves from family, becoming anxious about children's mild fevers) is similar to the link between fear of COVID-19 and secondary trauma reported among Pakistani nurses (Khattak et al., 2020; Li et al., 2022). Participants also described families who abandoned patients and little room to express frustration, circumstances that may amount to moral injury (Greenberg et al., 2020; Williamson et al., 2020), although this construct was not directly assessed.

Psychological Consequences

Theme 3 shows that symptoms were accompanied by wider effects: burnout and compassion fatigue made one nurse think of quitting (similar to the association between COVID-19 fear and turnover intention in Pakistani nurses (Khattak et al., 2020) and high stress and anxiety pooled among nurses worldwide (Varghese et al., 2021). High death anxiety (worried relatives or patients would die; feared painful death) goes beyond literature that has mostly framed PTSS as fear and avoidance. Terror management theory states that reminders of mortality can increase fear of death and provoke defensive reactions (Menzies & Menzies, 2020); for nurses who saw many deaths in one shift such reminders were concrete not abstract. The lack of optimism (one participant said pandemic changed how she viewed planning) resembles persistent negative beliefs about world described in cognition and mood cluster. These interpretations are tentative because death anxiety and optimism were not measured but they suggest support should address meaning and future orientation as well as hyperarousal.

Peer Solidarity as an Informal Resilience Resource

From a positive psychology perspective, Theme 4 is the most consequential. The only coping strategies nurses reported were sharing workload and emotional support from colleagues: whoever was free took over pending tasks, and nurses who could not express emotions at work sat together after shifts to share their experiences. This accords with reviews showing that social support, coping, and resilience safeguard HCWs' mental health (Labrague, 2021), with research on organizational support, resilience, and social support among front-line nurses (Labrague & De los Santos, 2020), and with Pakistani work that has tested social support as a buffer of fear-related distress (Xu et al., 2021). In Foli and Thompson's (2019) terms, peer solidarity functioned as an individual and professional resilience resource, and, in the absence of organizational counselling, it was these nurses' principal protective factor. That one nurse still drew on colleagues' support "even now" suggests that these bonds outlasted the crisis. Peer support also has limits. Staff were often infected and workforces were short so colleagues providing support were themselves exhausted and exposed to the same events as nurses; support described was informal, unsupervised and reactive. No participant reported formal counselling or therapy. Seen through the Neuman systems model (Neuman & Fawcett, 2011) this means gaps at primary level (training in coping and recognition of symptoms), secondary level (screening) and tertiary level (treatment). Nurses did not describe mindfulness, meaning-making or professional help strategies; prayer was mentioned only briefly by one nurse although religious coping was most common strategy in a survey of Pakistani HCWs (Salman et al., 2022); posttraumatic growth (Tedeschi & Calhoun, 2004) was not explored. Because the interview guide did not probe these areas their absence should not be taken to mean they were absent from nurses' lives but rather that the data do not contain them.

Implications and Recommendations

Hospitals should make confidential counselling and therapy available to nurses and put mental health at the top of pandemic plans since absence of services was clearest institutional gap. Screening for PTSS and burnout (with validated tools like PTSD Checklist for DSM-5 Weathers et al., 2013) followed by referral is appropriate in high exposure units (screening results are not diagnoses). Because peer solidarity was the nurses' main resource the most acceptable way forward was formalisation not replacement: structured supervised peer support programmes (Battle Buddies Albott et al., 2020), training and workload protection for peer supporters could add to what nurses already do. Preparedness plans should ensure PPE, equipment, staffing, rest rotations and clear clinical guidelines (Greenberg et al., 2020) as organisational responsibilities highlighted for HCW mental health during COVID-19. Contact arrangements for nurses lodged away from family and debriefing after deaths might address isolation and death related distress. Nursing curricula and in-service training should include coping skills, resilience and recognition of trauma symptoms as primary prevention.

Limitations and Directions for Future Research

Participants were from a small number of public hospitals in Islamabad and Rawalpindi so transferability to private settings and other regions is limited. Sample size was small ($n = 8$) so although small samples can have information power when aims are narrow and participants are specific to the topic (Malterud et al., 2016), findings are not exhaustive; nurses with previously diagnosed mental illness were excluded so some most vulnerable may have been missed; no standardised PTSD measure or clinical interview was used; reliability of interview guide could not be formally established; interviews were done at work while nurses were on call so time and concentration may be limited; they were retrospective so recall bias possible; translation from Urdu into English may have altered some nuance; as with any qualitative study researcher and confirmation bias are possible but themes were checked by second expert. Future studies should use mixed methods (validated measures like the PCL-5 paired with interviews), larger and more diverse samples from private hospitals and provinces, follow nurses longitudinally so that symptoms and coping change over time, probe religious and spiritual coping, meaning-making and posttraumatic growth specifically; study whether formalized peer-support programmes reduce PTSS and burnout in Pakistani nurses.

V. CONCLUSION

Nurses who worked with COVID-19 patients in Islamabad and Rawalpindi reported symptoms across the main PTSD domains (heavy workloads, infection fear, isolation, knowledge and equipment shortages) shaped by these conditions; their main resources were teamwork and mutual emotional support and no formal psychological services were available. Institutional support must be strengthened while building on peer solidarity to protect nurses' mental health in future crises.

Ethics approval

Approved by Research Supervision Committee, National University of Modern Languages (NUML), Islamabad.

Informed consent

Written informed consent was obtained from all participants.

Conflict of interest

The authors have no conflict of interest

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