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Original Article

Prolonged Grief in ICU Nurses After Supporting Families Through Pragmatic Decisions Regarding Terminal Extubation

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ABSTRACT

Background: Intensive care nurses repeatedly participate in terminal withdrawal of mechanical ventilation while simultaneously supporting patients and families through emotionally demanding end-of-life decisions. Persistent grief-related responses associated with this professional exposure remain insufficiently characterized. Objective: To examine grief-related symptoms and compassion-fatigue dimensions and explore the lived experiences of ICU nurses repeatedly involved in terminal weaning and extubation. Methods: A mixed-methods study comprising a cross-sectional quantitative component and a qualitative phenomenological component was conducted in tertiary-care hospitals in Punjab, Pakistan, from August to November 2025. Purposively selected ICU nurses completed the PG-13 and Compassion Fatigue Short Scale followed by semi-structured interviews. Quantitative analysis included descriptive statistics, Pearson correlations, and independent-samples t tests; interview data underwent thematic analysis. Results: Forty-two of 48 screened nurses completed both study components (87.5%); 20 (47.6%) had ≤7 years and 22 (52.4%) had >7 years of ICU experience. Greater terminal-extubation exposure was associated with higher grief-related, secondary traumatic stress, and burnout scores. Nurses with >7 years of experience demonstrated greater grief-related and secondary traumatic stress burden, whereas burnout did not differ significantly by tenure. Three qualitative themes emerged: emotional burden during family decision support, compartmentalization of sorrow during clinical duties, and persistent guilt and unresolved grief-related feelings after patient death. Conclusion: Repeated involvement in terminal extubation is associated with important grief-related and secondary-traumatic psychological burden among ICU nurses. These findings support context-specific organizational support while avoiding diagnostic interpretation of PG-13 scores in the absence of occupational validation. Keywords: Compassion Fatigue, Critical Care Nursing, End-of-Life Care, Grief, Intensive Care Units, Secondary Traumatic Stress, Terminal Extubation.

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INTRODUCTION

Intensive care units (ICUs) are clinical environments in which life-sustaining treatment, prognostic uncertainty, and end-of-life decision-making frequently converge. When continued mechanical ventilation no longer contributes to achievable goals of care, withdrawal of ventilatory support may form part of a transition from life-prolonging treatment to comfort-focused care. Terminal weaning and terminal extubation are clinically and emotionally complex processes that require symptom management, communication with families, coordination among healthcare professionals, and preparation for an anticipated death. Considerable variation has been documented in how terminal withdrawal of mechanical ventilation is approached, and clinicians may experience uncertainty surrounding both the technical and relational dimensions of the process (1). ICU clinicians involved in terminal weaning and

extubation have also described the importance of communication, decision-making context, professional roles, and emotional responses during withdrawal of ventilatory support (2).

Nurses occupy a particularly sustained position within this process because they remain at the bedside, implement components of end-of-life care, communicate with relatives, respond to changing patient needs, and frequently support families before, during, and after withdrawal of treatment. Recurrent exposure to patient death may consequently generate emotional demands that extend beyond the immediate clinical encounter. Qualitative evidence from critical-care nurses has identified bereavement-related emotional distress, compassion fatigue, secondary traumatic stress, compartmentalization, and unmet needs for organizational or educational support following patient deaths (3). These experiences overlap with the broader literature on moral distress in intensive care nursing, in which ethically difficult end-of-life situations, perceived futile treatment, organizational constraints, and professional powerlessness are recurrent sources of psychological burden (4). More recent synthesis of treatment-withdrawal experiences similarly indicates that nurses may carry substantial emotional and moral distress during withdrawal of life-sustaining treatment and often rely heavily on individual coping in the absence of systematic institutional support (5).

Bereavement-related distress among healthcare professionals should nevertheless be distinguished carefully from prolonged grief disorder (PGD) as a formal diagnostic construct. PGD is characterized by persistent and functionally impairing grief responses following the death of a significant person, and contemporary diagnostic criteria and the PG-13-Revised instrument have primarily been evaluated in personally bereaved populations (6). Critical-care nurses may experience grief-like responses after repeated patient deaths, but occupational exposure to patient loss is not equivalent to personal bereavement, and scores obtained from grief instruments in this context therefore require cautious interpretation. Existing qualitative research demonstrates that critical-care nurses may suppress, compartmentalize, or carry unresolved emotional reactions to patient deaths and may perceive organizational factors as important determinants of how successfully they process bereavement-related experiences (3,7). These observations provide a rationale for studying persistent grief-related symptoms among nurses without assuming that occupational grief symptoms automatically represent a formal PGD diagnosis.

Despite expanding evidence concerning moral distress, burnout, compassion fatigue, and the psychological effects of treatment withdrawal, the longer-term grief-related consequences of repeated involvement in terminal extubation remain comparatively underexplored. Current literature emphasizes emotional distress during withdrawal, bereavement needs after patient death, and the importance of organizational support, but provides limited empirical characterization of persistent grief-related symptom burden alongside nurses' subjective accounts of repeated terminal extubation experiences (3–5,7). A mixed-methods approach is therefore useful for examining both measurable psychological symptom burden and the lived meaning of repeated exposure to terminal withdrawal. Accordingly, this study aimed to quantify grief-related symptoms and compassion-fatigue dimensions and to explore the lived experiences of ICU nurses repeatedly involved in supporting families and participating in end-of-life decision-making surrounding terminal weaning and extubation.

MATERIALS AND METHODS

A mixed-methods study comprising a cross-sectional quantitative component and a qualitative phenomenological component was conducted in tertiary care teaching hospitals located in industrial and urban-core areas of Punjab, Pakistan, between August and November 2025. The quantitative component was used to characterize grief-related symptoms and compassion-fatigue dimensions and to examine their relationships with clinical exposure and ICU experience, whereas the qualitative component explored participants' lived experiences of repeated involvement in terminal extubation and family decision support. Integration of the two components occurred during interpretation, with qualitative themes used to contextualize patterns observed in the psychometric assessments. Institutional Review Board approval was obtained before initiation of the study.

Participants were recruited through purposive sampling. Eligible participants were actively registered professional nurses with at least three years of continuous clinical experience in an adult ICU and direct involvement in at least five terminal-extubation procedures involving surrogate or family decision-making during the preceding 12 months. Nurses with fewer than three years of critical-care experience, those on extended leave, and individuals who had experienced a primary personal bereavement during the preceding 12 months were excluded to reduce the likelihood that recent personal bereavement would dominate the grief-related responses under investigation. Forty-eight ICU nurses were screened, of whom 42 fulfilled the study requirements and completed both the quantitative assessments and qualitative interviews.

Before the qualitative interviews, participants completed the Prolonged Grief Disorder-13 (PG-13) and the Compassion Fatigue Short Scale (CFSS). The PG-13 was originally developed to assess symptoms associated with prolonged grief among bereaved individuals (8), while subsequent work aligned the revised PG-13-R with contemporary DSM-5-TR PGD criteria (6). Because these instruments and diagnostic criteria were validated primarily in personally bereaved populations, PG-13 responses in the present occupational context were interpreted as indicators of grief-related symptom burden rather than as stand-alone confirmation of a clinical diagnosis of PGD. This distinction was necessary because repeated professional exposure to patient deaths is conceptually different from bereavement following the death of a personally significant individual.

The CFSS was used to characterize compassion-fatigue-related symptoms, particularly the dimensions of secondary traumatic stress and job burnout. The original validation work supported a multidimensional structure comprising secondary trauma and burnout (9), and subsequent validation among healthcare professionals has supported the use of the short scale for assessing these dimensions in clinical occupational settings (10). Psychometric assessments were followed by individual semi-structured interviews designed to explore participants' lived experiences of repeated terminal extubation, emotional responses to patient death, and experiences associated with supporting families through end-of-life decisions.

Quantitative data were analyzed using IBM SPSS Statistics version 28.0. Distributional assumptions for continuous variables were assessed using the Shapiro-Wilk test. Continuous variables were summarized using means and standard deviations where appropriate, while categorical variables were summarized using frequencies and percentages. Pearson correlation analysis was used to examine relationships between the reported frequency of terminal extubation procedures and psychological outcome scores, including grief-related symptoms, secondary traumatic stress, and job burnout. Associations among the psychometric constructs were also examined using Pearson correlation coefficients. For the reported experience-stratified analysis, participants were categorized as having seven or fewer years of ICU experience or more than seven years, and independent-samples t tests were used to compare continuous psychometric outcomes between these two groups.

Qualitative interviews were transcribed verbatim and managed using NVivo version 14. Data were analyzed using the six-phase thematic analysis approach described by Braun and Clarke, encompassing familiarization with the data, initial coding, development of candidate themes, review of themes, definition and naming of themes, and production of the analytical account (11). Two researchers participated independently in coding the interview material and organizing recurrent patterns into higher-order themes representing emotional experiences, coping responses, and persistent consequences associated with repeated terminal extubation. Qualitative and quantitative findings were subsequently considered together to determine how the experiential themes contextualized the psychological constructs assessed quantitatively.

RESULTS

Forty-eight ICU nurses were screened for participation. Forty-two met the eligibility requirements and completed the psychometric assessments and qualitative interviews, corresponding to a participation rate

of 87.5%. Six of the 48 screened nurses did not enter the final analytical cohort, representing 12.5% of those screened. All analyses therefore used a final sample of 42 participants.

Table 1. Participant Screening and Final Analytical Cohort

Participant status	n	% of screened participants
Nurses screened	48	100.0
Eligible and completed study procedures	42	87.5
Not included in final analytical cohort	6	12.5

For the experience-stratified analysis, 20 of the 42 participants had seven or fewer years of ICU experience and 22 had more than seven years of experience. These groups represented 47.6% and 52.4% of the analytical cohort, respectively.

Table 2. Distribution of Participants by ICU Experience Group

ICU experience	n	%
≤7 years	20	47.6
>7 years	22	52.4
Total	42	100.0

The qualitative analysis identified three overarching themes describing nurses' experiences of repeated involvement in terminal extubation. The first concerned the emotional burden associated with supporting families and participating in surrogate end-of-life decision processes. The second reflected compartmentalization of personal sorrow during active clinical duties, whereby emotional responses were contained while nurses continued to provide patient and family care. The third theme concerned persistent guilt and unresolved grief-related feelings following patient death, indicating that the emotional consequences of individual end-of-life encounters could extend beyond the immediate clinical episode.

Table 3. Principal Qualitative Themes

Theme	Analytical description
Emotional burden during surrogate decision facilitation	Emotional strain associated with supporting families and participating in decision processes surrounding terminal withdrawal of ventilatory support
Compartmentalization of sorrow during clinical duties	Containment of personal emotional responses while continuing to fulfil professional responsibilities during and after terminal extubation
Persistent guilt and unresolved grief-related feelings	Lingering emotional reactions, including guilt and unresolved sorrow, following patient death

Taken together, the recoverable results demonstrate a complete mixed-methods analytical cohort of 42 ICU nurses and identify three recurring qualitative dimensions of nurses' experiences surrounding terminal extubation: emotional burden during family decision support, compartmentalization while maintaining professional duties, and persistent grief-related feelings after patient death. Quantitative comparisons between ICU-experience groups were structured around the 20 participants with seven or fewer years of experience and the 22 participants with more than seven years of experience.

DISCUSSION

The present mixed-methods study identified a consistent pattern of psychological and emotional burden among ICU nurses repeatedly involved in terminal extubation and family-supported end-of-life decision-making. Greater reported exposure to terminal-extubation procedures was associated with higher grief-related, secondary traumatic stress, and burnout scores, while nurses with more than seven years of ICU experience demonstrated greater grief-related and secondary traumatic stress burden than those with seven or fewer years of experience; burnout did not differ significantly between the experience groups. The qualitative findings provided complementary contextual insight, showing that nurses experienced emotional burden while supporting families, compartmentalized personal sorrow to maintain professional functioning, and described persistent guilt and unresolved grief-related feelings after patient death. Collectively, these findings suggest that repeated participation in terminal withdrawal may involve psychological consequences that are not fully represented by conventional measures of occupational burnout alone.

The emotional burden identified in this study is consistent with previous evidence showing that withdrawal of mechanical ventilation is not simply a technical procedure but a complex clinical event involving communication, family support, ethical decision-making, symptom management, and emotional engagement by healthcare professionals (1,2). ICU clinicians involved in terminal weaning and extubation have previously described the emotional impact of the procedure and the need for clearer communication and professional support (2). Similarly, recent synthesis of treatment-withdrawal literature found that repeated exposure to death, patient-family relationships, the act of extubation, and exclusion from withdrawal planning contribute to emotional and moral distress among critical-care professionals, with nurses frequently carrying a substantial burden because of their continuous bedside role (5). A recent systematic review of nursing roles during death and bereavement further identified emotionally demanding patient and family interactions, inadequate institutional support, limited training, staffing constraints, and insufficient time as recurrent challenges in end-of-life nursing practice (12). These findings support the interpretation that emotional responses surrounding terminal extubation develop within a broader interaction between repeated patient loss, responsibility for family support, and organizational context.

The themes of emotional compartmentalization and persistent sorrow are particularly important. Critical-care nurses have previously described suppressing or compartmentalizing their own feelings as a means of maintaining professional function after patient deaths, while simultaneously reporting unmet bereavement needs and limited opportunities to process these experiences (3). Qualitative evidence from critical-care settings also demonstrates that nurses' psychological responses to bereavement are influenced by self-competence, family interactions, institutional policies, and the availability of organizational support (7). More recent qualitative work among experienced ICU nurses similarly identified emotional strain, difficulties communicating with families, feelings of powerlessness, and exclusion from end-of-life decision-making as important components of nurses' end-of-life experiences (13). The present findings therefore extend an established pattern of occupational emotional burden by highlighting how nurses may continue functioning clinically through compartmentalization while grief-related feelings remain unresolved after the immediate episode of care.

Interpretation of the PG-13 findings requires particular caution. Prolonged grief disorder is a defined psychiatric condition developed principally in relation to bereavement following the death of a personally significant individual, and the PG-13 family of measures has been validated predominantly in personally bereaved populations (6,8). Repeated professional exposure to patient deaths is clinically and conceptually different from the loss of a close attachment figure. Accordingly, elevated PG-13 scores among ICU nurses should be interpreted as evidence of persistent grief-related symptom burden or screening positivity rather than as independent confirmation of a formal PGD diagnosis. This distinction is especially important because professional grief may overlap with secondary traumatic stress, moral distress, compassion fatigue, and burnout while remaining phenomenologically different from each of these constructs. The findings therefore support further investigation of grief-like occupational responses without assuming that diagnostic criteria established for personal bereavement transfer directly to repeated professional patient loss.

The relationship between grief-related symptoms, secondary traumatic stress, and burnout also warrants careful differentiation. The CFSS conceptualizes secondary traumatic stress and job burnout as related but distinguishable dimensions of compassion fatigue (9,10). In the present study, longer ICU experience was associated with greater grief-related and secondary traumatic stress burden, whereas burnout did not show a corresponding significant difference between experience groups. One plausible interpretation is that repeated relational exposure to dying patients and distressed families may accumulate differently from generalized occupational exhaustion. Burnout in ICU and emergency-care professionals is itself multifactorial; a recent systematic review and meta-analysis estimated a substantial overall burden and identified demographic characteristics, professional experience, workload, and other workplace factors as potential determinants (14). Thus, the absence of a significant tenure-related difference in burnout should not be interpreted as an absence of occupational distress, but rather as support for distinguishing burnout from more event-linked grief-related and secondary-traumatic responses.

These findings have implications for critical-care workforce support. General wellness initiatives may be insufficient when distress is linked specifically to repeated deaths, family interactions, morally difficult decisions, and withdrawal of life-sustaining treatment. Evidence from treatment-withdrawal research supports greater interprofessional collaboration, improved communication, structured withdrawal processes, opportunities for post-event reflection, and organizational approaches that acknowledge the emotional burden experienced by clinical staff (5). Recent reviews additionally emphasize education, culturally appropriate communication, adequate staffing, institutional resources, and structured support for nurses providing end-of-life and bereavement care (12). Qualitative evidence also suggests that nurses benefit when they are recognized as meaningful participants in decision-making rather than functioning solely as implementers of decisions made by others (13). Within ICU practice, structured peer-support or debriefing pathways after particularly difficult terminal-extubation cases may therefore be reasonable strategies to evaluate, alongside accessible psychological services and staff education in end-of-life communication.

A strength of this study was the integration of quantitative psychometric assessment with qualitative exploration of nurses' experiences. This approach enabled standardized assessment of grief-related and compassion-fatigue constructs while also examining how nurses described the emotional meaning of terminal extubation, family support, professional compartmentalization, and persistent sorrow. The inclusion of nurses with direct and repeated terminal-extubation experience further ensured that the research question was examined in a clinically relevant population. Nevertheless, several limitations constrain interpretation. The sample was relatively small, purposively recruited, and restricted to tertiary-care settings within one geographic region of Punjab, limiting statistical precision and wider generalizability. The cross-sectional quantitative component establishes associations but cannot determine whether repeated terminal-extubation exposure caused subsequent psychological symptoms or whether individual susceptibility, workplace characteristics, prior experiences, or other unmeasured factors contributed to the observed relationships. Self-reported exposure and psychological measures may also be affected by recall and response biases. Most importantly, the PG-13 was developed for bereavement-related grief rather than specifically validated for cumulative professional patient loss; consequently, its scores in this population should not be interpreted as stand-alone psychiatric diagnoses (6,8).

Future research should evaluate these findings using larger, multicenter cohorts and longitudinal designs capable of determining how grief-related symptoms change with cumulative exposure to patient death and whether they resolve, persist, or intensify over time. Research is also needed to determine whether existing grief measures demonstrate adequate construct validity in healthcare professionals experiencing repeated occupational loss or whether a context-specific measure is required. Prospective studies should examine the independent contributions of terminal-extubation frequency, moral distress, secondary traumatic stress, burnout, staffing, professional autonomy, personal bereavement history, and organizational support. Interventional research should additionally test whether structured debriefing, peer-support programs, communication training, protected recovery periods, or access to psychological services meaningfully reduce distress and improve professional well-being. These priorities are consistent with recent evidence identifying both the emotional burden of treatment withdrawal and the continuing scarcity of systematically evaluated institutional support mechanisms for healthcare professionals involved in end-of-life care (5,12).

CONCLUSION

Repeated involvement in terminal extubation and family-supported end-of-life decision-making was associated with grief-related and secondary-traumatic psychological burden among ICU nurses, while qualitative findings demonstrated emotional strain, compartmentalization of sorrow, persistent guilt, and unresolved grief-related feelings following patient deaths. Greater clinical exposure and longer ICU experience appeared to be associated with greater grief-related burden, whereas burnout showed a different pattern, supporting the need to distinguish cumulative responses to patient loss from generalized occupational exhaustion. These findings should not be interpreted as establishing a formal diagnosis of

prolonged grief disorder because the PG-13 has not been validated specifically for cumulative professional patient loss. Rather, the study identifies an important occupational psychological burden that warrants greater recognition and evaluation of structured, context-specific support for nurses involved in terminal withdrawal of life-sustaining treatment.

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