Relationship between Vicarious Trauma and Psychological Well-being among Healthcare Workers in Homa Bay County, Kenya

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ABSTRACT

Vicarious trauma is a persistent yet often overlooked challenge to the psychological well-being of healthcare workers, particularly in low- and middle-income countries (LMICs). This study explored the relationship between vicarious trauma and psychological well-being among healthcare workers in Homa Bay County, Kenya, using a correlational research design. Quantitative data were collected using the Vicarious Trauma Assessment Scale and the Professional Quality of Life (ProQOL) tool, both demonstrating strong internal reliability. Results indicated widespread emotional exhaustion and intense anxiety among respondents, with a pronounced tendency to dwell on patients' negative experiences. Among the measured indicators, continuous cognitive focus on negative incidents emerged as the strongest predictor of psychological strain, while general anxiety was less influential. Regression and chi-square analyses confirmed the significance of cognitive rumination as a key determinant. These findings underscore the need for targeted psychosocial support, cognitive-based interventions, and institutional resilience-building strategies to protect healthcare workers' mental health and promote safer, more sustainable patient care.

Keywords: Vicarious trauma, psychological well-being, healthcare workers, cognitive focus, resilience.

INTRODUCTION

Healthcare workers (HCWs) are among the most exposed populations to secondary trauma due to their continuous interactions with severely ill, traumatized, and dying patients. Vicarious trauma refers to profound negative psychological effects experienced following such indirect exposure (Figley, 1995). Studies have shown that vicarious trauma significantly impacts healthcare professionals' emotional stability, resulting in outcomes such as burnout, depression, decreased professional efficiency, and reduced patient care quality (Teffo, Levin, & Rispel, 2018; Yılmaz, 2018).

In LMICs like Kenya, the problem is compounded by weak systemic mental health support and pervasive stigma surrounding emotional struggles (Giacomucci, 2023). Persistent exposure to patient suffering without adequate debriefing mechanisms has been linked to chronic stress manifestations, including anxiety, emotional exhaustion, and psychological detachment from work (Xue, Shu, Hayter, & Lee, 2020; Stelnicki, Jamshidi, Ricciardelli, & Carleton, 2020).

Guided by **Cognitive Appraisal Theory**, this study posits that it is not only the exposure to trauma but **how healthcare workers interpret and cognitively process these experiences** that determines psychological outcomes (Pearlman & Saakvitne, 1995; Ouyang et al., 2017). Specifically, maladaptive cognitive appraisals—such as persistent focus on negative incidents—are hypothesized to be stronger predictors of poor psychological well-being than general emotional anxiety.

Therefore, this study aimed to explore the relationship between specific vicarious trauma symptoms—namely intense anxiety and persistent cognitive focus on negative incidents—and psychological well-being among healthcare workers in Homa Bay County, Kenya.

LITERATURE REVIEW

Vicarious trauma has been extensively documented among professions with high exposure to trauma survivors, including healthcare workers, social workers, and emergency responders. The emotional toll on HCWs manifests in both personal and professional domains, leading to depression, emotional numbing, burnout, and decreased job satisfaction (Teffo et al., 2018; Yılmaz, 2018). Persistent exposure to traumatized individuals without adequate coping support can result in secondary traumatic stress, which closely mirrors symptoms of post-traumatic stress disorder (PTSD) (Bride, 2007). Empirical evidence suggests that cognitive patterns, especially continuous rumination over patients' suffering, exacerbate psychological distress (Okoli et al., 2021; Giacomucci, 2023). Such intrusive thoughts are considered intrusive symptoms of secondary trauma and are predictive of professional burnout and psychiatric symptoms. A study by Stelnicki et al. (2020) demonstrated that burnout, emotional detachment, and diminished performance among HCWs stem largely from cumulative occupational stress rather than isolated traumatic incidents. Xue et al. (2020) highlighted that, without effective institutional interventions, HCWs' mental resilience deteriorates over time, leading to long-term professional attrition.

Cognitive Appraisal Theory, as developed by Lazarus and Folkman (1984), explains how individuals emotionally respond to stressful or traumatic events based on their subjective interpretation rather than the objective nature of the experience. The theory distinguishes between primary appraisal—where an individual evaluates whether an event is harmful, threatening, or challenging—and secondary appraisal, which assesses one's available resources and capacity to cope. In this framework, psychological distress is not a direct outcome of trauma exposure itself, but rather of how that exposure is cognitively processed. In the context of healthcare, this theory suggests that two workers exposed to similar patient-related traumas may exhibit different psychological outcomes depending on their cognitive framing of the situation. For instance, a worker who interprets their emotional strain as a sign of professional inadequacy may experience heightened anxiety and emotional exhaustion. Conversely, one who sees the same strain as a temporary challenge within a meaningful role may remain more emotionally resilient. This theoretical orientation supports the study's focus on cognitive symptoms such as persistent negative focus as stronger predictors of psychological distress than generalized anxiety. It provides a conceptual lens for understanding why cognitive rumination, rather than emotional reactivity alone, emerged as the more significant determinant of psychological vulnerability among healthcare workers in this study. Thus, healthcare workers' psychological well-being in trauma-exposed environments depends largely on how they cognitively frame and respond to patient suffering—whether by maladaptive rumination or through adaptive cognitive reappraisal techniques.

While the literature consistently confirms the psychological toll of vicarious trauma among healthcare professionals, few studies offer a nuanced comparison of divergent outcomes. For instance, while researchers such as Bride (2007) and Teffo et al. (2018) emphasize emotional exhaustion and professional burnout, other works document instances of post-traumatic growth and vicarious resilience. These contrasting findings highlight the need to explore mediating factors—such as individual cognitive appraisals and institutional support—which this study attempts to foreground.

Furthermore, the methodological approaches in the reviewed literature are largely quantitative and cross-sectional, limiting the ability to capture the evolving nature of trauma processing over time. There is also an overreliance on Western contexts, with very limited empirical inquiry rooted in African healthcare settings, especially rural counties like Homa Bay. The few Kenyan studies available tend to focus on prevalence rates or symptom severity without linking trauma exposure to cognitive patterns such as intrusive thinking or negative rumination. Another critical gap is the underrepresentation of specific healthcare cadres—particularly clinical officers and nurses—despite their frontline exposure to emotionally distressing patient cases. Most studies generalize across healthcare workers without unpacking cadre-specific vulnerabilities or gender-related variations in trauma response.

Finally, while Cognitive Appraisal Theory is often cited as a useful framework, few studies apply it explicitly to examine how healthcare workers cognitively interpret trauma exposure in their day-to-day professional practice. This study, therefore, makes a unique contribution by integrating this theoretical perspective to explain the

psychological mechanisms—especially cognitive rumination—that predict emotional strain more strongly than generalized anxiety.

DATA AND METHODOLOGY

Research Design and Theoretical Orientation

This study adopted a **correlational descriptive cross-sectional design** to explore the relationship between vicarious trauma indicators and the psychological well-being of healthcare workers. The design was appropriate for examining associations between naturally occurring variables without manipulating the study environment. Guided by **Cognitive Appraisal Theory** (Pearlman & Saakvitne, 1995; Ouyang et al., 2017), the research emphasized the cognitive processes through which healthcare workers appraise secondary trauma exposure, affecting their emotional health and professional functioning. The study sought not only to measure trauma symptoms but also to explain variations in psychological well-being based on cognitive-emotional mechanisms.

Study Setting and Participants

The research was conducted across 23 public health facilities in **Homa Bay County**, Kenya, a predominantly rural region characterized by resource constraints and high disease burden. The study population comprised frontline healthcare workers (medical officers, clinical officers, and nurses) who regularly interacted with patients experiencing severe illness or trauma. Using stratified random sampling, 283 participants were selected from a target population of 654 healthcare workers. Stratification ensured proportional representation across cadres to enhance generalizability. Inclusion criteria were frontline clinical engagement, at least six months of service in the current posting, and voluntary informed consent.

Data Collection Tools and Procedures

Data were collected through self-administered structured questionnaires comprising two validated instruments. The **Vicarious Trauma Assessment Scale (VTAS)**, adapted from Vrklevski and Franklin (2008), assessed symptoms such as intense anxiety and persistent cognitive focus on negative incidents. The **Professional Quality of Life Scale (ProQOL)** was employed to measure psychological well-being outcomes, particularly compassion satisfaction, burnout, and secondary traumatic stress. Both tools demonstrated acceptable internal consistency in the current study (Cronbach's alpha = 0.81 and 0.75, respectively). Ethical clearance was obtained from relevant authorities, and strict confidentiality protocols were observed throughout the data collection process.

Data Analysis Strategy

Quantitative data were analyzed using **IBM SPSS Version 25.0**. Descriptive statistics (means, standard deviations) summarized trauma symptom frequencies and psychological well-being indicators. **Pearson's correlation** tests assessed linear relationships between vicarious trauma symptoms and cadre differences. Chi-square tests were used to assess the relative association strength of each trauma symptom with psychological well-being. **Multiple linear regression** modeling was used to predict psychological vulnerability based on emotional and cognitive trauma indicators. Findings were interpreted at a 95% confidence level, with statistical significance set at $\mathbf{p < .05}$. The analytical approach was theory-driven, aiming to validate hypotheses derived from Cognitive Appraisal Theory concerning trauma appraisals and psychological outcomes.

RESULTS

This section presents the study's findings on the relationship between vicarious trauma symptoms and psychological well-being among healthcare workers in Homa Bay County. The results are structured around descriptive statistics, correlation analysis, multiple regression modeling, and chi-square tests for ranking indicator significance.

Descriptive Statistics: Vicarious Trauma Indicators

Table 1 summarizes the descriptive statistics for the two primary indicators of vicarious trauma: intense anxiety and worry about patients' outcomes, and continuous cognitive focus on negative incidents.

Table 1: Descriptive Statistics of Vicarious Trauma Symptoms

Indicator	Mean	Standard Deviation	N
Intense Anxiety and Worry	3.046	1.039	283
Continuous Focus on Negative Incidents	3.336	0.998	283

Interpretation - Both indicators showed relatively high mean scores on a five-point Likert scale, with **continuous focus on negative incidents** scoring notably higher (M = 3.336). This finding indicates that a substantial proportion of healthcare workers experience persistent cognitive rumination about negative possibilities affecting their patients. The prevalence of intense anxiety (M = 3.046) also suggests widespread emotional vulnerability among participants, although at a slightly lower intensity compared to cognitive rumination.

Correlation Analysis: Cadre vs Psychological Symptoms

Table 2 presents the Pearson correlation coefficients examining the relationship between healthcare workers' professional cadre and their experiences of intense anxiety and persistent negative cognitive focus.

Table 2: Pearson's Correlation between Cadre and Trauma Indicators

Variables	Pearson's r	p-value
Cadre vs Intense Anxiety	0.096	0.053
Cadre vs Focus on Negative Incidents	0.182	0.001
Anxiety/Worry vs Focus on Negativity	-0.001	0.492

Interpretation - A **significant weak positive correlation** (r = 0.182, p = 0.001) was found between cadre and continuous focus on negative incidents, indicating that differences in professional roles slightly influence susceptibility to cognitive rumination. In contrast, intense anxiety showed only a near-significant correlation with cadre (p = 0.053), suggesting a less consistent relationship. Notably, anxiety and cognitive rumination were **not significantly correlated** (r = -0.001, p = 0.492), highlighting that these two emotional experiences are **independent** of each other within the trauma response profile.

Regression Analysis: Predicting Psychological Well-being

A multiple linear regression was conducted to examine the predictive power of the two trauma indicators on psychological vulnerability outcomes.

Table 3: Regression Model Predicting Psychological Vulnerability

Predictor	B	Standard Error	Beta	t	p-value
Intense Anxiety	0.046	0.028	0.091	1.649	0.100
Continuous Focus on Negative Events	0.091	0.029	0.180	3.118	0.002

Model Summary: $R = 0.206$, $R^2 = 0.043$, Adjusted $R^2 = 0.036$, $F(2,280) = 6.216$, **$p = 0.002$**

Interpretation – The regression analysis revealed that healthcare workers' continuous focus on negative

incidents was a significant predictor of psychological vulnerability (p = .002), identifying it as a key cognitive risk factor in the context of vicarious trauma. In contrast, intense anxiety, although commonly reported, did not independently predict psychological outcomes (p = .100), suggesting that cognitive rumination has a more substantial impact on well-being than emotional reactivity alone. The overall model explained 4.3% of the variance in psychological well-being, indicating a modest but meaningful relationship between cognitive symptoms of vicarious trauma and mental health outcomes among healthcare professionals.

Chi-square Analysis: Ranking Psychological Indicators

To compare the relative influence of trauma indicators, chi-square tests were conducted.

Table 4: Chi-square Results for Psychological Indicator Ranking

Indicator	χ^2	df	p-value
Continuous Focus on Negative Incidents	9.912	1	0.002
Intense Anxiety	2.749	1	0.097

Interpretation - The chi-square results corroborated regression findings: **continuous focus on negative incidents** showed a statistically significant association with cadre (**χ^2 = 9.912, p = 0.002**), while intense anxiety did not (**χ^2 = 2.749, p = 0.097**). Thus, **cognitive rumination** emerged as the more dominant and predictive symptom of psychological vulnerability among healthcare workers.

DISCUSSION

This study examined the relationship between vicarious trauma symptoms—specifically intense anxiety and persistent cognitive focus on negative incidents—and psychological well-being among healthcare workers (HCWs) in Homa Bay County, Kenya. Guided by Cognitive Appraisal Theory, the study emphasized that psychological outcomes following trauma exposure depend largely on individuals' cognitive interpretations rather than on exposure itself.

The results demonstrate that continuous focus on negative incidents was the stronger predictor of poor psychological well-being compared to intense anxiety. The regression analysis showed that healthcare workers who persistently ruminated on potential negative outcomes for their patients exhibited significantly higher psychological vulnerability (B = 0.091, p = 0.002), whereas general feelings of anxiety did not significantly predict cadre differences (p = 0.100).

These findings align closely with previous studies, particularly those emphasizing the cognitive mechanisms of trauma exposure. Okoli et al. (2021) found that persistent intrusive thoughts, rather than emotional anxiety alone, predicted psychiatric symptoms such as irritability and cognitive impairments among healthcare providers. Similarly, Giacomucci (2023) reported that unaddressed cognitive intrusions among HCWs escalate emotional exhaustion and contribute to vicarious traumatization.

The significant chi-square result (χ^2 = 9.912, p = 0.002) for continuous negative focus further emphasizes that cognitive rumination is a critical and quantifiable risk factor for psychological decline. This resonates with Pearlman and Saakvitne's (1995) model, which conceptualizes vicarious trauma as cognitive disruption—altering workers' beliefs about safety, trust, and control.

Interestingly, the weak correlation between anxiety and cadre (r = 0.096, p = 0.053) but a stronger correlation between cadre and cognitive rumination (r = 0.182, p = 0.001) suggests that professional roles influence the degree to which healthcare workers internalize and cognitively process traumatic exposure. Frontline professionals with sustained, intimate patient care responsibilities, such as nurses, appear particularly vulnerable to cognitive symptoms of vicarious trauma (Teffo, Levin, & Rispel, 2018).

From an intervention standpoint, the findings point to the necessity of organizational strategies that prioritize

cognitive restructuring rather than focusing exclusively on emotional support. Structured programs that teach adaptive appraisal strategies, mindfulness-based stress reduction (MBSR), and cognitive-behavioral coping mechanisms could serve to protect healthcare workers from the long-term impacts of secondary trauma exposure (Newell & MacNeil, 2010; Xue, Shu, Hayter, & Lee, 2020)

Finally, these findings reinforce the critical role of institutional policies and government interventions. Without comprehensive mental health frameworks that acknowledge the cognitive aspects of trauma exposure, healthcare systems risk widespread psychological injury among frontline workers, ultimately impairing patient care quality (Bride, 2007; WHO, 2020).

CONCLUSION

This study investigated the relationship between vicarious trauma symptoms—specifically intense anxiety and persistent cognitive focus on negative incidents—and psychological well-being among healthcare workers in Homa Bay County, Kenya. Grounded in Cognitive Appraisal Theory, the study found that cognitive rumination on negative patient outcomes, rather than generalized emotional anxiety, was the stronger predictor of psychological vulnerability.

Healthcare workers demonstrated moderate to high levels of vicarious trauma symptoms, with continuous focus on negative incidents emerging as a critical cognitive intrusion linked to occupational stress and emotional decline. Regression and chi-square analyses consistently revealed that cognitive preoccupation with adverse patient outcomes significantly impacted healthcare workers' psychological well-being.

These findings are consistent with global evidence that cognitive appraisals mediate the psychological effects of trauma exposure (Pearlman & Saakvitne, 1995; Okoli et al., 2021). Without targeted organizational support focusing on cognitive restructuring and resilience-building, healthcare workers remain vulnerable to worsening mental health outcomes, professional burnout, and decreased patient care quality.

The study underscores the urgent need for healthcare institutions and policymakers to implement trauma-informed interventions, including: Counseling and debriefing services tailored to cognitive processing; Wellness and resilience-building programs such as mindfulness training; and Institutional policies that destigmatize mental health care access for healthcare workers.

Further research is recommended to explore longitudinal impacts of vicarious trauma among healthcare workers in rural African contexts and to develop culturally sensitive resilience frameworks that bolster adaptive cognitive appraisals.

Ultimately, prioritizing healthcare workers' mental health is critical not only for their personal welfare but also for sustaining healthcare systems and improving patient safety outcomes.

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BIOGRAPHY

Gordon Oyugi is a social scientist and researcher specializing in mental health, trauma, and public health systems in low - and middle-income countries. Currently affiliated with Tom Mboya University, he has a research interest in the psychosocial well-being of healthcare professionals, resilience building, and health policy interventions, having previously worked on studies addressing secondary traumatic stress and healthcare system strengthening in resource-constrained settings.