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The Relationship between Impact of Trauma and Level of Compassion Fatigue Among Medical Students: A Correlational Study

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Abstract

This study aims to explore the relationship between traumatic events and compassion fatigue among medical students, who are commonly exposed to stressful clinical environments and academically challenging conditions. This quantitative study utilized a cross-sectional research design and gathered data from the selected sample of 200 medical students aged between 18 and 26 years using the Impact of Event Scale-Revised (IES-R) and the Compassion Fatigue Inventory (CFI). Results showed moderate levels of baseline trauma (M = 45.87, SD = 7.876) and compassion fatigue (M = 42.15, SD = 5.814). Results also showed a negligible negative correlation between trauma and compassion fatigue using the Pearson correlation coefficient (r = -0.018, p = 0.805). As the results did not show the expected relationship between the two variables, the null hypothesis was accepted. This implies that trauma and compassion fatigue are two separate psychological conditions among medical students. As such, support systems must be implemented separately to address the two non-overlapping psychological conditions.

Keywords: Traumatic events, Compassion Fatigue, Medical students.

1. Introduction:

Trauma refers to an individual's emotional, psychological, and physiological reaction to distressing or life-threatening events that exceed one's ability to cope. It is characterized by intense feelings of fear, helplessness, and horror, resulting in disruptions to a person's sense of security and stability. In the context of medical students, trauma may arise from experiences such as losing patients, observing severe injuries, or facing harsh academic and interpersonal pressures. These experiences can leave lasting psychological imprints, influencing emotional regulation, concentration, and professional empathy. Compassion fatigue refers to the emotional and physical exhaustion resulting from prolonged exposure to others' suffering, coupled with the inability to refuel or recover. It is often described as the "cost of caring." In the context of medical students, compassion fatigue occurs when continuous empathy toward patients' distress leads to emotional depletion, decreased motivation, and a diminished ability to empathize. It represents a progressive decline in compassion due to accumulated stress and emotional overload from caregiving roles.

Definitions Trauma

- **Herman, 1992:** Trauma refers to experiences that overwhelm an individual's capacity to cope, leading to feelings of helplessness, fear, and loss of control.
- **Bessel van der Kolk, 2014:** Trauma is not only a past event but also the lasting impact it leaves on an individual's mind, brain, and body, affecting emotional and psychological functioning.

Theories related to Trauma

- **Psychoanalytic Theory (Sigmund Freud, 1896)**

This theory posits that trauma-related memories are often repressed into the unconscious mind, influencing behaviour through unresolved conflict. The unprocessed emotions may resurface as anxiety, depression, or defensive coping mechanisms. In medical students, suppression of distressing experiences may manifest as avoidance of emotionally charged clinical situations.

- **Cognitive Appraisal Theory (Richard Lazarus, 1966)**

According to this theory, the impact of trauma depends on how individuals appraise and interpret the event. Those who perceive a traumatic incident as a challenge are more likely to recover positively, while those who view it as a threat may develop prolonged distress. This theory explains the variation in trauma responses among medical students exposed to similar stressors.

- **Post-Traumatic Growth Theory (Tedeschi and Calhoun, 1996)**

This theory suggests that individuals can achieve positive psychological transformation after facing trauma. Medical students, when provided with reflection opportunities and mentoring, can develop stronger emotional resilience and a deeper appreciation for human life.

Definitions Compassion Fatigue

- **Charles Figley (1995):** Compassion fatigue is the cost of caring for others in emotional pain, resulting in emotional and physical exhaustion.
- **Beth Stamm (2010):** Compassion fatigue is a state of tension and preoccupation with the suffering of others that can lead to secondary traumatic stress and burnout.

Theories related to Compassion fatigue

- **Compassion Stress and Fatigue Model (Charles Figley, 1995)**

This model describes compassion fatigue as the natural consequence of empathic engagement with trauma survivors. It emphasizes that empathy, while essential for caregiving, can lead to stress when self-care and professional boundaries are neglected.

- **Transactional Model of Stress and Coping (Lazarus and Folkman, 1984)**

This theory highlights the importance of cognitive appraisal and coping strategies in determining how individuals respond to stressors. Medical students who perceive patient suffering as overwhelming are more likely to experience compassion fatigue than those with effective coping mechanisms.

- **Self-Compassion Theory (Kristin Neff, 2003)**

This theory proposes that practicing self-kindness, mindfulness, and recognition of shared humanity can buffer against compassion fatigue. For medical students, cultivating self-compassion allows emotional recovery and prevents exhaustion from empathetic over-involvement.

2. Review of literature

Rassolian et al. (2018) aimed at evaluating the prevalence of traumatic stress in 300 medical students in

the US. The study applied the Impact of Event Scale-Revised (IES-R), and it was revealed that 46% of the students had moderate to severe trauma symptoms. The symptoms were attributed to clinical exposure to suffering and critical medical incidents in hospitals.

Anderson and Reeve (2020) conducted a study in Australia involving 250 medical students who were assessed for trauma symptoms and compassion fatigue through the Trauma Symptom Checklist and Compassion Fatigue Inventory. The study revealed that it is not directly related to trauma exposure; rather, it is mediated by emotional suppression.

Williams and Brown (2024) in that studied 350 Canadian medical students and concluded that trauma directly predicted compassion fatigue, particularly among students in emergency and surgical specialties. The researchers emphasized early detection and intervention strategies.

3. Research methodology

3.1 Research question:

The study was attempted to find the relationship between trauma and the compassion fatigue among medical students

3.2 Objectives:

- To assess the level of trauma among medical students.
- To evaluate the level of compassion fatigue among medical students.
- To determine the relationship between trauma and compassion fatigue among medical students.

3.3 Hypothesis:

H_0: There is no significant relationship between trauma and compassion fatigue among medical students.

4. Research design:

This study adopts a quantitative research design to objectively analyse the relationship between trauma and compassion fatigue among medical students. Quantitative research enables the collection of measurable data through standardized instruments and statistical analysis. This design is appropriate because both variables trauma and compassion fatigue are psychological constructs that can be quantified using validated scales. The cross-sectional nature of this design allows for data collection from participants at a single point in time, providing a snapshot of emotional health and fatigue levels within the medical student population.

4.1 Sampling technique:

The study used a mixed sampling method that combined stratified and convenience sampling techniques. First, the total population of medical students was divided into different groups based on their year of study. This ensured that all academic levels were represented. Within each group, participants were chosen based on their availability and willingness to take part. This method made data collection easier while keeping group representation intact. However, since the selection within the groups was not random, this method does not meet the criteria for true stratified random sampling.

4.2 Data collection:

- Data will be collected through offline questionnaires distributed to the participants.
- Participants will provide demographic information, followed by responses to the two standardized scales.

4.3 Tool description:

- The Impact of Event Scale – Revised (IES-R) was developed by Weiss and Marmar (1997). It is a self-

report measure designed to assess the subjective distress caused by traumatic events. The scale consists of 22 items, covering three subscales: intrusion, avoidance, and hyperarousal. Respondents rate each item on a 5-point Likert scale ranging from 0 ("not at all") to 4 ("extremely"). The total score provides an index of trauma severity, with higher scores indicating greater distress. The IES-R is widely validated and has strong internal consistency (Cronbach's alpha ranging from 0.79 to 0.92). In this study, it was used to measure the trauma symptoms experienced by medical students due to clinical and academic stressors.

- The Compassion Fatigue Inventory (CFI), developed by Figley (1995), is a reliable instrument used to measure compassion fatigue among helping professionals. The scale assesses both emotional exhaustion and secondary traumatic stress through a series of self-report questions. It includes approximately 16 items rated on a 5-point scale from 1 ("does not fit at all") to 5 ("fit perfectly"). The CFI evaluates how exposure to others' suffering affects one's emotional well-being, empathy, and job performance. It has demonstrated strong psychometric reliability and is frequently used among healthcare professionals and students. In this study, the CFI was used to identify the presence and intensity of compassion fatigue among medical students.

4.4 Statistical analysis:

- Data obtained from the IES-R and CFI were statistically analysed using Pearson's Correlation Coefficient to determine the relationship between trauma and compassion fatigue among medical students. Pearson's correlation is suitable for continuous variables and helps assess the strength and direction of association between two psychological measures. Descriptive statistics such as mean, standard deviation, and percentage distribution were also used to describe the demographic data and levels of each variable. Inferential statistics helped in testing the null hypothesis and drawing valid conclusions based on empirical evidence.

4.5 Inclusive criteria:

- Medical students aged between 18 to 26 years.
- Students who are currently enrolled in an undergraduate medical program.
- Students who provided voluntary consent to participate in the study.

4.6 Exclusive criteria:

- Students from non-medical or paramedical disciplines.
- Students who were absent or failed to complete the questionnaire during data collection.

5. Result:

This chapter discusses the results and interpretation of the analysis done to understand the relationship between trauma and compassion fatigue among medical students.

Table 1

Descriptive statistics showing the mean and standard deviation of trauma and compassion fatigue among medical students.

Variables	Mean	Standard Deviation	N
Trauma	45.87	7.876	200
Compassion Fatigue	42.15	5.814	200

The descriptive table 1 shows the mean and standard deviation for the variables. Impact of Event Scale – Revised (IES-R) has a sample N=200, mean=45.87 and standard deviation=7.876. Compassion Fatigue Inventory (CFI) has a sample N=200, mean=42.15 and standard deviation=5.814.

Table 2
Correlational analysis showing the relationship between Impact of Trauma and Level of Compassion fatigue among medical students.

Variables	Pearson's correlation	r value	Decision
Trauma	-0.018	0.805	Accepted (H0)
Compassion Fatigue			

****Correlation is not significant at 0.05 level (2-tailed)**

Table 2 shows the values of Pearson's correlation among the two variables. Correlation Strength (r = -0.018): The Pearson correlation coefficient indicates a very weak negative relationship between two variables. This suggests that the impact of Trauma and Level of compassion fatigue do not change together in this group.
Statistical Significance (p = 0.805): With a p-value much higher than the 0.05 threshold, the results do not reach statistical significance. As a result, the null hypothesis is accepted, indicating that there is no significant relationship between Trauma and Compassion Fatigue among the medical students.

6. Discussion

This study investigated the potential link between Impact of Trauma and Level of Compassion Fatigue within a cohort of 200 participants. Descriptive analysis indicated that mean scores for both constructs remained stable across the sample. To explore the connection between these variables, a Pearson correlation was performed. The results yielded a correlation coefficient of r = -0.018, suggesting an exceptionally weak negative relationship. Essentially, this demonstrates that there is no meaningful or correlation between Trauma and Compassion Fatigue. The analysis produced a p-value of 0.805, well above the conventional alpha level of 0.05, confirming that the results are not statistically significant. Consequently, it can be inferred that fluctuations in one variable do not correspond with changes in the other. These findings imply that participants experience psychological impact and cognitive flexibility as distinct, independent processes. While a negligible negative trend was noted, it lacks practical relevance, suggesting that Impact of Trauma does not serve as a predictor for Compassion Fatigue levels. Ultimately, the factors driving these two constructs likely stem from different psychological foundations.

7. Summary

The primary objective of this research was to assess the relationship between the impact of Trauma and Level of Compassion Fatigue. Utilizing a quantitative framework, the study sampled 200 individuals and employed standardized assessment tools for data collection. The data were processed using SPSS software, specifically applying Pearson's correlation method.
The statistical output confirmed the absence of a significant relationship between the variables (r = -0.018, p = 0.805). which significantly exceeds the standard alpha threshold of 0.05. These results lead to the clear determination that there is no statistically significant relationship between the impact of trauma and level of compassion fatigue within this specific cohort. Throughout the research process, ethical integrity

was maintained by ensuring that all 200 participants were fully informed of the study's purpose and that their data remained strictly confidential. Ultimately, the summary of the data highlights that these two psychological constructs function as independent entities rather than interconnected ones.

8. Conclusion

This study definitively finds that there is no significant correlation between the Impact of Trauma and Level of Compassion Fatigue. The obtained correlation coefficient ($r = -0.018$) and the corresponding p-value ($p = 0.805$) confirm that fluctuations in one variable do not predict or influence changes in the other. These findings suggest that the psychological impact of events and an individual's level of compassion fatigue are separate facets of a person's mental landscape, likely driven by distinct cognitive and emotional mechanisms. The study emphasizes that these constructs should be treated as independent factors in both theoretical research and clinical practice. For mental health professionals, this independence implies that an individual may struggle with high levels of event-related stress without necessarily experiencing a decline in compassion fatigue, and vice versa. Recognizing this lack of a functional link allows for the development of more specialized and targeted psychological assessments. While the research was restricted by its specific sample and cross-sectional nature, it provides a foundational understanding that event-related impact and cognitive adaptability operate on parallel, rather than intersecting, paths within the human experience.

9. Limitations

- The sample size was restricted to 200 participants from a specific setting, which may not accurately reflect the broader population.
- The reliance on self-report instruments introduces the possibility of response bias or social desirability effects.
- The study did not account for external moderating variables that might influence the Impact of Trauma-Level of Compassion Fatigue dynamic.
- The cross-sectional nature of the design prevents any conclusions regarding causality or long-term trends.

10. Recommendations

- Implementing longitudinal designs would help researchers understand how these variables interact over extended periods.
- Exploring additional psychological or environmental factors could provide a more nuanced understanding of why these constructs function independently.
- Using a mix of qualitative interviews and quantitative measures could improve data accuracy and reduce the limitations inherent in self-reporting.

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