

Relationship between Secondary Traumatic Stress and Social Support among Healthcare Personnel in Private Hospitals in Juja Sub-County, Kiambu County Kenya

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ABSTRACT

Healthcare professionals frequently encounter emotionally demanding situations that can lead to secondary traumatic stress (STS), also known as compassion fatigue. This study aimed to investigate the relationship between STS and social support among healthcare personnel in private hospitals in Juja Sub-County, Kenya. Guided by two objectives, the research assessed the levels of STS and explored the correlation between STS and social support. The study was anchored in Figley's Transactional Model of Stress and Cohen and Wills' Social Support Theory. A correlational survey design was employed, utilizing the Secondary Traumatic Stress Scale (STSS) and the Multidimensional Scale of Perceived Social Support (MSPSS) for data collection from a sample of 72 healthcare personnel through a census method approach. The findings indicated that the mean STS score was 36.81, with a standard deviation of 12.202, suggesting a moderate level of STS among the participants. However, Pearson's correlation analyses revealed a very weak negative correlation between STS and SS ($r = -0.130$, $p = 0.276$). Despite limitations, including restricted participation from private hospitals and potential underrepresentation of the sample, this study represents a pioneering effort in Kenya, specifically in Juja, to explore the intersection of STS and social support among healthcare workers in private hospitals. The findings contribute to the understanding of STS within this population and highlight the need for tailored interventions that address the unique challenges faced by healthcare personnel in private hospitals.

Keywords: Secondary traumatic stress, social support, healthcare personnel, private hospitals

INTRODUCTION

Healthcare personnel play a vital role in modern healthcare, providing essential support to patients across various medical settings. However, their work often exposes them to traumatic incidents indirectly, such as accidents and assaults experienced by patients. Research indicates that this exposure increases healthcare professionals' vulnerability to secondary traumatic stress (STS), a condition linked to indirect trauma (Mannings-Jones et al., 2016; Ogińska-Bulik et al., 2021).

STS refers to the emotional and psychological reactions experienced by individuals indirectly exposed to trauma (Hyman, 2004). Symptoms can include intrusive thoughts, emotional numbing, hypervigilance, and anxiety, often seen in frontline professionals like nurses and therapists who work closely with trauma survivors. Măirean and Turliuc (2013) emphasize that healthcare professionals may experience the psychological repercussions of trauma through their interactions with victims, affecting their perceptions and overall well-being. Additionally, factors such as gender, age, marital status, and years of experience contribute to variations in STS prevalence among healthcare workers (Yaakubova et al., 2020). Despite societal expectations of resilience, healthcare professionals may feel pressured to conceal their vulnerabilities, hindering their ability to seek support for STS (Smith et al., 2019). Brooks et al. (2020) found that this stigma around mental health issues often leads to isolation, further exacerbating the effects of STS.

Social support is recognized as a crucial resource for mitigating the impact of STS (Turner et al., 2011; Cohen & Syme, 1985). Studies have shown that strong social support networks enhance mental well-being and promote recovery from psychological distress (Galek et al., 2011; Harandi et al., 2017). Qayyum et al. (2023) highlight the importance of social support in reducing the relationship between STS and death anxiety among healthcare

professionals, demonstrating its potential to alleviate psychological burdens.

A global survey by Marzetti et al. (2020) involving 185 healthcare workers from 45 countries found that 41.3% exhibited moderate to severe symptoms of STS, with notable differences observed between demographics. For instance, female healthcare workers scored significantly higher than males on the STS Intrusion subscale ($p = .013$) and emotional exhaustion ($p = .007$). Similarly, Omri et al. (2022) assessed compassion fatigue among 274 frontline healthcare professionals in Tunisia during the COVID-19 pandemic, revealing that 79.6% experienced moderate STS. In another study by Kabunge et al. (2021) in Uganda, 49.11% of 395 nurses reported high levels of compassion fatigue, influenced by workplace bullying and lack of organizational support. Chinaboo (2022) noted a prevalence of STS among 183 nurses in South Africa, where 33.5% reported moderate to high levels of STS. Locally, Mulwa (2022) found an alarming 90% prevalence of compassion fatigue among nurses caring for critically ill patients in Nairobi, primarily due to emotional support responsibilities and inadequate support from colleagues and family.

A critical aspect of understanding secondary traumatic stress (STS) is its relationship with coping strategies, particularly social support (Mannings-Jones et al., 2016). Social support, encompassing emotional, instrumental, and informational assistance from peers, colleagues, and family members, is vital for healthcare personnel coping with the stressors of their work. In the context of the COVID-19 pandemic, Zhang et al. (2022) assessed the psychological distress experienced by healthcare workers (HCWs) in Changzhou, China. They discovered that when social support was high, the negative impact of perceived stress on psychological distress was significantly mitigated. Similarly, Moosavian et al. (2019) identified a substantial negative correlation between perceived social support and STS among 220 nurses in Iran, indicating that those with stronger social networks experienced lower levels of STS.

A study by Guroweic et al. (2022) highlighted the interplay between social support and secondary posttraumatic growth (SPTG) among 408 healthcare providers in Poland, revealing that robust support networks contributed positively to resilience and psychological growth amid trauma exposure. Hamama et al. (2019) further emphasized the mediating role of STS between perceived social support (PSS) and burnout in pediatric nurses and physicians, with higher PSS linked to lower STS levels.

Moreover, Lombard et al. (2022) examined post-traumatic stress symptoms (PTSS) among anesthetists during the COVID-19 pandemic, finding that inadequate social support significantly increased the likelihood of developing PTSD. This aligns with findings from Yehene et al. (2024) and Dawood et al. (2022), which demonstrated an inverse correlation between perceived organizational support and STS, indicating that improved perceptions of support can alleviate STS levels.

The existing literature presents a notable gap concerning the relationship between STS and social support among healthcare personnel in private hospitals, particularly in Juja Sub-County, Kenya. Currently, there is a dearth of research specifically addressing this crucial correlation in such settings. Despite the acknowledged significance of social support in buffering the impact of STS, studies focusing on this relationship among healthcare professionals within private hospital contexts, particularly in Juja, are notably absent. Therefore, this research sought to bridge this gap by investigating the nuanced dynamics between STS and social support among healthcare personnel in private hospitals in Juja Sub-County, Kenya.

This study is grounded in two prominent theoretical frameworks: Figley's Transactional Model of Stress and Cohen and Wills' Social Support Theory. In his seminal work, *Compassion Fatigue: Coping with Secondary Traumatic Stress Disorder in Those Who Treat the Traumatized*, Figley (1995) introduces his Transactional Model of Stress, which posits that trauma exposure—whether directly experienced or indirectly witnessed—triggers a cognitive appraisal process that shapes subsequent emotional and physiological reactions. This cognitive evaluation is central to understanding how healthcare workers assess the significance of traumatic situations and, consequently, their stress responses. Individuals may interpret traumatic incidents differently, leading to adaptive or maladaptive coping strategies based on their perceived competence and capability to manage the trauma (Figley, 1995). Within the context of STS, Figley's model elucidates how cognitive evaluations of trauma influence the development and presentation of STS symptoms among healthcare workers.

Complementing Figley's model is Lazarus and Folkman's influential Transactional Model of Stress (1984),

which emphasizes the dynamic interaction between individuals and their environment. Their model highlights two key appraisal processes: primary appraisal, which evaluates the significance of stressors, and secondary appraisal, which assesses coping resources. While both models acknowledge the importance of cognitive evaluation, Figley's approach specifically addresses the unique stresses encountered by professionals working with trauma survivors.

However, Figley's model has limitations, particularly in recognizing the potential benefits healthcare personnel may gain from their interactions with patients and how these therapeutic relationships could mitigate compassion fatigue (Sabo, 2011). To address this gap, Cohen and Wills' Social Support Theory (1985) is integrated into this study. Their theory underscores the significance of social support in buffering the effects of stress on mental health. Cohen and Wills identify various forms of social support, including emotional, instrumental, informational, and appraisal support, and propose two models to clarify social support's role in stress processes: the stress-buffering model and the main effect model. The stress-buffering hypothesis posits that social support can alleviate the negative effects of stress, while the main effect model suggests that social support positively influences mental health outcomes, regardless of stress levels (Uchino, 2004).

In this study, Figley's Transactional Model of Stress and Cohen and Wills' Social Support Theory complement each other by providing a comprehensive understanding of the dynamics of secondary traumatic stress (STS) and its mitigation among healthcare professionals. Figley's model elucidates the cognitive appraisal processes healthcare workers undergo when exposed to trauma, while Cohen and Wills' theory highlights the critical role of social support in alleviating stress responses. By integrating both theories, this study aims to provide a holistic perspective that acknowledges the presence and relationship between secondary traumatic stress and social support among healthcare personnel.

METHODOLOGY

The study adopted a positivist epistemological framework, emphasizing objective facts and observable relationships while minimizing researcher bias (Harkiolakis, 2017). This methodology employed a hypothetico-deductive approach to examine the relationship between secondary traumatic stress (STS) and social support among healthcare personnel. A quantitative research design was selected due to its suitability for investigating correlations between variables.

Conducted in Juja Sub-County, Kiambu County, Kenya, the study targeted 103 healthcare personnel across eight private hospitals: Kalimoni Mission Hospital, JKUAT Hospital, Equity Afya, St. John's Hospital, Wankam Medical Centre, Juja Modern Hospital, Romkan Medical Centre, and MTM Hospital. While the census approach aimed to collect data from all 103 healthcare personnel, only 72 participants ultimately took part in the study. A multi-stage sampling technique was applied, with cluster sampling based on geographical proximity to facilitate systematic data collection.

Data were gathered using standardized instruments, including the Secondary Traumatic Stress Scale (STSS) developed by Bride et al. (2004) and the Multidimensional Scale of Perceived Social Support (MSPSS) by Zimet et al. (1988). The STSS includes 20 items assessing STS symptoms, while the MSPSS comprises 12 items measuring perceived social support. Both scales demonstrate high validity and reliability, ensuring accurate psychometric measurements.

Prior to data collection, necessary approvals were obtained from the Tangaza University Research Ethics Committee (TUREC) and NACOSTI. The researcher scheduled appointments with hospital administrators for study implementation, conducting informative meetings to explain the study's objectives and obtain informed consent from participants. Categorical coding was employed to maintain anonymity and facilitate data analysis across various healthcare personnel categories.

RESULTS

Socio-Demographic Characteristics of Participants

This section outlines the demographic characteristics of the study participants, including age, gender, years of

experience, marital status, and type of healthcare job. The results are detailed in Table 1.

Table 1: Demographic Characteristics of Participants

	Frequency	Percentage
Age		
20 - 30 years	42	58.3
31 - 40 years	23	31.9
41 - 50 years	4	5.6
51 years and above	3	4.2
Gender		
Male	28	38.9
Female	44	61.1
Years of Experience		
6 months - 5 years	46	63.9
6 years to 15 years	20	27.8
16 years and above	6	8.3
Marital Status		
Married	32	44.4
Not Married	37	51.4
Separated/divorced	3	4.2
Type of healthcare job		
Clinician	19	26.4
Nurse	30	41.7
Lab Tech	23	31.9

As seen in Table 1, the analyzed data reveals a diverse demographic profile of healthcare personnel. Most respondents are relatively young, with 42 (58.3%) respondents aged between 20 and 30 years and only a small percentage over 40 years. The gender distribution shows a higher proportion of 44 females (61.1%) compared to 28 males (38.9%). In terms of professional experience, a significant majority of 46 (63.9%) have between 6 months and 5 years of experience, while a smaller proportion of 20 (27.8%) respondents have more extensive experience, with 6 (8.3%) participants having 16 years or more. Regarding marital status, 37 (51.4%) of the respondents are not married, 32 (44.4%) are married, and 3 (4.2%) are separated or divorced. The type of healthcare job reveals that 30 (41.7%) of the sample are nurses, 23 (31.9%) are lab technicians, and 19 (26.4%) are clinicians. This demographic distribution provides a comprehensive view of the sample population, highlighting a younger, predominantly female group with varying levels of experience and job roles.

Levels of Secondary Traumatic Stress Among Participants

Data was collected and analyzed to assess the levels of Secondary Traumatic Stress (STS) among the study's population. Table 2 presents the distribution of STS scores among participants, categorizing them into different levels of STS severity.

Table 2: Levels of Secondary Traumatic Stress

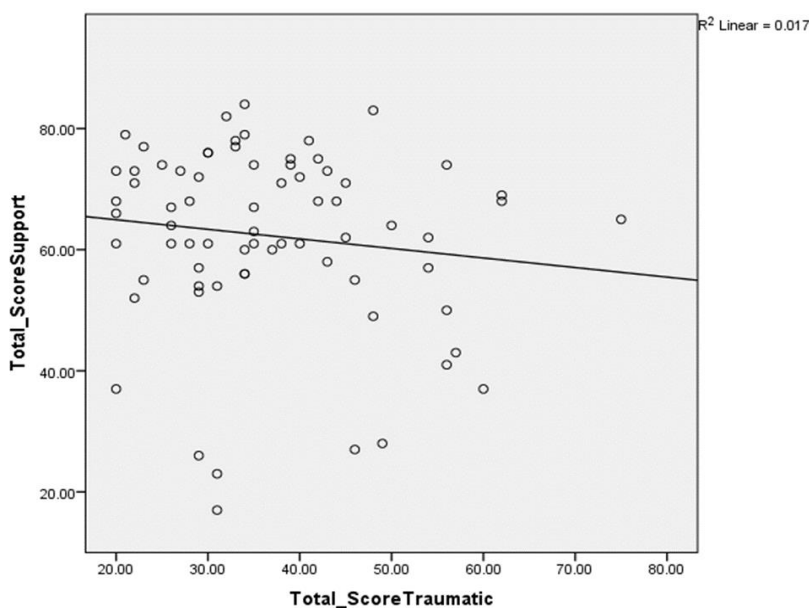
Levels of STS	Range	Frequency	Percentage (%)
Little or No STS	20-27	12	16.7
Mild STS	28-37	17	23.6
Moderate STS	38-43	17	23.6
High STS	44-48	12	16.7
Severe STS	49-105	14	19.4
Total	20 - 105	72	100.0

As seen in Table 2, the distribution of secondary traumatic stress (STS) scores among healthcare personnel reveals a varied range of stress levels. Scores below 28, indicative of "little or no STS," were recorded for 12 (16.7%) participants, suggesting that a portion of the workforce experiences minimal secondary traumatic stress. In contrast, 17 (23.6%) respondents reported "mild STS" with scores between 28 and 37, while an equal 17 (23.6%) respondents fell into the "moderate secondary traumatic stress" category, reflecting moderate levels of stress. Notably, 12 (16.7%) participants experienced "high secondary traumatic stress," with scores ranging from 44 to 48, highlighting a significant impact on these individuals. Lastly, 14 (19.4%) of the participants exhibited "severe secondary traumatic stress," with scores exceeding 49, indicating severe stress levels that may require urgent intervention. This distribution underscores the varying degrees of STS experienced among healthcare workers.

Relationship Between Secondary Traumatic Stress and Social Support

The study aimed to explore the relationship between secondary traumatic stress and social support among healthcare personnel. To test this relationship, Pearson's correlation and regression analyses were employed. The scatterplot presented in Figure 1 visualizes the relationship between secondary traumatic stress and social support among the healthcare population for this study.

Figure 1: Scattered Plot of the Relationship Between STS and Social Support



The scatterplot in Figure 1 displays data points where each point represents an individual case. The x-axis represents the secondary traumatic stress total scores ranging approximately from 20 to 80, indicating varying levels of traumatic experiences. The y-axis represents the social support total scores, and it ranges from 10 to 80.

representing different levels of perceived social support. There is a wide distribution of points across the plot, suggesting variability in both the levels of STS experienced and the amount of social support received. A majority of the data points cluster around the middle to upper levels of support (40-80), even as secondary traumatic experiences vary. The plotted line shows a very slight negative slope, indicating a weak and non-significant linear relationship between STS and social support. This suggests that higher STS scores do not consistently correlate with higher or lower social support scores in a straightforward manner. Further statistical analysis would be presented to determine the strength and significance of any correlations between these variables.

In order to further investigate the relationship between the total scores of secondary traumatic stress (STS) and social support (SS) among healthcare personnel, Pearson's correlation coefficient will be employed to analyze the correlation between the total STS score and the total SS score. Table 3 presents the Pearson correlation coefficient results, providing insights into how these two variables are related based on the participants' responses.

Table 3: Pearson's Correlation Coefficient for the Relationship between STS and SS

		Secondary Traumatic Stress	Social Support
Secondary Traumatic Stress	Pearson Correlation	1	-.130
	Sig. (2-tailed)		.276
	N	72	72
Social Support	Pearson Correlation	-.13	1
	Sig. (2-tailed)	.276	
	N	72	72

Table 3 displays the Pearson correlation coefficients examining the relationship between secondary traumatic stress (STS) and social support (SS). The correlation coefficient between STS and SS is -0.130, with a p-value of 0.276. This indicates a very weak negative correlation between the two variables, suggesting that there is no statistically significant relationship between STS and SS in this sample. The p-value exceeds the conventional significance level of 0.05, reinforcing the lack of a significant correlation between the overall levels of secondary traumatic stress and social support.

DISCUSSION

Levels of Secondary Traumatic Stress Among Healthcare Personnel

This section discusses the findings from the first objective of this study, which aimed to assess the levels of Secondary Traumatic Stress (STS) among healthcare personnel working in private hospitals within Juja Sub-County, Kenya. The findings of this study revealed a significant presence of STS among healthcare personnel in Juja Sub-County, with varying levels of severity. The distribution of STS scores showed that 16.7% (n = 12) of participants experienced "little or no STS," 23.6% (n = 17) reported "mild STS," an equal 23.6% (n = 17) fell into the "moderate STS" category, 16.7% (n = 12) experienced "high STS," and 19.4% (n = 14) exhibited "severe STS" (see Table 6). The mean STS score of 36.81 (SD = 12.202) suggests that, on average, healthcare workers in this setting are experiencing moderate levels of STS, with a subset facing severe stress that could necessitate intervention.

When comparing the results of this study with findings from other regions, the levels of STS observed in this study align with global patterns among healthcare workers. For example, Marzetti et al. (2020) found that 41.3% of healthcare workers globally reported experiencing STS, with 47.5% of frontline workers and 67.1% of those exposed to patient mortality reporting significant levels of STS. Although the percentage of severe STS in Juja is slightly lower, the presence of severe STS in nearly 20% of participants highlights the critical need for targeted

mental health interventions in this population. Similarly, Omri et al. (2022) found that 79.6% of healthcare professionals in Tunisia during the COVID-19 pandemic reported moderate levels of STS, with less than 5% experiencing high STS. The findings in Juja reflect a similar trend, where a majority of healthcare workers report moderate to high levels of STS, reinforcing the global nature of this occupational hazard.

The study also explored the relationship between STS levels and various demographic factors, including age, gender, years of experience, marital status, and type of healthcare job. The results showed no significant association between STS levels and age ($\chi^2 (12) = 6.541, p = 0.886$), gender ($\chi^2 (4) = 4.705, p = 0.319$), years of experience ($\chi^2 (8) = 7.736, p = 0.460$), or marital status ($\chi^2 (8) = 6.068, p = 0.640$). However, the type of healthcare job was found to have a significant influence on STS levels ($\chi^2 (8) = 15.605, p = 0.048$), indicating that different roles within healthcare settings are associated with varying levels of secondary traumatic stress (see Table 7). These findings are consistent with those of Chinaboo (2022) who reported that while the majority of nurses in a psychiatric hospital in South Africa experienced little to mild STS, a significant portion (33.5%, $n = 61$) reported moderate to high STS levels. The significant association between job type and STS levels in this study reflects the specialized stressors associated with different healthcare roles. Specifically, roles that involve direct patient care, such as nursing, tend to have higher STS levels, which is consistent with findings from Mulwa (2022) in Kenya, where 90% of nurses caring for critically ill patients experienced high levels of compassion fatigue, a related concept to STS.

Figley's Transactional Model of Stress offers a robust framework for interpreting these findings. The model emphasizes the role of cognitive appraisal in determining stress responses, where individuals assess the relevance and impact of traumatic experiences, leading to either adaptive or maladaptive coping strategies. In the context of this study, the significant variation in STS levels among healthcare personnel can be understood through the lens of this model. For example, the significant impact of job type on STS levels suggests that healthcare workers in roles with high exposure to trauma, such as nurses and clinicians, may appraise these experiences as more threatening, leading to higher stress levels. This interpretation aligns with Figley's model, which posits that without sufficient coping resources or support, individuals are more vulnerable to the negative effects of secondary traumatic stress. The model also helps explain the lack of significant findings for other demographic factors such as age, gender, and marital status. Figley's framework suggests that these factors may not significantly alter the cognitive appraisal process or the availability of coping resources among healthcare workers in Juja, leading to a more uniform distribution of STS across these groups.

Relationship Between Secondary Traumatic Stress and Social Support

Another objective of this study was to explore the relationship between secondary traumatic stress and social support among healthcare personnel working in private hospitals in Juja Sub-County. The results from Pearson's correlation, regression analyses, and subscale correlations provided a comprehensive understanding of the interplay between these two variables within this specific context.

The analysis revealed a very weak negative correlation between STS and SS ($r = -0.130, p = 0.276$), indicating that as social support increases, secondary traumatic stress slightly decreases, but this relationship is not statistically significant. This finding suggests that in this sample of healthcare personnel, the level of perceived social support does not have a substantial impact on reducing secondary traumatic stress. This is further supported by the results of the simple linear regression analysis, where the regression model did not explain a significant amount of variance in STS based on SS scores ($F = 1.205, p = 0.276$). The unstandardized coefficient ($B = -0.107$) also indicated that for each unit increase in social support, STS would decrease by a small margin (0.107 units), but this reduction was not statistically significant.

The weak relationship between STS and SS found in this study, where Pearson's correlation coefficient was $r = -0.130$ ($p = 0.276$), contrasts with the findings of several other studies. For instance, Moosavian et al. (2019) reported a significant negative correlation between perceived social support and STS among nurses in Iran, with a correlation coefficient of $r = -0.57$ ($p < 0.01$). This suggests that higher levels of social support were strongly associated with lower levels of STS in their study. Specifically, nurses who perceived greater social support from friends, family, and colleagues experienced significantly lower levels of STS and stress. The stark difference in correlation strength between the study in Juja and the findings from Iran could be attributed to contextual factors

such as cultural differences, the structure of healthcare systems, and the unique stressors faced by healthcare personnel in different regions. The lack of a strong correlation in Juja might indicate that while social support exists, it may not be sufficiently robust or accessible to effectively mitigate the impacts of STS in this setting.

Similarly to the findings of this study, Shoji et al. (2014) found that elevated levels of social support were linked to a decrease in secondary traumatic growth among healthcare workers assisting trauma survivors, with a reported correlation of $r = -0.32$ ($p < 0.05$). Their findings indicated that while social support was present, its protective effects were not sufficient to counterbalance the high levels of STS experienced by the healthcare workers, which resulted in a reduction in secondary traumatic growth by approximately 32%. In the context of this study's findings, the weak negative correlation observed ($r = -0.130$) might reflect a similar dynamic where social support, although present, does not effectively buffer against the development of STS. This could suggest that the nature or quality of social support available to healthcare workers in Juja may not be as effective in mitigating STS as it is in other regions, possibly due to differences in the structure or availability of social support systems.

On the other hand, Zhang et al. (2022) reported that social support significantly moderated the relationship between perceived stress and psychological distress among healthcare workers during the COVID-19 pandemic in China. Specifically, when social support was high, the impact of stress on psychological distress was considerably reduced ($\beta = 0.24$, $p < 0.001$), whereas lower levels of social support intensified the negative effects of stress ($\beta = 0.34$, $p < 0.001$). The discrepancy between these findings and the current study's results may be due to differences in the healthcare context, the intensity of the stressors experienced, and the overall availability and quality of social support networks. The fact that no significant moderation effect was found in Juja could indicate that the type or level of social support available may not be sufficiently impactful in buffering against STS among healthcare personnel in this region.

CONCLUSION

The findings of this study indicate that healthcare personnel working in private hospitals in Juja Sub-County, Kenya, experience moderate to high levels of secondary traumatic stress (STS). A significant proportion of the respondents were categorized as having moderate, high, or severe STS, underscoring the urgent need for interventions aimed at addressing and mitigating STS among these healthcare workers. Regarding the second objective, which sought to examine the relationship between STS and social support, the study concludes that there is a weak and non-significant relationship between the two variables. With a correlation coefficient (r) of -0.130 and a p -value of 0.276 , the results suggest that, within this specific population, social support does not significantly buffer the effects of STS. This finding highlights the complexity of factors influencing STS among healthcare workers and suggests that additional research is needed to explore other potential mitigating factors beyond social support.

RECOMMENDATIONS

The findings indicated a moderate level of STS among the participants. This study recommends that healthcare personnel actively seek mental health support and participate in available stress management programs. Engaging in peer support groups, attending counseling sessions, and utilizing stress reduction techniques can help in managing the emotional toll of the work. The findings underscore the need for healthcare institutions to advocate for policy changes that prioritize the mental health of healthcare workers. This could involve lobbying for national guidelines on managing STS, mandating mental health support as part of employment benefits, and ensuring that policies are in place to protect healthcare workers from the psychological risks associated with their profession. Future researchers are encouraged to conduct qualitative studies that explore the personal experiences of healthcare workers regarding STS and social support. Such qualitative insights could offer deeper understanding of the emotional and psychological challenges faced by healthcare personnel and the role of support systems in mitigating these effects.

Ethical Approval

This research received ethical clearance from the Tangaza University Ethical Review Committee and was duly

approved by the National Commission for Science, Technology, and Innovation (NACOSTI). All procedures adhered to the ethical guidelines set forth by these bodies to ensure the protection and confidentiality of participants throughout the study.

Conflict of Interest

The researcher declares no conflict of interest in the conduct or publication of this study. There are no personal, financial, or professional relationships that could have influenced the research process or its outcomes.

Data Availability

Data for this study were collected using standardized research instruments and analyzed using SPSS version 25. The dataset supporting the findings is readily available and can be provided by the researcher upon reasonable request, in compliance with ethical guidelines and data protection protocols.

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