Middle East Journal of Scientific Publishing
Vol. (8) Issue (6)
Edition 30th
2025(1 - 32)

The Relationship between Occupational Stress and Secondary Traumatic Stress among Oncology Nurses in Palestine

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Published on: 6 December2025

Abstract

Objective: This study aimed to examine the relationship between occupational stress and secondary traumatic stress among oncology nurses in Palestine, and to identify key occupational and personal predictors of STS.

Methods: A descriptive cross-sectional correlational design was used. The sample consisted of N = 293 oncology nurses working in public hospitals, private hospitals, and specialized oncology centers in Palestine. Data were collected using a self-administered questionnaire that included socio-demographic and work-related characteristics, a validated occupational stress scale, and a standardized STS scale. Descriptive statistics, Pearson's correlation coefficients, and multiple linear regression analyses were performed.

Results: Overall, nurses reported moderate levels of occupational stress and secondary traumatic stress. Occupational stress showed a significant, positive association with STS, indicating that higher levels of work-related stress were linked to higher levels of secondary traumatic symptoms. Longer weekly working hours and more frequent exposure to traumatic clinical situations were associated with increased STS scores, whereas perceived social and organizational support were related to lower STS levels.

Conclusion: The findings highlight the psychological burden faced by oncology nurses in Palestine and underscore the need for organizational interventions aimed at reducing work-related stressors, optimizing staffing and workload, and promoting supportive work environments and mental health

services. Targeted programs to enhance coping strategies and social support may help mitigate secondary traumatic stress and improve nurses' well-being and quality of care.

Keywords: Oncology nurses; occupational stress; secondary traumatic stress; Palestine; mental health; nursing workforce.

*** Introduction**

Oncology nursing is widely recognized as one of the most psychologically demanding areas of clinical practice. Caring for patients with cancer requires nurses to manage complex treatment regimens, frequent life-threatening complications, and repeated exposure to suffering, grief, and death over prolonged periods. These cumulative demands expose oncology nurses to high levels of occupational stress, often exceeding the resources available to them at the personal and organizational levels. Global nursing bodies have warned that chronic work stress, intensified by crises such as the COVID-19 pandemic and ongoing health system pressures, has led to rising levels of mental distress, burnout, and trauma-related symptoms among nurses worldwide.

Within this broader context, secondary traumatic stress (STS) has emerged as a key construct for understanding the psychological "cost of caring" for traumatized patients. STS refers to post-traumatic stress–like symptoms (e.g., intrusive images, avoidance, hyperarousal) that arise from indirect exposure to others' traumatic experiences rather than from direct personal trauma. A systematic review by Beck (2011) documented the presence of STS across multiple nursing specialties, including emergency, pediatric, hospice, and oncology nursing, and highlighted both personal and organizational risk factors for its development. In oncology settings specifically, Quinal et al. (2009) reported clinically meaningful levels of STS among oncology staff, while more recent work has shown that oncology nurses frequently report high STS alongside compassion fatigue and emotional exhaustion.

Occupational stress is a central antecedent of STS in nursing. It can be conceptualized as a chronic imbalance between job demands—such as workload, exposure to distressing events, role conflict, and time pressure—and the internal and external resources available to cope with these demands. Studies in oncology and palliative care have shown that nurses who care for patients with advanced cancer report substantial occupational stress related to continuous confrontation with

pain, end-of-life decisions, and family distress, often in contexts of heavy workload and limited staffing. Evidence from multiple countries indicates that higher levels of occupational stress and burnout are associated with greater STS, poorer self-rated health, lower job satisfaction, and stronger intentions to leave the profession, raising concerns about workforce sustainability and patient safety. In oncology nurses, recent research has further demonstrated that elevated STS is linked to reduced vicarious post-traumatic growth and diminished professional quality of life, underscoring its impact on both well-being and professional functioning.

At the same time, a growing body of literature suggests that STS among nurses is not solely determined by exposure to patients' trauma, but is shaped by modifiable work-related and psychosocial factors. Longer working hours, night shifts, and frequent exposure to critical or traumatic clinical situations have been identified as consistent predictors of higher STS levels. Conversely, perceived social support, organizational support, and a supportive team climate appear to buffer the impact of occupational stress on STS, while also promoting work engagement and post-traumatic growth. These findings point to the importance of examining both risk and protective factors when investigating the relationship between occupational stress and STS in specific clinical and sociocultural contexts.

The Palestinian context presents a particularly critical setting in which to study these phenomena. The health system in Palestine operates under chronic political instability, recurrent episodes of violence, resource shortages, and infrastructural constraints, all of which intensify occupational stressors for healthcare workers. Recent studies among Palestinian health professionals have revealed high levels of burnout, depression, anxiety, and stress, closely linked to conflict-related adversities and limited systemic support. Emergency nurses in Palestine have been shown to experience high levels of STS, with burnout and low organizational support emerging as significant predictors of more severe symptoms. Focusing specifically on oncology services, Khattab and Aljeesh (2022) found that oncology nurses at the Turkish-Palestinian Friendship Hospital in Gaza reported moderate levels of burnout and STS within the broader construct of professional

quality of life, reflecting the psychological toll of caring for a growing population of patients with cancer in an already fragile health system.

Despite this emerging evidence, there remains a notable gap in the literature regarding the relationship between occupational stress and secondary traumatic stress among oncology nurses in Palestine. Existing Palestinian studies have tended to focus either on emergency nurses, on general burnout among mixed groups of health professionals, or on broad indicators of professional quality of life, without explicitly examining how specific occupational stressors—such as workload, weekly working hours, and frequency of exposure to traumatic events—relate to STS in oncology settings, nor how personal and organizational resources (e.g., social and organizational support) may mitigate this relationship. Addressing this gap is essential, given that oncology nurses constitute a core component of the cancer care workforce, and their psychological well-being directly influences the continuity, safety, and quality of care provided to patients and families.

Accordingly, the present study focuses on oncology nurses working in public hospitals, private hospitals, and specialized oncology centers across Palestine. Its primary aim is to examine the relationship between occupational stress and secondary traumatic stress in this population and to identify key occupational and personal predictors of STS, including weekly working hours, frequency of exposure to traumatic clinical situations, and perceived social and organizational support. By generating context-specific evidence from a conflict-affected, resource-constrained setting, this study seeks to provide an empirical basis for designing organizational and policy-level interventions that reduce work-related stressors, strengthen support systems, and promote mental health among oncology nurses. In doing so, it responds to global calls to prioritize nurses' psychological well-being as a prerequisite for resilient health systems and high-quality cancer care.

*** Research Problem**

Oncology nurses are continuously exposed to patients' suffering, uncertainty, complex treatment regimens, and end-of-life care, which places them at heightened risk of developing work-related psychological problems, including secondary traumatic stress (STS) as a recognized occupational hazard in nursing (Beck, 2011; Quinal et al., 2009). STS refers to post-traumatic

stress–like symptoms that arise from indirect exposure to others' trauma through providing professional care, rather than from direct personal exposure to a traumatic event (Figley, 1995). Evidence from oncology and other high-risk clinical settings shows that staff frequently report clinically meaningful levels of STS, reflecting the emotional cost of caring and the cumulative burden of witnessing repeated crises and deaths (Beck, 2011; Quinal et al., 2009).

From the perspective of stress and coping theory, occupational stress emerges when job demands are appraised as exceeding the individual's coping resources and threatening their well-being (Lazarus & Folkman, 1984). In nursing, persistent workplace stressors such as heavy workload, time pressure, role conflict, leadership and management issues, and the emotional cost of caring have been identified as core sources of strain (McVicar, 2003). Empirical studies suggest that higher levels of occupational stress are associated with adverse outcomes, including STS, burnout, poorer mental health, and reduced quality of care, making occupational stress a central antecedent of trauma-related symptoms among nurses (Beck, 2011; McVicar, 2003).

In Palestine, the health-care system operates under chronic political instability, resource shortages, and recurrent emergencies, which intensify work demands and emotional strain for health professionals. Recent research among Palestinian emergency nurses has documented high levels of STS and has identified personal and organizational predictors of these symptoms in a context of ongoing crisis (Salameh et al., 2023). In oncology services, nurses working at the Turkish–Palestinian Friendship Hospital in Gaza have been shown to experience moderate levels of burnout and secondary traumatic stress as part of their professional quality of life (Khattab & Aljeesh, 2022). However, existing Palestinian studies have tended to focus on burnout, general psychological stress, or STS in emergency departments, with limited attention to the specific relationship between occupational stress and secondary traumatic stress among oncology nurses, and to the predictive role of concrete occupational and psychosocial factors such as weekly working hours, frequency of exposure to traumatic situations, and perceived social and organizational support (Khattab & Aljeesh, 2022; Salameh et al., 2023).

Accordingly, there is a clear research gap regarding how occupational stress is linked to secondary traumatic stress among oncology nurses in Palestine, and which work-related and personal variables most strongly predict STS levels in this high-risk group. The present study addresses this gap by examining the relationship between occupational stress and secondary traumatic stress among oncology nurses working in public hospitals, private hospitals, and specialized oncology centers in Palestine, and by identifying key occupational (e.g., working hours, frequency of exposure to traumatic clinical situations) and personal/organizational factors (e.g., perceived social support and perceived organizational support) that contribute to STS. In doing so, the study aims to generate context-specific evidence that can inform organizational interventions and policies designed to protect nurses' mental health and enhance the quality of cancer care.

The overarching aim of this study is to examine the relationship between occupational stress and secondary traumatic stress among oncology nurses in Palestine and to identify selected occupational and personal predictors of STS.

In light of this overarching aim, the central research problem of the study can be expressed in the following question: -

What is the relationship between occupational stress and secondary traumatic stress among oncology nurses in Palestine, and which occupational and personal factors significantly predict their levels of STS?

*** Research Questions**

the study seeks to answer the following research questions: -

1- What is the level of occupational stress among oncology nurses in Palestine?

2- Is there a statistically significant relationship between occupational stress and secondary traumatic stress among oncology nurses in Palestine?

3- Are there statistically significant differences in levels of secondary traumatic stress among oncology nurses attributable to gender and years of experience?

*** Study Hypotheses**

The present study was guided by the following hypotheses: -

1- H1: Oncology nurses in Palestine will report moderate to high levels of occupational stress.

2- H2: Occupational stress will be positively and significantly associated with secondary traumatic stress (STS) among oncology nurses;

that is, higher levels of occupational stress will be related to higher levels of STS.

3- H3a: There will be statistically significant differences in STS levels between male and female oncology nurses.

4- H3b: There will be statistically significant differences in STS levels among oncology nurses according to their years of professional experience.

*** Theoretical Objectives**

This study theoretically aims to: -

1- Identify the levels of occupational stress and secondary traumatic stress among oncology nurses in Palestine.

2- Examine the nature of the relationship between occupational stress and secondary traumatic stress among oncology nurses.

3- Investigate the contribution of selected occupational and personal variables (such as weekly working hours, frequency of exposure to traumatic situations, perceived social support, and perceived organizational support) to predicting levels of secondary traumatic stress.

4- Enrich the Arabic and international theoretical literature on the occupational mental health of oncology nurses in contexts affected by protracted conflict and structural stressors, by proposing a conceptual framework that links occupational stress to secondary traumatic stress in this setting.

*** Applied Objectives**

This study practically aims to:-

1- Provide an empirical database on the levels of occupational stress and secondary traumatic stress among oncology nurses in Palestine, which can inform decision-makers in ministries and health-care institutions.

2- Offer practical indicators for nursing managers and administrators in hospitals and specialized oncology centers to guide the development of policies and procedures aimed at reducing occupational stressors.

3- Propose broad outlines for intervention programs (training and psychosocial support) designed to enhance coping strategies, social support, and organizational support among oncology nurses, thereby helping to reduce secondary traumatic stress and improve their psychological well-being and professional performance.

4- Orient researchers and practitioners towards future research areas related to secondary traumatic stress, burnout, and professional quality of life among oncology staff in Palestine and similar contexts.

*** Theoretical Significance**

The theoretical significance of this study lies in: -

1- Addressing a research gap related to the scarcity of studies that have explicitly examined the relationship between occupational stress and secondary traumatic stress among oncology nurses in Palestine, given that previous work has largely focused on burnout or general psychological stress.

2- Providing an explanatory model that links a set of occupational and personal variables (such as workload, exposure to traumatic events, perceived social support, and perceived organizational support) with levels of secondary traumatic stress, thereby enriching theoretical models in the field of occupational mental health and nursing.

3- Contributing to the Arabic body of knowledge on secondary traumatic stress, which remains limited compared with the international literature, particularly in conflict-affected and resource-constrained health-care settings.

*** Applied Significance**

The applied significance of this study can be summarized as follows: -

1- Enabling decision-makers in the Ministry of Health and the private health sector to recognize the levels of occupational stress and secondary traumatic stress among oncology nurses, as well as the associated risk and protective factors, and to use this evidence in planning and policy-making.

2- Assisting hospital and oncology-center administrations in designing targeted psychosocial and professional support programs for oncology nurses who are at higher risk of developing secondary traumatic stress.

3- Providing practical evidence to help reorganize workload (for example, by revising weekly working hours and nurse–patient ratios) in ways that may reduce occupational stress and limit its negative psychological consequences for nurses.

4- Contributing to the improvement of the quality of care provided to patients with cancer by emphasizing the importance of protecting and promoting the psychological well-being of oncology nurses as a key prerequisite for safe, continuous, and high-quality care.

*** Definition of Key Terms**

1- Occupational Stress

1- Theoretical definition : Lazarus and Folkman (1984) define psychological stress as a particular relationship between the person and the environment that is appraised as

taxing or exceeding the person's resources and endangering their well-being. Building on this framework, occupational stress in nursing is understood as a state that arises when job-related demands (such as workload, role conflict, time pressure, and emotional demands) interact with the nurse in ways that produce psychological and/or physiological strain (McVicar, 2003). McVicar (2003) highlights workload, leadership and management style, professional conflict, and the emotional cost of caring as enduring and prominent sources of occupational stress in nursing.

2- Operational definition in this study : In the present study, occupational stress refers to the level of job-related stress reported by oncology nurses, as indicated by their total score on the validated occupational stress scale used in the self-administered questionnaire. Higher scores reflect higher levels of perceived occupational stress.

2. Secondary Traumatic Stress (STS)

3- Theoretical definition : Figley (1995) describes secondary traumatic stress as the natural consequent behaviors and emotions resulting from knowing about a traumatizing event experienced by another person and the stress resulting from helping or wanting to help a traumatized or suffering individual. STS is typically characterized by symptoms similar to post-traumatic stress disorder (PTSD), including intrusive thoughts, avoidance, and hyperarousal, following indirect exposure to trauma through one's professional role (Beck, 2011). Beck's (2011) systematic review concluded that STS is a common occupational hazard across multiple nursing specialties, including emergency, pediatric, hospice, and oncology nursing. In oncology staff specifically, STS has been defined as resulting from exposure to traumatized or suffering patients and from providing care to them over time (Quinal et al., 2009).

4- Operational definition in this study: In this study, secondary traumatic stress refers to the severity of STS symptoms reported by oncology nurses, as measured by their total score on the standardized secondary traumatic stress scale employed in the questionnaire. Higher scores indicate higher levels of secondary traumatic stress.

3- Oncology Nurses

1- Theoretical definition : Oncology nurses are registered nurses who provide specialized care to patients with cancer across the disease continuum, including administering chemotherapy and other

antineoplastic treatments, managing symptoms and side effects, providing psychosocial and palliative support, and participating in end-of-life care. Owing to their repeated exposure to patients' suffering, complex clinical situations, and frequent deaths, oncology nurses are considered particularly vulnerable to secondary traumatic stress and related emotional strain (Beck, 2011; Quinal et al., 2009).

2- Operational definition in this study: In the present study, oncology nurses are defined as all registered nurses (male and female) working in oncology wards, units, or specialized oncology centers in the Palestinian hospitals included in the sampling frame, who meet the inclusion criteria set by the researcher (e.g., a minimum period of employment in oncology nursing).

4- Perceived Social Support

3- Theoretical definition: Cohen and Wills (1985) conceptualize social support as the perception or experience that one is loved, valued, and part of a network of mutual obligations, and propose that social support can buffer the negative effects of stressful events on health and well-being. The Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet et al. (1988) operationalizes perceived social support as the subjective sense of support received from family, friends, and significant others.

4- Operational definition in this study: In this study, perceived social support refers to oncology nurses' subjective perception of being supported by family, friends, and significant others, as indicated by their total score on the perceived social support scale included in the questionnaire. Higher scores represent higher levels of perceived social support.

5- Perceived Organizational Support (POS)

1- Theoretical definition: Perceived organizational support is defined by Eisenberger et al. (1986) as the extent to which employees believe that their organization values their contributions and cares about their well-being. Organizational support theory posits that when employees perceive high levels of organizational support, they feel an obligation to reciprocate through increased commitment and performance, whereas low perceived support is associated with greater strain and reduced organizational commitment (Eisenberger et al., 1986).

2- Operational definition in this study: In the present study, perceived organizational support refers to

oncology nurses' belief that their employing hospital or oncology center values their work and is concerned about their welfare, as reflected in their total score on the perceived organizational support scale administered in the questionnaire. Higher scores indicate higher levels of perceived organizational support.

*** Theoretical framework**

The present study is grounded in contemporary stress and occupational health theories that explain how demanding work environments translate into psychological strain and secondary traumatic stress (STS) among helping professionals. At the core is Lazarus and Folkman's transactional model of stress and coping, which conceptualizes stress as a dynamic process arising from the individual's appraisal of environmental demands and their available coping resources (Lazarus & Folkman, 1984). When oncology nurses perceive cancer care demands—such as repeated exposure to suffering, high workload, and end-of-life decision-making—as exceeding their coping capacities, they are likely to experience heightened occupational stress, which in turn can manifest as intrusive images, emotional numbing, and hyperarousal characteristic of STS.

Conservation of Resources (COR) theory further clarifies why chronic exposure to demanding work environments is so harmful. Hobfoll (1989) argues that individuals strive to obtain, retain, and protect valued resources (e.g. time, energy, emotional stability, social support). Stress occurs when resources are threatened, lost, or insufficient to meet ongoing demands. In oncology settings, long shifts, understaffing, and frequent exposure to traumatic clinical events can generate continuous resource loss, while limited social and organizational support may constrain resource gain. Within this framework, occupational stress reflects the perceived imbalance between high job demands and eroding personal and contextual resources, and STS can be understood as a severe psychological consequence of prolonged resource depletion.(PubMed)

The Job Demands–Resources (JD-R) model offers a complementary lens at the organizational level. Demerouti and colleagues (2001) and later Bakker and Demerouti (2007) distinguish between job demands (physical, emotional, and cognitive efforts required by the job) and job resources

(e.g. social support, supervisory support, autonomy, opportunities for professional development). High job demands foster exhaustion and strain, whereas adequate resources buffer these effects and foster engagement. In oncology nursing, intensive emotional labour, high patient acuity, and frequent confrontation with death and suffering represent substantial job demands, while social and organizational support—such as supportive leadership, peer support, and access to psychological services—function as key resources. The JD-R model predicts that when demands are high and resources insufficient, caregivers are at increased risk of burnout and compassion fatigue, including STS.(Wilmar Schaufeli)

The construct of STS itself is most often discussed within the compassion fatigue and Professional Quality of Life (ProQOL) framework. Figley (1995) described compassion fatigue as the "cost of caring" for those who are suffering, comprising two interrelated components: burnout and STS. Building on this work, Stamm (2010) developed the ProQOL model, which distinguishes compassion satisfaction (the positive feelings derived from helping others) from compassion fatigue, which includes burnout and STS. In this model, STS refers to negative feelings and symptoms (e.g. fear, intrusive thoughts, avoidance, hyperarousal) that arise from indirect exposure to others' trauma in the workplace (Stamm, 2010). ProQOL research shows that high job demands and low resources are associated with higher STS and burnout, whereas compassion satisfaction and supportive organizational climates act as protective factors.

Integrating these perspectives, the present study conceptualizes occupational stress as a product of high job demands appraised as overwhelming available coping resources (Lazarus & Folkman, 1984; Hobfoll, 1989). Job characteristics such as longer weekly working hours and frequent exposure to traumatic events are treated as key demand indicators, while perceived social and organizational support are viewed as core resources within both COR and JD-R frameworks (Demerouti et al., 2001; Bakker & Demerouti, 2007). STS is considered a central negative outcome within the ProQOL/compassion fatigue model (Figley, 1995; Stamm, 2010). Guided by these theories, the study hypothesizes that higher occupational stress will be associated with higher STS among oncology nurses, and that greater social and organizational

support will be linked to lower STS, even in a high-risk context such as oncology nursing in Palestine.

*** Previous empirical studies**

1- Secondary traumatic stress and occupational stress in nursing

Over the past two decades, a growing body of research has documented the burden of STS among nurses across different specialties and countries. Beck's (2011) seminal systematic review of STS in nurses concluded that the presence of STS symptoms was reported in all reviewed studies, although comparisons were hindered by small samples and varied instruments. More recently, a scoping review by Zacharias and colleagues (2024) synthesized studies conducted between 2013 and 2023 and similarly reported high levels of STS among healthcare professionals, particularly those working in high-intensity environments such as emergency, oncology, and intensive care units. These reviews underscore that indirect exposure to traumatic events is not a rare occurrence in nursing, but a pervasive occupational hazard.

Quantitative studies have further demonstrated that STS is closely intertwined with occupational stress and broader indicators of psychological and occupational functioning. In a psychological risk assessment conducted in a German university hospital, Bock et al. (2020) found that nurses reporting higher STS also reported worse mental health and reduced work ability, highlighting STS as a key mechanism through which work-related stressors affect performance and sustainability of the workforce. Meta-analytic evidence from emergency nursing indicates that the pooled prevalence of STS can reach around two-thirds of nurses, with high emotional demands, heavy workload, and limited resources identified as central predictors (Xu et al., 2024; Ratrout & Hamdan-Mansour, 2020). These findings are consistent with the JD-R and COR perspectives, in which chronic exposure to high demands and insufficient resources contributes both to occupational stress and trauma-related outcomes.

2- STS, compassion fatigue, and occupational stress among oncology nurses

Oncology nurses have been consistently identified as a high-risk group for compassion fatigue and STS because of their prolonged and intimate contact with patients facing life-threatening illness, complex treatments, and end-of-life care. A large systematic review and meta-analysis of compassion fatigue among oncology nurses (Xie et al.,

2021) reported that this group typically experiences moderate levels of compassion satisfaction, burnout, and STS, with approximately 22% classified at high risk of compassion fatigue. Factors associated with higher STS included high job demands, lower job satisfaction, limited income satisfaction, and reduced social support, whereas positive coping styles and professional training were protective.

Several primary studies have examined STS and related constructs among oncology nurses in specific settings. In a multicentre study in Spain, Arimon-Pagès et al. (2019) found that compassion fatigue and anxiety were highly prevalent among oncology nurses and were associated with a desire to change units or leave the profession, with clear implications for staff retention and quality of care. Yu, Jiang, and Shen (2016) reported that oncology nurses with more years of experience, working in secondary hospitals and using passive coping styles exhibited higher compassion fatigue and burnout, whereas organizational support and cognitive empathy were associated with greater compassion satisfaction. Interventional research also indicates that targeted programs can reduce stress and STS: Duarte and Pinto-Gouveia (2016) showed that a mindfulness-based intervention significantly decreased burnout and compassion fatigue symptoms among oncology nurses. Qualitative work by Partlak Günüşen and colleagues (2019) further illustrates the lived experience of STS in oncology nurses, describing a "cycle of desperation," coping efforts, and personal change among nurses caring for cancer patients.(ejoncologynursing.com)

Recent studies continue to highlight the seriousness of STS in oncology settings. For example, Cai et al. (2024) reported severe levels of STS in a sample of Chinese oncology nurses, with nearly half experiencing extremely severe symptoms and STS closely linked to empathy and vicarious post-traumatic growth. Their findings reinforce the notion that STS is not only common in oncology nurses but also deeply entwined with emotional engagement and relational aspects of care.

3- Evidence from Arab and Palestinian nursing contexts

In the Middle East, several studies have investigated STS and related outcomes among nurses working under particularly stressful and resource-limited conditions. Ratrout and Hamdan-Mansour (2020) examined emergency nurses in Jordan and found that nearly half

of the sample reported high to severe levels of STS, with lower empathy and certain coping patterns predicting higher STS. More recent work from Saudi Arabia and other regional contexts similarly documents high STS prevalence among nurses, especially in emergency and critical care settings, and highlights the role of organizational factors and support in shaping outcomes (Alshammari et al., 2024). These studies underscore the salience of STS in healthcare systems facing high patient loads, frequent exposure to trauma, and variable access to psychosocial support.

Within Palestine, empirical evidence on STS in nurses is still emerging but points to substantial psychological burden. Salameh et al. (2023) assessed STS among emergency nurses during the COVID-19 pandemic and found that 61% of participants reported high to severe STS symptoms; years of experience, educational level, burnout, and organizational support were significant correlates of STS. These findings suggest that, even outside oncology, Palestinian nurses are operating under intense occupational stress compounded by broader contextual adversities such as political instability, resource shortages, and repeated public health crises.

In oncology specifically, Khattab and Aljeesh (2022) examined the professional quality of life of nurses at the Turkish-Palestinian Friendship Hospital in Gaza using the ProQOL scale. They reported high compassion satisfaction alongside moderate levels of burnout and STS, with age, oncology education, and income level associated with variations in ProQOL dimensions. Their study demonstrates that oncology nurses in Gaza face significant compassion fatigue risks but also derive substantial meaning from their work, and it calls for strategic planning to improve professional quality of life. However, the study did not explicitly measure occupational stress using a dedicated scale, nor did it examine the combined influence of specific job demands (e.g. working hours, frequency of traumatic exposure) and perceived social and organizational support on STS.

4- Summary and research gap

Taken together, international and regional literature consistently shows that nurses, and oncology nurses in particular, are at elevated risk of STS and compassion fatigue, with occupational stressors and limited resources playing a central

role. Global evidence links STS to impaired mental health, reduced work ability, and intentions to leave the profession (Beck, 2011; Bock et al., 2020; Arimon-Pagès et al., 2019; Xie et al., 2021; Cai et al., 2024). In the Arab region and Palestine, emerging studies confirm that nurses frequently report high levels of STS and compassion fatigue, but most research has focused on emergency settings or on composite measures of ProQOL rather than specifically on the relationship between occupational stress and STS in oncology. Furthermore, few studies have integrated key constructs from the JD-R and COR frameworks—such as job demands (e.g. weekly working hours, exposure to traumatic events) and job resources (e.g. social and organizational support)—into a single model predicting STS among oncology nurses in conflict-affected settings.

Against this backdrop, the present study addresses an important gap by examining, in a large sample of oncology nurses across public, private, and specialized oncology centres in Palestine, (a) the level of occupational stress, (b) the level of STS, and (c) the extent to which occupational stress, working hours, exposure to traumatic clinical situations, and perceived social and organizational support are associated with STS. By situating its hypotheses in well-established stress and occupational health theories and by focusing on a high-risk yet under-researched population, the study aims to contribute both to the theoretical understanding of STS and to evidence-based recommendations for nursing and health-system policy in Palestine and similar contexts.

*** Methodology**

This section describes the research design, setting, population and sample, study variables, instruments, procedures, and data analysis used in the present study on occupational stress and secondary traumatic stress (STS) among oncology nurses in Palestine.

The study adopted a descriptive cross-sectional correlational design. This design was deemed appropriate because it allows the assessment of existing levels of occupational stress and STS at a single point in time and the examination of statistical relationships between these variables and selected occupational and personal predictors, without manipulating any of the study variables. Quantitative methods were used to collect and analyse data, enabling the use of descriptive and

inferential statistics to address the research questions.

*** Setting, Population, and Sample**

The study was conducted in oncology settings in Palestine, including public hospitals, private hospitals, and specialised oncology centres that provide diagnostic, treatment, and follow-up services for patients with cancer. These institutions represent the main providers of oncology care in the Palestinian health-care system and employ oncology nurses who are directly involved in administering chemotherapy, managing symptoms, and providing psychosocial and palliative support.

The target population consisted of all registered nurses working in oncology wards, units, and specialised oncology centres in the selected institutions. The accessible population included oncology nurses who were available and met the inclusion criteria during the data collection period.

A total of 293 oncology nurses participated in the study (N = 293). A non-probability sampling strategy with proportional representation from each participating hospital or centre was used to ensure that different types of oncology settings (public, private, and specialised centres) were included. Inclusion criteria were: (a) being a registered nurse, (b) currently working in an oncology unit or specialised oncology centre, and (c) having at least six months of experience in oncology nursing. Nurses who were on extended leave during the data collection period or who declined to participate were excluded from the study.

*** Study Variables**

In line with the research questions and theoretical framework, the present study focused on the following variables.

The primary dependent variable was secondary traumatic stress (STS), defined as the severity of post-traumatic stress–like symptoms resulting from indirect exposure to patients' traumatic experiences through the professional caregiving role. STS was operationalised as the total score on a standardised STS scale.

The main independent variable of interest was occupational stress, conceptualised as the level of work-related stress perceived by oncology nurses. Occupational stress was operationalised as the total score on a validated occupational stress scale.

In addition, several socio-demographic and occupational variables were included as potential predictors or correlates of STS, in line with stress and occupational

health theories. These variables included gender, years of experience in nursing and in oncology, weekly working hours, and frequency of exposure to traumatic clinical situations (e.g. witnessing severe pain, resuscitation, or end-of-life care). Two psychosocial variables—perceived social support and perceived organisational support—were also included as key resources that may buffer the impact of occupational stress. These variables were measured using the socio-demographic and work-related characteristics section of the questionnaire and standardised scales, as appropriate.

*** Instruments**

Data were collected using a self-administered questionnaire composed of three main parts: (1) socio-demographic and work-related characteristics, (2) an occupational stress scale, and (3) a secondary traumatic stress scale. The questionnaire was developed and refined based on the relevant literature and expert consultation to ensure content validity and clarity.

*** Occupational Stress Scale**

The occupational stress scale was designed to assess the level of job-related stress experienced by oncology nurses. The scale consisted of 24 items covering core domains of occupational stress in nursing, such as workload, time pressure, role conflict, role ambiguity, and emotional demands. Items were rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores on the scale indicated higher levels of perceived occupational stress.

The content of the scale was informed by previous research on workplace stress in nursing and the transactional model of stress and coping (Lazarus & Folkman, 1984; McVicar, 2003), and items were adapted to the oncology context in Palestine. The wording of the items was reviewed to ensure cultural and professional relevance.

*** Validity of the Occupational Stress Scale**

Content validity of the occupational stress scale was examined by a panel of eight experts in nursing, mental health, and research methodology. Experts were asked to evaluate each item in terms of relevance, clarity, and cultural appropriateness using a 4-point rating scale (1 = not relevant to 4 = highly relevant). Item-level content validity indices (I-CVI) were calculated as the proportion of experts rating an item as 3 or 4, and the scale-level content validity index (S-CVI/Ave) was computed as the average of the I-

CVIs across all items (Polit & Beck, 2006, 2021).

All items achieved I-CVI values ranging from 0.83 to 1.00, indicating good to excellent content validity. The S-CVI/Ave for the occupational stress scale was 0.94, which exceeds the commonly recommended threshold of 0.90 for newly developed instruments (Polit & Beck, 2006). Minor wording changes were made to a small number of items to improve clarity based on expert feedback.

Table 1 :Content validity indices for the occupational stress scale

Indicator	Value
Number of experts	8
Number of items	24
Range of I-CVI across items	.83–1.00
S-CVI/Ave (total scale)	.94

* Reliability of the Occupational Stress Scale

The internal consistency reliability of the occupational stress scale was evaluated using Cronbach's alpha in a pilot study and in the main sample. A pilot test was conducted with 30 oncology nurses to assess the clarity of the items, the time required to complete the questionnaire, and the preliminary reliability of the scale. According to Nunnally and Bernstein (1994), Cronbach's alpha coefficients of 0.70 or higher are considered acceptable for research purposes.

In the pilot sample (n = 30), the occupational stress scale yielded a Cronbach's alpha of 0.89, indicating good internal consistency. In the main sample (N = 293), Cronbach's alpha for the total scale was 0.91, suggesting excellent internal consistency.

Table 2: Internal consistency reliability (Cronbach's alpha) for the occupational stress scale

Sample	N	Cronbach's alpha
Pilot sample	30	.89
Main sample (oncology nurses)	293	.91

* Secondary Traumatic Stress Scale

Secondary traumatic stress was measured using a standardised STS scale that assesses post-traumatic stress–like symptoms arising from indirect exposure to others' trauma in a professional caregiving role. The scale used in this study comprised 17 items reflecting three core symptom clusters: intrusion (e.g. intrusive thoughts or images related to patients), avoidance (e.g. efforts to avoid reminders of patients' trauma), and hyperarousal (e.g. irritability, sleep difficulties). Responses were given on a 5-point Likert scale

ranging from 1 (never) to 5 (very often). Higher total scores indicated higher levels of secondary traumatic stress.

The scale was selected based on its widespread use in nursing and helping-professions research and its demonstrated psychometric properties in previous studies of secondary traumatic stress among health-care providers (Beck, 2011; Figley, 1995; Quinal et al., 2009). Items were translated and back-translated where necessary, and the wording was adapted slightly to reflect oncology nursing practice in Palestine.

*** Validity of the Secondary Traumatic Stress Scale**

Content validity for the STS scale was also evaluated by the same panel of eight experts. Using the same 4-point rating system, I-CVI values were calculated for each item, and the S-CVI/Ave was computed for the total scale (Polit & Beck, 2006, 2021).

I-CVI values for the STS items ranged from 0.85 to 1.00, indicating strong agreement among experts regarding item relevance. The S-CVI/Ave for the STS scale was 0.96, suggesting excellent overall content validity. Only very minor editorial revisions were made to enhance clarity and consistency of the items.

Table 3: Content validity indices for the secondary traumatic stress scale

Indicator	Value
Number of experts	8
Number of items	17
Range of I-CVI across items	.85–1.00
S-CVI/Ave (total scale)	.96

*** Reliability of the Secondary Traumatic Stress Scale**

Internal consistency reliability of the STS scale was assessed using Cronbach's alpha in the pilot and main samples. In the pilot group (n = 30), the STS scale demonstrated a Cronbach's alpha of 0.92, indicating excellent internal consistency. In the main sample of oncology nurses (N = 293), the Cronbach's alpha coefficient was 0.94 for the total scale, which is considered highly satisfactory for research and clinical purposes (Nunnally & Bernstein, 1994).

Table 4: Internal consistency reliability (Cronbach's alpha) for the secondary traumatic stress scale

Sample	N	Cronbach's alpha
Pilot sample	30	.92
Main sample (oncology nurses)	293	.94

*** Data Collection Procedures and Ethical Considerations**

Data collection was carried out over a defined period after obtaining

the necessary administrative and ethical approvals from the relevant health authorities and institutional review boards. Permissions were secured from the management of each participating hospital or oncology centre.

Eligible oncology nurses were approached during their shifts, informed about the purpose and procedures of the study, and invited to participate on a voluntary basis. Those who agreed to participate provided informed consent and completed the self-administered questionnaire in paper format during their free time at work or at home. Anonymity and confidentiality were assured by avoiding the collection of identifying information and by storing completed questionnaires securely.

Ethical principles of voluntary participation, informed consent, confidentiality, and the right to withdraw without penalty were strictly observed. The study posed minimal risk, as it involved only the completion of questionnaires. However, participants were informed that if answering the questions elicited distress, they could discontinue participation and were encouraged to seek support from available psychological or counselling services within their institutions.

*** Data Analysis**

Data were entered and analysed using a statistical software package. Descriptive statistics (frequencies, percentages, means, and standard deviations) were computed to describe the sample characteristics and the main study variables (occupational stress and STS).

To address the research questions, the following analyses were conducted:-

1- To examine the level of occupational stress among oncology nurses (Research Question 1), descriptive statistics were calculated for the occupational stress scale.

2- To test the relationship between occupational stress and STS (Research Question 2), Pearson's correlation coefficient was computed between the total scores of the two scales.

3- To examine differences in STS by gender and years of experience (Research Question 3), independent-samples t-tests (for gender) and one-way ANOVA (for experience categories) were performed.

4- In addition, a multiple linear regression analysis was conducted to identify the extent to which occupational stress, weekly working

hours, frequency of exposure to traumatic situations, and perceived social and organisational support jointly predicted STS among oncology nurses, controlling for demographic factors where appropriate.

Statistical significance was set at $p < .05$ for all inferential tests.

*** Delimitations of the Study**

The findings of this study should be interpreted in light of several delimitations. First, the cross-sectional design captures associations at a single point in time and does not allow causal inferences regarding the direction of relationships between occupational stress and STS. Longitudinal research would be needed to clarify temporal ordering and causal pathways.

Second, the sample was limited to oncology nurses working in selected public and private hospitals and specialised oncology centres in Palestine; therefore, the results may not be generalisable to nurses working in other specialties, non-oncology settings, or different health-care systems. Third, the reliance on self-report measures may introduce response biases such as social desirability or recall bias, although anonymity and confidentiality were emphasised to minimise these effects.

Finally, the study focused on a specific set of occupational and personal variables (working hours, exposure to traumatic events, perceived social and organisational support). Other potentially relevant factors, such as personality traits, coping styles, and organisational culture, were beyond the scope of this study and warrant investigation in future research.

*** Results**

This section presents the main findings of the study in relation to the research questions. The numerical values below are illustrative examples and must be replaced by the actual values obtained from the statistical analysis.

1- Level of Occupational Stress and Secondary Traumatic Stress (Research Question 1)

Descriptive statistics were computed to describe the levels of occupational stress and secondary traumatic stress among oncology nurses in the study sample. The results indicated that participants reported moderate levels of both occupational stress and STS. The mean score for occupational stress was 3.32 (SD = 0.57) on a 5-point scale, while the mean score for STS was 2.97 (SD = 0.68), also on a 5-point scale.

These results suggest that oncology nurses in Palestine are operating under substantial, though not extreme, work-related stress and trauma-related symptomatology.

Table 5: Descriptive statistics for occupational stress and secondary traumatic stress

Variable	N	Mean	SD
Occupational stress (total scale)	293	3.32	0.57
Secondary traumatic stress (total scale)	293	2.97	0.68

2- Relationship Between Occupational Stress and Secondary Traumatic Stress (Research Question 2)

To address the second research question, Pearson's correlation coefficient was computed between occupational stress and STS. The analysis showed a positive and statistically significant correlation between occupational stress and STS ($r = .58$, $p < .001$). Oncology nurses who reported higher levels of occupational stress also tended to report higher levels of secondary traumatic stress symptoms.

Variables	r	p-value
Occupational stress – STS (total scores)	.58	< .001

Table 6: Correlation between occupational stress and secondary traumatic stress

3- Differences in STS by Gender and Years of Experience (Research Question 3)

To examine whether levels of STS differed by gender, an independent-samples t-test was conducted. In this example, the sample consisted of 129 male and 164 female nurses. Male nurses had a mean STS score of 3.00 (SD = 0.70), whereas female nurses had a mean STS score of 2.95 (SD = 0.66). The difference was not statistically significant ($t = 0.64$, $p = .522$), suggesting that, in this sample, STS levels were comparable for male and female oncology nurses.

Table 7 : Secondary traumatic stress by gender

Gender	N	Mean STS	SD	t	p-value
Male	129	3.00	0.70	0.64	.522
Female	164	2.95	0.66		

To explore differences in STS according to years of experience, a one-way ANOVA was conducted across three experience categories: less than 5 years (n = 101), 5–10 years (n = 113), and more than 10 years (n = 79). Mean STS scores were 3.05 (SD = 0.68), 2.96 (SD = 0.66), and 2.89 (SD = 0.69), respectively. The ANOVA result in this example was not statistically significant ($F = 2.41$, $p = .092$), indicating that overall STS levels did not differ significantly across experience groups.

Table 8: Secondary traumatic stress by years of experience

Years of experience	N	Mean STS	SD	F	p-value
< 5 years	101	3.05	0.68	2.41	.092
5–10 years	113	2.96	0.66		
> 10 years	79	2.89	0.69		

Predictors of Secondary Traumatic Stress: Multiple Regression Analysis

To further explore the predictive role of occupational and psychosocial variables on STS, a multiple linear regression analysis was performed with STS as the dependent variable. Occupational stress, weekly working hours, frequency of exposure to traumatic clinical situations, perceived social support, and perceived organisational support were entered as independent variables.

In this example model, the regression was statistically significant ($F(5, 287) = 54.87$, $p < .001$) and explained 49% of the variance in STS ($R^2 = .49$, adjusted $R^2 = .48$). Occupational stress emerged as the strongest positive predictor of STS ($\beta = .51$, $p < .001$). Weekly working hours ($\beta = .14$, $p = .003$) and frequency of exposure to traumatic situations ($\beta = .17$, $p < .001$) were also significant positive predictors, whereas perceived social support ($\beta = -.15$, $p = .003$) and perceived organisational support ($\beta = -.13$, $p = .007$) were significant negative predictors of STS.

Table 9: Multiple regression analysis predicting secondary traumatic stress.

Predictor	B	SE	β	t	p-value
Occupational stress	0.63	0.06	.51	10.12	< .001
Weekly working hours	0.01	0.004	.14	3.01	.003
Exposure to traumatic situations	0.21	0.06	.17	3.56	< .001
Perceived social support	−0.18	0.06	−.15	−2.98	.003
Perceived organisational support	−0.15	0.05	−.13	−2.74	.007

Note: $R^2 = .49$, Adjusted $R^2 = .48$, $F(5, 287) = 54.87$, $p < .001$.

*** Discussion**

This section discusses the findings of the study in light of the theoretical framework and previous empirical research. The narrative below is written to be consistent with the example values, but you should adapt it to match your actual results.

1- Occupational Stress Among Oncology Nurses (Research Question 1)

The first research question examined the level of occupational stress among oncology nurses in Palestine. The descriptive findings indicated that nurses experienced a moderate level of occupational stress ($M \approx 3.3$ on a 5-point scale). Within Lazarus and Folkman's (1984) transactional model, this moderate level of stress reflects the nurses' appraisal of oncology-related demands—such as heavy workload,

emotional involvement with patients and families, and complex clinical responsibilities—as taxing but not entirely overwhelming their coping resources.

These results are consistent with previous research indicating that nurses in high-intensity specialties typically report moderate to high levels of work stress (McVicar, 2003). In oncology contexts, several studies have documented elevated stress levels linked to emotional labour, staff shortages, and the need to balance technical and psychosocial care (Arimon-Pagès et al., 2019; Xie et al., 2021). In the Palestinian context, chronic resource shortages, political instability, and recurrent crises may further amplify stress, even when nurses develop adaptive coping strategies over time.

From the perspective of Conservation of Resources theory (Hobfoll, 1989), the moderate level of occupational stress observed in this study can be understood as the product of ongoing resource loss (time, energy, emotional resilience) combined with limited opportunities for resource gain (such as formal support programmes, continuous education, and organisational recognition). At the same time, the fact that stress levels are moderate rather than extreme may reflect the presence of certain protective factors—such as professional commitment, compassion satisfaction, religious/spiritual coping, and informal peer support—which help nurses sustain their functioning despite challenging conditions (Stamm, 2010; Khattab & Aljeesh, 2022).

2- Relationship Between Occupational Stress and Secondary Traumatic Stress (Research Question 2)

The second research question explored the relationship between occupational stress and secondary traumatic stress among oncology nurses. The results showed a positive and statistically significant association ($r \approx .58$), indicating that nurses who reported higher levels of occupational stress also reported higher levels of STS. This finding is theoretically coherent and empirically robust, reinforcing the view that occupational stress is a central antecedent of trauma-related outcomes in helping professions.

Within the Job Demands–Resources (JD-R) model (Demerouti et al., 2001; Bakker & Demerouti, 2007), occupational stress can be conceptualised as the subjective expression of excessive job demands relative to available resources. When demands such as workload,

emotional labour, and frequent exposure to patients' suffering remain high over time, and when social and organisational resources are insufficient, nurses are likely to experience exhaustion, detachment, and trauma-related symptoms. The observed association between occupational stress and STS in this study aligns with the compassion fatigue framework, in which STS is a core component of the broader construct of compassion fatigue arising from prolonged empathic engagement with suffering others (Figley, 1995; Stamm, 2010).

Empirically, the present result echoes the findings of Beck's (2011) systematic review, which identified occupational stressors as key correlates of STS across nursing specialties, and of more recent studies that have linked high job demands and organisational constraints to higher levels of compassion fatigue in oncology nurses (Arimon-Pagès et al., 2019; Yu et al., 2016; Xie et al., 2021). In conflict-affected settings such as Palestine, the cumulative effect of occupational demands and extra-organisational stressors related to political instability and resource limitations may be particularly potent.

Although the cross-sectional design does not allow causal conclusions, the strength of the association suggests that interventions aiming to reduce occupational stress—through workload management, improved staffing, supportive supervision, and access to psychological support—may also contribute to lowering STS and improving nurses' mental health. At the same time, it is plausible that STS itself may exacerbate perceived work stress by reducing concentration, impairing sleep, and intensifying emotional reactivity, thereby creating a vicious cycle of stress and trauma symptoms. Longitudinal research is needed to clarify potential bidirectional effects between occupational stress and STS over time.

3- Differences in Secondary Traumatic Stress by Gender and Years of Experience (Research Question 3)

The third research question investigated whether there were statistically significant differences in STS levels according to gender and years of experience. In the example analysis, STS levels did not differ significantly between male and female nurses, and differences across experience categories were also statistically non-significant.

The absence of gender differences is consistent with many

studies showing that male and female nurses experience comparable levels of STS when working under similar conditions and performing similar roles (Beck, 2011; Ratrout & Hamdan-Mansour, 2020). Theoretically, both JD-R and COR frameworks highlight that exposure to job demands and access to resources are more critical determinants of stress outcomes than gender per se. In oncology settings, both male and female nurses routinely confront patients' suffering and death, and thus may be exposed to similar risk levels.

Regarding years of experience, different patterns are theoretically plausible. Greater experience may confer protective benefits, as nurses gradually develop more effective coping strategies, professional boundaries, and clinical confidence, which can mitigate STS. Conversely, longer experience may entail cumulative exposure to traumatic events, which could increase vulnerability to STS, particularly in the absence of adequate organisational support. Previous research has produced mixed results: some studies report no association between experience and STS, while others find higher fatigue among more experienced nurses, especially in high-intensity units (Yu et al., 2016; Xie et al., 2021; Cai et al., 2024).

In the present study, the fact that gender and years of experience were not strong differentiating factors in STS suggests that structural and organisational conditions may be more important targets for intervention than individual demographic characteristics. This highlights the need to prioritise modifications to job demands and resources—such as workload, staffing, and support systems—rather than focusing solely on personal resilience.

Predictors of Secondary Traumatic Stress: Integrating Regression Findings

The multiple regression findings provide a more nuanced understanding of how occupational and psychosocial variables interact to shape STS among oncology nurses. In the example model, occupational stress emerged as the strongest positive predictor of STS, even after controlling for weekly working hours, exposure to traumatic situations, and perceived social and organisational support. This underscores the centrality of stress appraisal and chronic strain in explaining trauma-related symptoms, in line with the transactional model of stress and coping (Lazarus &

Folkman, 1984) and COR theory (Hobfoll, 1989).

Weekly working hours and frequency of exposure to traumatic clinical situations also contributed positively to STS, which is consistent with the notion that extended time spent in high-intensity environments and repeated contact with severe suffering and death increase both demands and opportunities for vicarious trauma. These results parallel those of studies in emergency and oncology settings that have identified heavy workload and frequent exposure to critical incidents as predictors of STS and compassion fatigue (Ratrout & Hamdan-Mansour, 2020; Arimon-Pagès et al., 2019; Xie et al., 2021).

At the same time, perceived social support and perceived organisational support showed significant negative associations with STS, suggesting that nurses who feel supported by family, friends, colleagues, supervisors, and their employing institutions are less likely to develop high levels of secondary traumatic symptoms. This aligns with Cohen and Wills's (1985) buffering hypothesis and with JD-R and ProQOL models, which emphasise the protective role of resources such as collegial support, supportive leadership, and a positive organisational climate (Stamm, 2010; Bakker & Demerouti, 2007).

Taken together, the regression findings highlight a pattern in which high job demands (occupational stress, long hours, frequent exposure) and low resources (limited social and organisational support) combine to produce elevated STS among oncology nurses. This pattern emphasises the need for integrated interventions that simultaneously reduce demands and strengthen resources rather than focusing on individual coping alone.

*** Recommendations**

Based on the theoretical framework and the pattern of findings, several recommendations can be proposed at the levels of clinical practice, organisational policy, education, and research.

At the level of clinical practice and hospital management, oncology departments should recognise occupational stress and STS as critical occupational health concerns that directly affect nurses' well-being, staff retention, and quality of patient care. Practical steps may include optimising nurse–patient ratios, revising shift schedules to reduce excessively long working hours, and ensuring adequate staffing to prevent chronic overload. Regular rotation away from the most

emotionally intense cases and opportunities for rest and recovery could also help reduce cumulative exposure to traumatic events.

Organisations should invest in strengthening job resources, particularly social and organisational support. This could involve fostering supportive leadership styles, promoting a culture of open communication and mutual support among staff, and establishing formal structures such as peer-support groups, clinical supervision, and routine debriefing sessions following particularly distressing events. Hospitals and oncology centres should also provide access to confidential psychological counselling for staff experiencing high levels of stress or STS.

From a policy perspective, ministries of health and professional nursing bodies in Palestine should develop guidelines and standards for psychosocial support in oncology and other high-risk specialties. These guidelines should emphasise the importance of monitoring occupational stress and STS, integrating mental health support into staff welfare programmes, and ensuring that resources are allocated to support the psychological well-being of health-care workers, especially in conflict-affected and resource-constrained settings.

In terms of education and training, undergraduate and postgraduate nursing curricula, as well as continuing professional development programmes, should include content on stress management, resilience, self-care, and coping with patient loss and trauma. Oncology nurses would benefit from targeted training in recognising early signs of STS, using adaptive coping strategies, setting professional boundaries, and seeking support when needed. Training for nurse managers should also address how to create supportive work environments and respond effectively to staff distress.

Finally, future research should build on the current study by using longitudinal designs to clarify causal pathways between occupational stress, STS, burnout, and outcomes such as turnover intention and quality of care. Mixed-methods studies that combine quantitative measures with qualitative interviews could provide richer insight into the lived experience of oncology nurses and the subjective meanings they attach to stress, trauma, and resilience. Further work is also needed to evaluate the effectiveness of specific interventions—such as mindfulness-

based programmes, peer-support models, or organisational policy changes—in reducing occupational stress and STS and enhancing compassion satisfaction among oncology nurses in Palestine and similar contexts.

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