Compassion Fatigue among Healthcare Personnel in Acute Care Contexts: An Integrative Review

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***Abstract*—Healthcare workers in acute care settings experience considerable emotional exhaustion on a daily basis, which might lead to the manifestation of compassion fatigue that adversely impacts their wellbeing. There has been an increasing awareness in understanding compassion fatigue on healthcare workers recently, but the literature within this area remains ambiguous due to the use of different terminology. This integrative review aims to synthesize the existing research knowledge of the manifestation of compassion fatigue and the related concepts in acute care contexts. A total of 27 full-text research articles were retrieved for analysis. The interpretation of the selected articles yielded four main categories, which included the prevalence, risk factors, protective factors, and consequences regarding compassion fatigue among healthcare workers. These findings provide an outline for decision makers of healthcare organizations to formulate a strategic plan for helping healthcare workers to cope with compassion fatigue in everyday work and disaster events.**

Keywords-compassion fatigue; stress disorders, post-traumatic; secondary traumatic stress; acute care contexts

I. INTRODUCTION

Healthcare workers who care for patients on a daily basis are exposed to various occupational hazards, including injuries and infections [1]. In addition to the direct physical hazards, the negative emotional and psychological effects resulted from working with traumatized populations are attracting an increasing awareness from the healthcare field [2]. To identify the emotional and psychological effects, the concept of compassion fatigue (CF), which was first coined by Joinson [3] as a "unique form of burnout" among healthcare workers, could interfere with their ability to nurture. Figley [1] elaborated the description in a more explicit manner and depicted CF as the state of exhaustion with regards to the negative repercussions from the intentions and behaviors to help a traumatized person. Although direct traumatization is not involved, unmanaged CF could have profound consequences for the wellbeing of the healthcare workers in both physical and emotional aspects. It is revealed that the cumulative effect of CF could lead to a wide range of negative outcomes, which included headaches, stomachaches, sleep disturbance, anxiety, depression, and increased substance use [4]. Given the highly stressful work environments that saturated with critically ill and traumatized patients, researchers have recently shown an increased interest in exploring the occurrence of CF in acute care contexts [5]. As a result of the practice contexts, evidence suggests that healthcare workers in acute care contexts are at additional risk for developing CF [6]. It is noted from the existing literature that the concept of CF has been described in various terminologies, some of which included secondary traumatization, secondary traumatic stress, and vicarious traumatization [7]. Despite the subtle difference of the concepts of these terms, these terms were often used interchangeably with CF in studies related to the cumulative effects of exposure to traumatic on healthcare workers [8,9]. However, very few studies have systematically integrated and synthesized the literature on CF and the related terminologies [5], which could result in ambiguity and misinterpretation in the understanding of the existing evidence [10]. This integrative review intends to contribute to this growing area of research by scrutinizing, appraising, and synthesizing the international evidence on the key issues of CF and the related concepts among healthcare personnel in acute care contexts. By addressing the available evidence comprehensively, it is anticipated that this review could provide grounds for future researchers pertain to CF.

II. METHODS

A. Search strategy and selection criteria

To enable a comprehensive understanding of the manifestation of CF, this review has incorporated quantitative, qualitative, and mixed methods data. Integrating evidence from different research methods and designs would probably enhance the utility and relevance of the findings of a literature review to inform policy and practice [11]. A comprehensive literature search was conducted following the adapted PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines [12] on various wide-ranging electronic databases, including CINAHL, EBSCOhost, EMBASE, MEDLINE, ProQuest, PsycINFO, and PubMed. The review considered qualitative and quantitative studies published in the period from 2000 to 2016 September that addressed issues of compassion fatigue and the related concepts. The search terms used for the retrieval of literature were as follows: [compassion fatigue OR secondary traumatization OR secondary traumatic stress OR vicarious traumatization*] AND [healthcare personnel OR healthcare worker* OR healthcare professional* OR healthcare specialist*]. A list of 363 articles was retrieved after the search. Seven additional articles were identified

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through manual searching of journals. Articles identified to be potentially relevant and eligible for the review were retrieved, while three duplicate articles across databases were excluded. The subsequent set of 367 articles was comprehensively reviewed in full-text for the relevance to the aims of this review. In addition, reference lists of the relevant studies and publications were scrutinized for relevant citations. Eligibility of the publications was determined by assessing the design, participant, and outcome measure of the studies: (1) Types of study: Studies of quantitative, qualitative, or mixed method design that evaluated or presented primary data on the CF or related concepts of healthcare workers were included; (2) Types of participant: Studies of healthcare workers in acute care contexts were included; and (3) Types of outcome measure: Studies of consequences and influences on healthcare workers were included. Publications were excluded in this review if they were (1) not in the English language; (2) not published in peer-reviewed journals; (3) not referred specifically to acute care contexts; or (4) conducted in mental health settings. Disagreements upon the inclusion or exclusion of articles in the review process were resolved by discussion between the authors. Of the 367 articles, 337 were excluded based on the inclusion and exclusion criteria. Three articles were further excluded after assessing full-text due to ineligibility. The remaining 27 articles were identified to have fulfilled the search criteria and served the aims of this review. Thus, these 27 articles were retrieved for data analysis. A flow diagram illustrating the literature search process is shown in Figure 1.

B. Quality appraisal

The included articles were critically assessed for the relevance of evidence and quality of reporting by employing the Gough's Weight of Evidence framework [13]. The framework focuses on determining the preponderance of evidence through assessing the integrity, fitness, and relevance of the study and findings in addressing research questions with an overall score of the weight of evidence [14]. Discrepancies regarding the weight of articles in the quality appraisal process were resolved by discussion between the authors.

C. Data extraction and analysis

Data were extracted from the retrieved publications to provide information including year of publication, geographical source, research design, study population, data collection instrument, and research purpose. The findings of each study were interpreted by adopting a thematic synthesis approach [15]. This data analysis and synthesis method consist of three stages, of which target on developing meaning units, descriptive themes, and analytical themes from the primary findings from the involved articles. The findings of this literature review are presented as tabular and narrative summary since the formal statistical analysis was infeasible with the high heterogeneity of the study design of the retrieved studies.

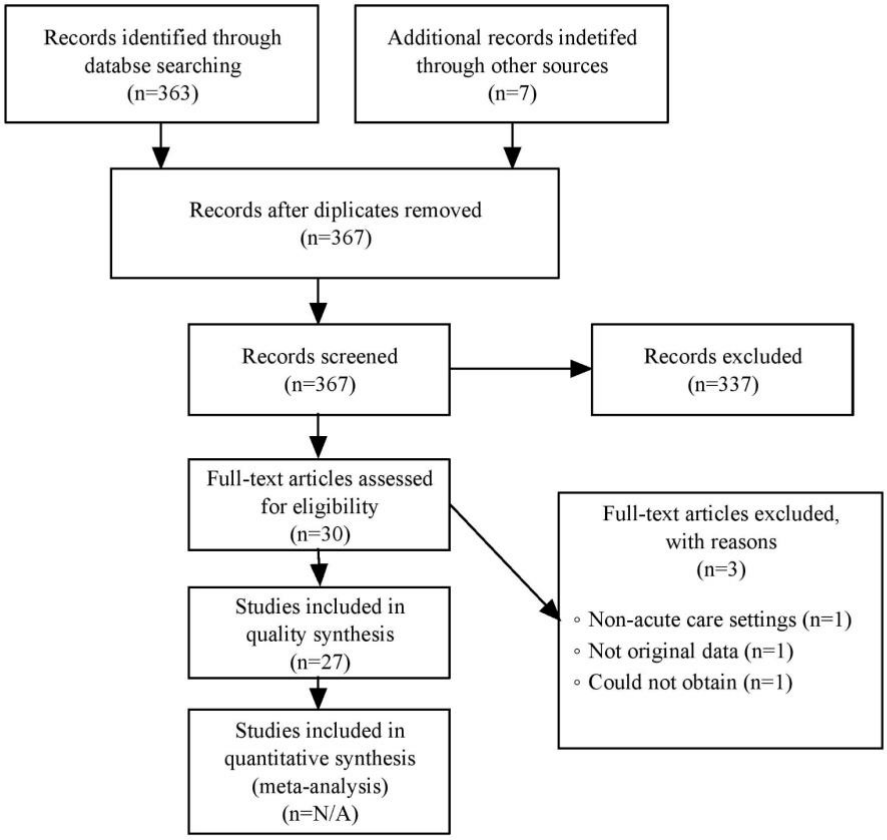

Figure 1: PRISMA flow diagram of the literature search and review process

III. RESULTS

In order to evaluate the current trends and characteristics of studies regarding CF on healthcare workers in acute care contexts, the scope of research and overall features of the retrieved articles were reviewed. An overview of the 27 studies retrieved that related to CF and healthcare workers in acute care contexts is presented in Table 1. The interpretation of the selected articles yielded five main categories that addressed the areas of paramount importance in the existing literature regarding CF among healthcare workers in acute care contexts, which included the prevalence, risk factors, protective factors, and consequences of CF.

A. Prevalence of CF

One of the major objectives of this review is to identify the prevalence of CF shown by healthcare workers in acute care contexts. It is apparent from the results of the retrieved studies that there was a glaring discrepancy between the reported frequencies of CF among healthcare workers. Of the eight studies that reported the occurrence of symptoms of CF, the incidence rate ranged from 5% to 86% [17,21,22,27,33,39,40]. Among the wide-ranging results, the study from Hooper et al. [27] stands out for reporting a considerably high prevalence of CF among the studied population. In their study which investigates the prevalence of CF in emergency nurses, nearly 86% (n=92/114) of the participants shared symptoms of CF. The finding was echoed in a small-scale study by Dominguez-Gomez and Rutledge [22] which set out to explore the prevalence of CF among emergency nurses. Over 85% (n=57/67) of the emergency nurses surveyed in the study indicated moderate to high levels of CF about their work. As with studies of CF and professions, the incidence of CF is not evenly distributed within occupational groups in acute care contexts. The retrieved articles generally reported a rate of CF among nurses higher than that of the physicians and social workers. Of the five articles studied the incidences of CF on nurses, the frequency ranged from over 80% [22,27], more than 60% (n=292/464)[17], approximately 15% (n=17/106)[41], to 7% [39]. The nurses from these studies were emergency nurses [22,27], obstetric nurses [17], nursing staff from various settings (Yoder, 2010), and trauma nurses [39] respectively. However, the paucity of studies might hinder the understanding of the association between work nature and development of CF. Further research regarding CF prevalence among healthcare professionals from diverse disciplines is worthwhile.

B. Risk factors of CF

Several studies have revealed that the length of employment was considered a major risk factor for CF among healthcare workers in acute care contexts. For example, the study conducted by Badger et al. [16] stated that the length of employment was negatively correlated with the incidence and level of CF among the surveyed social workers. Similar results were noted in studies among nurses. Von Rueden et al. [39] in their study on trauma nurses further explained that the association between length of employment and the tendency in developing CF could result from the inability of staff with less clinical experience in coping with the emotional contagion in caring traumatized patients.

It is noted in the literature that the relationship with co-workers in the workplace might also affect the level and severity of CF on healthcare workers in acute care contexts. For example, a previous study that investigated the influence of a car bombing event in Ireland on healthcare workers of a multidisciplinary trauma and recovery team explored that the high level of CF-related emotional distress was associated with the suboptimal relationship with co-workers [20]. Consistent findings were reported in another study on trauma team workers, in which the participated trauma nurses reflected the negative correlation of perceived teamwork in the workplace and the reported incidence and level of CF [39].

The workload on healthcare workers was reported to be the strongest organizational predictor of CF within acute care contexts. Findings from several sources have identified the increased fan frequency and level of CF-associated with a heavy workload. For example, in their mixed method study about the prevalence and severity of CF among obstetrics nurses in the United States, Beck and Gable [17] addressed the burden from work as a crucial determinant of CF amongst the studies population. The pediatric nurses from a qualitative study conducted by McGibbon et al. [35] also depicted the experience of vicarious sharing of patients' suffering within a stressful working environment. In addition, the study by Frank and Adkinson [24] pointed out that the burden and stress induced by large-scale emergencies could initiate a significant increase in the levels of risk of CF.

C. Protective factors of CF

Concerning the protective factors of CF, a variety of attributes and conditions were reported to be able to significantly mitigate the risk of indirect traumatization of healthcare workers within acute care contexts. Consider that the development of CF results from the vicarious sharing of another's traumatized experience, an emotional detachment of the healthcare workers was reported in several studies to be effective in mitigating the likelihood for developing CF. Badger et al.'s cross-sectional study [16] of the level of secondary traumatic stress in hospital social workers showed that emotional separation was associated with the reduced vulnerability of CF exposure. In participants who were able to maintain objectivity and modulate emotional proximity with patients, a reduced tendency of CF development was reported. In accordance with this finding, a study presented similar results and addressed that the higher the level of emotional separation of the participants, the lower the level of CF from patient caring [39].

Interpersonal interaction in workplaces plays a critical role in both the causes and prevention of CF. While the poor co-work relationship would increase the risk of exposure of healthcare workers to CF, the close connection among co-workers was found to be significant in mitigating the tendency of developing CF. The importance of team spirit in the workplace was mentioned in the study by Collins and Long [20], which showed that the strong team spirit in workplaces could effectively lower the risk for CF among the workers. It was explained that the workers would obtain social support

Table 1. Cross-tabulation illustrating study designs, populations, aims of the study, and Weight of Evidence

Reference number	Author(s) and Year	Country	Study design	Populations	Aims of study	The weight of Evidence [a]
16	Badger et al., 2008	United States	Quantitative, cross-sectional survey	121 hospital social workers (response rate 73%)	To explore the predictive contributions of empathy, emotional separation, occupational stress, and social support for producing STS in hospital social workers	H H H - **H**
17	Beck & Gable, 2012	United States	Mixed methods, convergent parallel design	464 labor and delivery nurses (response rate 15 %)	To determine the prevalence and severity of secondary traumatic stress in labor and delivery nurses and to explore nurses' descriptions of their experiences attending traumatic births	H H H - **H**
18	Bride, 2007	United States	Quantitative, cross-sectional survey	282 social workers, 56 of them were from healthcare settings (response rate 49.6%)	To investigate the prevalence of STS in a sample of social workers by examining the frequency of individual symptoms; the frequency with which diagnostic criteria for PTSD are met; and the severity of STS levels	H H H - **H**
19	Burtson & Stichler, 2010	United States	Quantitative, correlational study	126 nurses	To examine the relations of compassion satisfaction, nurse job satisfaction, stress, burnout, and compassion fatigue to nurse caring	H H H - **H**
20	Collins & Long, 2003	Ireland	Mixed method, cross-sectional survey	13 members of a multidisciplinary trauma and recovery team	To investigate the effects on caregivers across time, working with people traumatized as a result of the Omagh bombing; coping strategies that caregivers found beneficial in reducing compassion fatigue and burnout, and factors that enhanced compassion satisfaction	H M M - **M**
21	Craig & Sprang, 2010	United States	Quantitative, cross-sectional survey	532 clinical psychology and clinical social work (response rate 27.1%)	To investigate the impact of using evidence-based practices on compassion fatigue, burnout, and compassion satisfaction in a random, national sample of self-identified trauma specialists	H H H - **H**
22	Dominguez-Gomez et al., 2009	United States	Quantitative, exploratory comparative study	67 emergency nurses (response rate 63%)	To investigate the prevalence of STS in emergency nurses	H H H - **H**
23	Flarity et al., 2013	United States	Quantitative, a pre-/posttest design	59 emergency nurses (response rate 80%)	To examine the treatment effectiveness of a multifaceted education program to decrease CF and BO symptoms and increase compassion satisfaction of emergency nurses participating in the training.	H H H - **H**

24	Frank & Adkinson, 2007	United States	Quantitative, cross-sectional survey	55 public health nurses aged 40-60 (response rate 11%)	To identify the levels of risk of CF in middle-aged female nurses who worked during the 2004 Florida hurricanes.	H M M - **M**
25	Gleichgerrch & Decety, 2013	Argentina	Quantitative, cross-sectional survey	7854 physicians	To determine which aspects of empathy are associated with positive or negative outcome in practicing physicians	H H H - **H**
26	Goldbort et al., 2011	United States	Qualitative, phenomenology	9 intrapartum nurses	To describe the essence of nine nurses' participation in an unexpected/ traumatic birthing process to ascertain what impact this experience had on the nurse.	H M M - **M**
27	Hooper et al., 2010	United States	Quantitative, cross-sectional survey	114 nurses, 49 of them were emergency nurses (response rate 83%)	To explore the prevalence of compassion satisfaction, burnout, and compassion fatigue among emergency nurses and nurses in other selected inpatient specialties.	H H H - **H**
28	Jonsson & Halabi, 2006	Jordan	Qualitative, phenomenology	25 emergency nurses	To identify causes of post-traumatic stress symptoms and their relationship with everyday work stress exposure.	H H H - **H**
29	Komachi et al., 2012	Japan	Quantitative, cross-sectional survey	338 hospital nurses (Response rate 52.1%)	To evaluate the prevalence and factors associated with STS among general hospital nurses	H H H - **H**
30	Laposa et al., 2003	Canada	Quantitative, Cross-sectional survey	51 emergency workers (73% are nurses / doctor)	To determine the association between sources of workplace stress and PTSD symptoms.	H H H - **H**
31	Lee et al., 2005	Taiwan	Quantitative, cross-sectional survey	26 nurses from SARS team in the emergency department	To identify staff stress and coping strategies among a SARS team of nursing staff during the outbreak.	M M M - **M**
32	Maiden et al., 2011	United States	Mixed methods	205 critical care nurses	To examine the previously untested relationships between moral distress, CF, perceptions about medication errors, and their characteristics.	H H H - **H**
33	Markwell & Wainer, 2009	Australia and New Zealand	Quantitative, cross-sectional survey	914 junior physicians (response rate 22%)	To investigate the health and well-being of junior doctors, and understand the specific pressures encountered by them.	H M M - **M**
34	McGarry et al., 2013	Australia	Quantitative, cross-sectional survey	56 healthcare workers in burn total care unit, including nurses, physicians, allied health (response rate 82%)	To investigate the impact of regular exposure to pediatric medical trauma on multidisciplinary teams in a pediatric hospital and the relationships between psychological distress, resilience and coping skills.	H H H - **H**
35	McGibbon et al., 2010	Canada	Qualitative, ethnography	23 nurses from a pediatric hospital	To reformulate the nature of stress in nursing, with attention to important contextual aspects of nurses' practice	H H H - **H**

36	Sung et al., 2012	Korea	Quantitative, cross-sectional survey	142 hospital nurses	To identify relationships between CF, BO, and turnover intention in Korean hospital nurses.	H H H - **H**
37	Swatzky & Enns, 2012	Canada	Quantitative, cross-sectional survey	261 emergency nurses	To explore the factors that predict the retention of nurses working in emergency departments.	H H H - **H**
38	van der Wath et al., 2013	South Africa	Qualitative, phenomenology	11 emergency nurses	To report a study of emergency nurses' experiences of caring for survivors of intimate partner violence.	H H H - **H**
39	Von Rueden et al., 2010	United States	Quantitative, cross-sectional survey	128 trauma nurses (response rate 49%)	To evaluate the prevalence of STS in nurses who are working in a trauma center and to examine the relationships of exposure to traumatic injuries of others, coping strategies, and personal and environmental characteristics to the nurses' development of STS.	H H H - **H**
40	Warren et al., 2013	United States	Quantitative, cross-sectional survey	133 surgeons in various specialties	To examine the experience of STS in surgeons and to explore the influence of positive psychological factors.	H H H - **H**
41	Yoder, 2010	United States	Quantitative, cross-sectional survey	106 nurses (response rate 60%)	To describe the prevalence of CF among a broad spectrum of nurses, and to investigate the situations that lead to CF and methods of coping.	H H H - **H**
42	Young et al., 2011	United States	Quantitative, exploratory, descriptive study	70 heart and vascular nurses	To determine the prevalence of BO and STS in heart and vascular nurses.	H H H - **H**

STS = Secondary traumatic stress
PTSD = Posttraumatic stress disorder
CF = Compassion fatigue
BO = Burnout
SARS = Severe acute respiratory syndrome

[a] The four corresponding criteria regarding Weight of Evidence (WoE) are:
WoE A: Generic on quality execution of study;
WoE B: Review specific on the appropriateness of method;
WoE C: Review specific on focus/approach to study to review;
WoE D: Overall score of quality of the study
("H" stands for High, "M" stands for Medium, and "L" stands for Low)

from the camaraderie of the colleagues, of which reinforced their capacity in coping with the secondary stress originated from witnessing the patients' suffering [39].

Despite the fact that caring for traumatized patients is the major cause for healthcare workers in developing CF, the risk could be reduced if staff are able to obtain satisfaction from caring. Compassion satisfaction, which described the satisfaction of healthcare workers from the pleasure in knowing the improvement of condition and recovery of the patient, was reported be able to replace the negative experience during patient caring with the pleasure of patient recovery [20,41]. In addition to compassion satisfaction, the utilization of evidence-based practice in routine practice was reported in Craig and Sprang's study [21] to be effective in ameliorating the level of CF among healthcare workers in acute care contexts. The researchers addressed that the improved competence and confidence in daily practice via adopting the evidence-based practice in workplaces was the rationale behind the lowered secondary stress of the participants.

D. Consequences of CF

Compassion fatigue was considered to be associated with a wide range of psychological distress. In the phenomenological study conducted by van der Wath et al. [38], it was revealed that the psychological symptoms of CF might include sadness, depression, fear, and anger. A mixed method study conducted on obstetrics nurses also listed the symptoms in detail, which included fear, frustration, anger, horror, terror, guilt, shame, numbness, and shock [17]. As suggested by Jonsson and Halabi [28] that nurses generally possess a strong commitment in helping the patients who were critically ill or seriously injured, the sense of powerlessness was reported to be one of the other signs of the psychological distress originated from CF as well. The feelings of self-blaming and, in more serious cases, self-loathing which originated from the guilt of the inability to help the suffered victims were reported as well in the literature [17,38].

Compassion fatigue not merely affected individuals' psychological well-being, but also resulted in a profound impact on the service delivery of healthcare institutions. Laposa et al. [30] indicated in their study conducted in Canada that the emotional distress from CF was one of the main causes leading to the turnover of emergency nurses. Consistently, a similar finding was reported in Swatzky and Enns's study [37] with the similar setting (Canada) and population (emergency nurses). In addition to resignation, an alternative response of healthcare workers was to move from frontline acute care settings to positions or departments which less direct patient care was involved [17,41]. Moreover, the standard of care might also be adversely affected. For example, a study reported that the participants with a high level of CF might try to avoid from contacting and caring patients in order to prevent further unpleasant secondary trauma, which resulted in the reduced initiative in helping the patients in needs [22]. With the avoidance attitudes and behavior in providing patient care, the quality and standard of care could be seriously affected.

IV. Discussion

This literature review provides updated evidence about the prevalence, factors, and impacts of CF on healthcare workers in acute care settings. Overall, this review indicates that the number and types of studies regarding CF among healthcare workers have grown during the past few years, with a particular focus on the use of quantitative designs and methods in understanding the perspective of CF. In investigating the level of CF, it is discovered in this review that a variety of instruments were utilized. Although it is obvious that each instrument would have its strength in assessing CF, absent of a consistent scoring parameter might affect the generalizability of the evidence. Thus, further research within the domain related to CF might include the evaluation of the instruments used in measuring CF in order to address the applicability of different tools in assessing CF and provide guidance for the selection of instruments in future studies.

In view of the prevalence and impact of CF, the results of this review highlighted that nursing staff might be most susceptible to sustain a considerable amount of psychological distress, in terms of CF, in daily practice among healthcare workers from other disciplines. Given the proximal nature of nursing care, there can be little doubt that hospital nurses are frequently exposed to traumatic stressors, such as painful medical procedures and end-of-life scenario, from prolonged and intense contact with traumatized or suffering patients in their everyday work [34]; in fact, it is suggested that emotional exhaustion is an inevitable consequence of patient caring [2]. Despite this, far too little attention has been paid to understanding how healthcare workers establish a balance between caring for others and self-care [43]. Given the gap in the literature, further research on the qualitative analysis of the experience and process of healthcare workers in adapting to the phenomenon of CF in the course of patient care should be undertaken.

Upon understanding the issue of CF among healthcare workers of everyday work, the findings of this review raise intriguing questions regarding the nature and extent of compassion stress and emotional exhaustion among frontline responders in the course of large-scale public health emergencies. Considering the immense and widespread impact of disaster events, it is suggested in the literature that healthcare workers would be significantly more susceptible to compassion stress and psychological distress while participating in disaster response when compared with the risk of exposure to traumatic stressors in usual practice [24]. While recent trends in disaster management showcase an increasing concern on addressing survivors' psychological and emotional needs [44], much less attention has been paid to the adverse emotional and psychological influence of disaster to healthcare workers, leading to the inadequacy of planning in the management of CF among first-line responders [24]. Disaster planners should, therefore, take into account the available organizational supports for frontline staff in coping with compassion stress and emotional disturbance in the course of disaster response and should incorporate proper staff deployment and rotation protocol in designing contingency and disaster response plans.

V. LIMITATIONS

There were several limitations inherent in this review. The main limitation lies in its narrow scope due to the limited studies conducted in assessing CF among healthcare workers. In addition, the composition of participants of the included studies was largely inclined to nurses, of which the findings might not be conclusive in addressing the issue of compassion stress on healthcare professionals other than nurses. A further limitation concerned the range of the study designs. Owing to the heterogeneity of research methods in the included articles, a meta-analysis is not feasible, which might probably affect the robustness of the findings of this review. Without ignoring these limitations, however, it is believed that this literature review could offer invaluable practical insights on the understanding of the issues of CF among healthcare workers in acute settings.

VI. CONCLUSIONS

Nurses are most susceptible to sustain a profound impact from CF in daily practice. The problem of CF is the result of the interaction between affected individuals and a host of risk factors including those that are intrapersonal, interpersonal, and organizational in nature. It not merely affects individuals' psychological well-being, but also adversely influences the service delivery of healthcare institutions. The findings of this review have contributed to a better understanding of the disparities in the prevalence of CF among healthcare workers in acute care contexts. The risk factors and the protective factors of CF development were also presented. The associated consequences of CF were addressed in this review as well. Recommendations for practice mainly focus on the better involvement of the organization in supporting the staff in lowering the risk and impact of CF. Further research on evaluating the existing coping strategies of healthcare workers and evaluating the quality of instruments in assessing CF is recommended.

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