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Factors associated with compassion fatigue among front line healthcare workers from low- and middle-income countries: a narrative review

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ABSTRACT

Compassion fatigue, also referred to as secondary traumatic stress or vicarious traumatisation, is characterised by a reduction in intrinsic empathy for others (patients), associated with mental and emotional exhaustion caused by ongoing exposure towards individuals suffering from emotional, physical, mental or spiritual trauma. This condition is often found in front-line healthcare workers such as nurses, doctors and allied health professionals, particularly those working under stressful conditions, with lower levels of support. This narrative review aimed to identify factors associated with compassion fatigue in low- and middle-income countries as defined by the World Bank.

The database search in MEDLINE (via PubMed) and an additional search in Google Scholar resulted in 595 hits, of which 38 were included in the review.

The key findings illustrated that CF was associated with individual factors like feelings of fear, resilience and coping strategies, and systems level factors such as intense workload and difficult role demands.

This narrative review highlights the significant impact of compassion fatigue on frontline healthcare workers in low- and middle-income countries. The findings emphasize the need for comprehensive strategies to enhance individual resilience and organizational support, aiming to create a more sustainable and compassionate healthcare environment.

Introduction

Compassion fatigue (CF) also referred to as secondary traumatic stress (STS) or vicarious traumatisation (VT) is a condition characterised by feelings of exhaustion and increased difficulty empathising with others, CF is caused by extensive second-hand exposure to traumatic events, described as interacting or providing support for individuals experiencing or who have experienced traumatic events. The term CF is often used alongside similar conditions, such as burnout, stress, and its counterpart, compassion satisfaction, which refers to the pleasure felt from helping others, especially during challenging times [1].

CF is primarily found in frontline health care workers (FLWs) with a prevalence of between 40–80 %, depending on country, work unit or work experience [2]. This high frequency is due to the nature of their role which means they are often put in situations where they have second hand exposure to traumatic events. Furthermore, FLWs who work in specialised hospice or palliative care are more susceptible to CF due to interacting with terminally ill patients or experiencing constant suffering [3]. Although it is apparent that these occupations are inherently associated with CF, it is not entirely clear what attributes or personal experiences of FLWs are associated with the severity of CF manifestations. For this review, FLWs are confined to nurses, physicians, social workers, psychologists, and spiritual care professionals.

Low- and middle-income countries (LMICs) are defined by the World Bank's Atlas method as those who have a gross national income per capita of USD 14,005 or less [4]. The residents of LMICs are often subject to poor health outcomes, lower quality of life indicators and often live in sub-optimal conditions[5] In addition, FLWs who reside in LMICs are subject to elevated levels of stress compared to other occupations in the same country or similar occupations in high income countries, which makes these individuals optimal subjects for interventions that target CF [6]. Focusing on health outcomes in LMICs is crucial because limited resources and sub-optimal working conditions exacerbate health disparities, making targeted interventions essential for improving overall well-being and productivity.

CF has a wide range of different manifestations, some manifestations

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are physical including headaches, fatigue, and lethargy, some are behavioural such as impatience and irritation [7]. In relation to FLWs specifically, CF can result in apathy and job dissatisfaction which could ultimately lead to reduced quality of care and poor interpersonal connection. This review aimed to identify different factors of FLWs from LMICs that are associated with CF. The review will focus on primary research articles no more than ten years old, that include FLWs from LMICs.

Methods

Database searches were conducted by TP in MEDLINE (PubMed) using the key terms: "(Compassion fatigue" OR 'Secondary Trauma*') AND "healthcare quality" AND ("low income" OR "developing") AND "front-line worker" OR ""healthcare worker". Additional search was conducted using the first two pages of Google Scholar using, "compassion fatigue" AND factors AND nurses, and "compassion fatigue" AND factors AND "healthcare workers", "compassion fatigue or secondary traumatic stress in frontline workers from low and middle income countries", and "compassion fatigue or secondary traumatic stress in frontline workers". The studies were screened by a single reviewer (TP) using excel spreadsheets.

The eligibility criteria were as follows: primary research articles from low- and middle-income country, written in English, that specified what FLW was involved, and participants were all from LMICs.

Results

The search in MEDLINE (via PubMed) and Google Scholar resulted in 595 hits, and these records were subjected to full text screening. The screening resulted in inclusion of 38 from PubMed and Google Scholar. As seen in Table 1, the articles included seven studies from low-income countries; including D.R. Congo [8,9] Ethiopia [10] and Uganda [11–14] five from lower – middle income countries; such as India [15] Jordan [16] Nepal [17] the Philippines [18] and Tunisia [19] and 26 from the upper – middle income countries, Bosnia and Herzegovina [20] China [21–34] Colombia [35] Iran [36,37] Malaysia [38] South Africa [39,40] and Turkey [41–45]. In relation to FLW type, 26 studies were centred around nurses [9–14,16,18,21–26,28–33,36,37,40,41,44,45] two on physicians [20,42] one on mental health workers [8] and the remaining nine were a combination of worker types(46).

Table 1
Summary of articles categorised by FLW type and by country of origin classified according to income level.

Demographics	N (%)	Articles
FLW type		
Nurses	26 (68.4)	[9–14,16,18,21–26] [28–33,36,37,40, 41,44,45]
Physicians	2 (5.3)	[20,42]
Mental health workers	1 (2.6)	[8]
Healthcare workers/ professionals*	9 (23.7)	[15,17,19,27,34,35,38,39,43]
Country		
- Low-income		
D.R. Congo	1 (2.6)	[8,9]
Ethiopia	2 (5.3)	[10]
Uganda	4 (10.5)	[11–14]
- Lower - middle income		
India	1 (2.6)	[15]
Jordan	1 (2.6)	[16]
Nepal	1 (2.6)	[17]
Philippines	1 (2.6)	[18]
Tunisia	1 (2.6)	[19]
- Upper - middle income		
Bosnia and Herzegovina	1 (2.6)	[20]
China	14 (36.8)	[21–34]
Colombia	1 (2.6)	[35]
Iran	2 (5.3)	[36,37]
Malaysia	1 (2.6)	[38]
South Africa	2 (5.3)	[39,40]
Turkey	5 (13.2)	[41–45]

* A combination of physicians, nurses, and/or other allied health workers.

The key findings of these articles were categorized into four types of factors: individual, interpersonal, systems level and consequences (Fig. 1). These factor groups were derived from the socio-ecological model (Fig. 1) [46] accompanied by an additional category focussing on the demographics of the participants. The socio-ecological model was chosen due to its holistic framework and interconnectedness between factors, which aptly portrays the research question.

Individual

Individual factors refer to the characteristics of a person that shape their identity, perceptions and behaviour. In this review, the majority of articles used age, sex, marital status, working experience and educational attainment as key demographics (Table 2). The association between these factors and CF were tested in a number of different studies. This review will only focus on age, sex, marital status, education status and work experience due to their commonality within the studies.

Age was described as a factor in 34 of the 38 studies, with four showing significant association with CF. One such study showed that those aged 26 to 30 and those between 31 and 35 had a higher CF [35] another showed increasing age was negatively correlated with CF [18] whilst other studies reported contrasting results with those aged 41 [28] and those aged 40–49 had the highest CF [39].

Sex or gender was included in 37 studies, however only three found a significant correlation with all three finding that females reported higher levels of CF [19,35,39].

Marital status was described as a factor in 26 studies, out of which three found a correlation. One showed that individuals who were divorced or separated had a higher incidence of CF [22] another showed that married people had a higher CF [19] and the third article showed that those who were married once had a lower CF [10].

Education was reported as a factor associated with CF in 27 studies, where four found a significant association. In relation to nurses higher education levels were negatively correlated with CF [9,10,22] whilst an opposite finding was identified for physicians with those who were held more certifications having higher levels of CF [20].

Finally, work experience was discussed as a factor in 30 studies, out of which seven found a significant correlation. The majority of studies showed that the greater the number of years of service the greater the frequency of CF [9,10,20,37] however, two studies showed the opposite, with years of experience negatively correlated with CF [11,18].

In addition to demographic factors, this review also identified that individuals with strong mental fortitude had a lower percentage of CF [18,21,22,30,35]. Individuals with active coping skills [10,16,31,40,43, 44] spiritual leadership(25), compassionate care [32] adaptability at work and self-efficacy [33,45] job satisfaction [10,32,33,39,43] the act of walking(14) and belief in woman's rights(39) were negatively correlated with CF. Conversely, factors positively associated with CF were poor sleep [29,33] burnout and perceived stress [12,15] experience of severe illness [32] self-judgement and over identification [32] fear and insecurity [8,19,36] neuroticism [27,31] and belief in informed choices [39].

Interpersonal

Interpersonal factors refer to one's immediate support system, which includes family, friends and their social network. Within this theme, studies conveyed that frequent exposure to terminally-ill or patients experiencing pain or trauma [36] having children [43] support from friends [27] and appearing distrustful to patients [33] were positively correlated with CF, however, support from family or a significant other

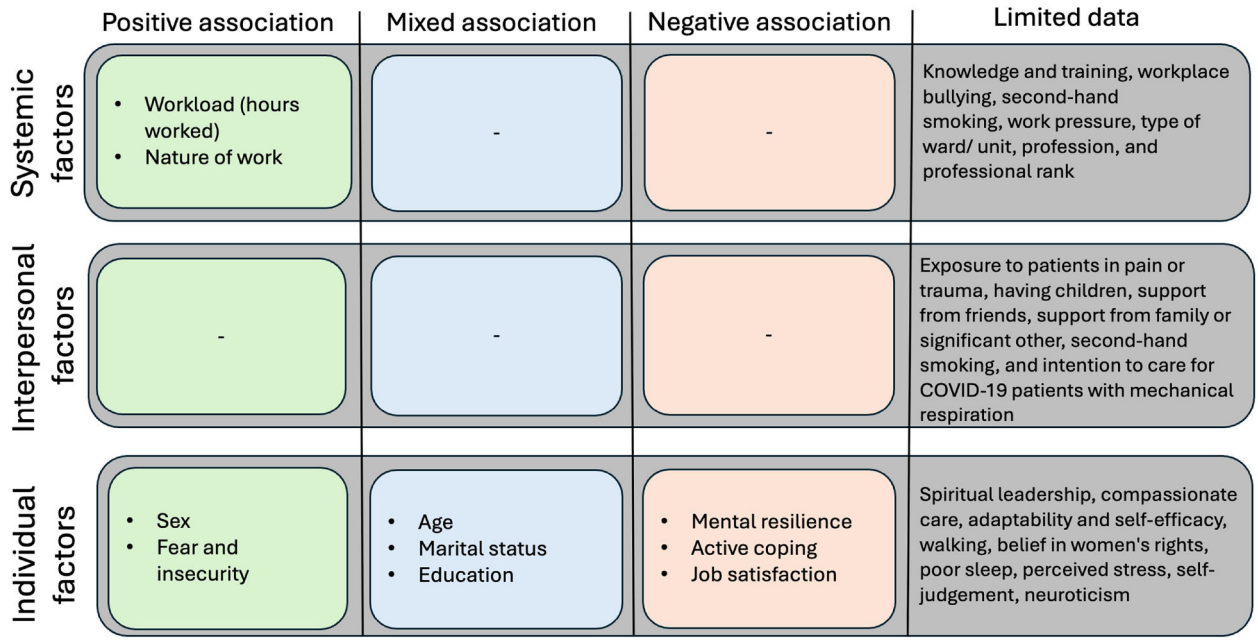

Fig. 1. Socio-ecological factors associated with CF (authors' creation based on data from included studies).

Table 2
Summary of characteristics included in each study and divided by theme.

Demographics	N(%)	Articles
Individual		
Age	34 (89.5)	[12,16,18,21–27,36,41–43,47]
Sex	37 (97.4)	[9–45]
Marital Status	26 (68.4)	[9,11,13,18,19,22,26–28,36,38, 41–43,47]
Education status	27 (71.1)	[9–11,13,15,16,18,20,22–33,35–38, 41,43,45]
Religion	4 (10.5)	[12,30,31,39]
Ethnicity	3 (7.9)	[17,21,38]
Only child	3 (7.9)	[22,26,28]
Interpersonal		
Have children	11 (28.9)	[12,15,22,28,30,33,38,39,41,43,45]
Number of household residents	3 (7.9)	[17,20,31]
Domicile locality	2 (5.3)	[15,30]
Systems level		
Total work experience in profession	30 (78.9)	[8,9,11,13,18,22,23,25,26,28,36,38, 41–43,47]
Work experience in current role	6 (15.8)	[9,18,23,31,36,37]
Position/profession	14 (36.8)	[12,17–19,22,27–30,33,34,38,39, 43]
Professional title/rank	144 (36.8)	[9,21–23,26–33]
Work department	25 (65.8)	[9,12,16,19,21,23,24,26,28–31, 36–38,45]
Work facility type	18 (47.4)	[8,12,14,15,17–20,26,36,39–43,47]
Employment type	5 (13.2)	[14,17,18,29,30]
Remuneration/income	8 (21.1)	[9–11,22,30,38,41,45]
Shift work	8 (21.1)	[9,17,29,36–38,44,45]
Number of nightshifts worked	3 (7.9)	[22,28,30]
Daily workload	6 (15.8)	[11,16,17,27–29]
Weekly workload	3 (7.9)	[16,30,45]

was found to be negatively associated with CF [27].

Systems level factors

Systems level factors also known as policy factors refer to things such as policy, legislation and other upstream determinants. The articles identified that hours worked [9,11,20,29] the nature of work [8,25,36] exposure to workplace violence and trauma [12,42], lack of knowledge and training(8), workplace bullying(13), second hand smoking [29] and work pressure(30) as significant positive associations with CF or STS. Other factors that were positively correlated with CF were the type of ward/unit [37] profession [17] and professional rank [30].

Consequences

This theme represents the consequences of CF, including short term and long-term effects of CF on FLWs. It was found that CF was positively associated with an intention to leave or change career [18,21,24,25,43] reduced quality of care [18] and intention to care for COVID-19 patients with mechanical respirators [23].

Discussion

The purpose of this narrative review was to examine the factors contributing to CF among FLWs with individual, interpersonal, and systems level factors all playing a significant role. The included studies were produced in 15 different LMICs with the majority coming from upper-middle countries. The studies included a number of different FLWs, but the majority focused on nurses. The key findings of our review identified individual factors such as fear and resilience, and systems level factors like workload and role demands, as predominant associates of CF.

In the current review, three studies indicated that there was a correlation between being female and a higher level of CF, which was identical to the results of a narrative review focussing on CF in mental health nurses [47]. Previous literature also highlighted a correlation between being female and an individual's level of CF [48,49]. These findings may be accurate in identifying the female sex as a factor for CF, but it may also be the consequence of the nursing profession, which has a significant female majority (approximately 89 %) [49]. This gender imbalance could influence the reported levels of CF. As such, it would be imperative for future research to rectify this unresolved determination. Age was not a clear factor, as it was positively as well as negatively associated with CF. It is not feasible within the scope of this study to explain these findings, however it could be due to the reason that younger staff are less mature in their coping responses, or that older staff have had more exposure to risk factors over their career, and/or may

hold positions of higher responsibility which could increase stress.

Our review identified a significant correlation between fear and elevated levels of CF among FLWs. This fear—whether rooted in emotional empathy, fear of infection, or anxiety about transmitting illness to loved ones—contributes meaningfully to the emotional burden experienced by FLWs. Research emphasized that fear was a defining element of the healthcare worker experience during the COVID-19 pandemic, identifying key sources such as inadequate access to personal protective equipment (PPE), the psychological strain of caring for critically ill patients, and moral distress due to resource limitations. They argued that such fear, if not addressed, could compromise adherence to infection prevention practices and reduce workforce effectiveness [50].

Supporting this, a large-scale cross-sectional study involving 2014 frontline nurses in Wuhan, China, during the height of the COVID-19 outbreak reported that 91.2 % of nurses experienced fear, with fear significantly associated with higher rates of anxiety (62.5 %), depression (69.2 %), and insomnia (76.8 %). Their findings also showed that younger nurses, those with less experience, and those with direct exposure to COVID-19 patients were more likely to report intense psychological distress [51]. The strong association between fear and these mental health outcomes indicates that unmanaged fear may directly contribute to emotional exhaustion and symptoms aligned with CF.

Despite being widely acknowledged, fear is rarely the central focus in studies on CF, and few explore how healthcare workers process or overcome it. This presents a critical gap in both the literature and the planning of workforce support system design.

Another key finding within the level of individual factors, was the role of resilience in healthcare workers' experience of CF. Higher levels of psychological resilience, defined as a person's ability to rebound from adversities or stress-provoking events [18] have repeatedly been associated with reduced levels of CF in many studies [35,52–56]. Personal resources including coping, resilience, and hardiness served as protective factors against the impact of the COVID-19 pandemic by reducing levels of CF [18,52].

Other studies report that psychological resilience plays a role in safeguarding against a range of negative factors that are closely correlated with CF such as stress, anxiety, PTSD, depression, emotional exhaustion, mental fatigue and sleep disturbance [57,58]. Psychological resilience has also been positively associated with better health (e.g., mental, psychological, and emotional health) and positive job outcomes (e.g., increased work performance, job engagement, and retention) in nurses despite stressful situations [59–64].

Furthermore, researchers are beginning to explore the mediating or moderating role that individual resilience may play in the relationship between CF and other variables of interest. For example, Labrague et al. (2021) administered the Compassion Fatigue Scale to 270 frontline nurses in the Philippines after the COVID-19 pandemic, and found that resilience mediated the relationship between CF and job satisfaction, turnover intention and nurse-reported quality of care, across different work environments such as critical care units, burns ward and emergency departments [18]. Psychological resilience has also been shown to moderate the relationship between workplace violence and turnover intention in Chinese nurses such that increased resilience reduced turnover intention in the face of workplace violence [21].

In addition to psychological resilience, another interesting study focused on moral resilience, that is, the ability to maintain, restore or promote their physical and mental health in response to ethical dilemmas in nursing. Chen X et al. (2024) utilized the Compassion Fatigue Scale and the Rushton Moral Resilience Scale in a sample of 569 Chinese nurses. Using regression modelling, they identified a four-factor moral resilience model which fit the data - high moral resilience (28.7 %), moderate moral resilience (52.3 %), low responses and high efficacy (16,2 %), and low moral resilience (2.8 %), all of which differentiated the responses on the CF scale. Nurses with bachelor degrees were more likely to fit in the high or moderate moral resilience categories, separated or divorced nurses who were very dissatisfied with their work had greater probability of fitting into the low moral resilience category. Nurses who had received ethical training were more likely to belong to the high moral resilience category, or the low responses and high efficacy category [22].

Following on, the final factor identified within this scope was active coping strategies and its impact on the level of reported CF. Six studies revealed that nurses who practiced active coping strategies such as seeking social support or mental disengagement, were less likely to develop CF, compared to nurses who relied on passive coping strategies such as avoidance or denial. This builds on a previous scoping review found that nurses who sought support from their relationships, learnt to say no and participated in physical activity were found to have lower levels of CF [58]. A systematic review identified that work-life balance and adequate self-care practices were integral to a sustainable career [59] which corroborates the findings of the present study that effective coping strategies and job satisfaction are critical in reducing CF in FLWs.

Building on these findings, our review highlights the significant role of job satisfaction in mitigating CF among FLWs. Several studies [20,28,29,34,39] found a strong negative correlation between job satisfaction and levels of CF. These findings are consistent with existing research, such as Spector (1997), which indicates that job satisfaction is closely linked to overall well-being and reduced stress levels among employees [60]. A positive work environment, supportive management practices, and opportunities for professional development contribute to higher job satisfaction, which in turn enhances resilience and reduces CF. This suggests that organizational interventions aimed at improving job satisfaction such as fostering a supportive culture, providing professional growth opportunities, and ensuring adequate resources are crucial in protecting healthcare workers from CF. Emphasizing job satisfaction in comprehensive interventions can help maintain the mental and emotional health of this vital workforce, ultimately leading to better patient care and retention of skilled staff.

Coetzee and Laschinger (2018) conducted an integrative literature review, analysing the results of 11 studies to develop a theoretical model of CF. In this research the authors described that it is not reduced empathy that puts nurses at risk of increased CF, but rather a lack of resources, inadequate positive feedback and the nurse's response to personal distress. However, it is worth noting that this research was conducted prior to the COVID-19 pandemic, which might have introduced a significant globally experienced stressor that could have substantially shifted the variance of factors contributing to CF in subsequent literature(65).

Our review highlighted workload and the nature of work as correlative factors to CF. Four studies within our review identified a significant association between workload and CF, and another three highlighted the connection between the nature of work and CF. The findings work in conjunction with previous literature [61–65] which highlight how CF in FLWs can be caused by the challenging nature of their work, including frequent exposure to pain and suffering, role ambiguity and extensive workload caused by a lack of resources and staff. This further exemplifies the need for a positive work environment and strong support systems, both organisational and personal, within hospital settings in order to minimise the frequency of CF levels in FLWs.

One of the most compelling findings of this literature review is the impact of CF on job turnover and career changes among FLWs. Several studies [8,12,14,15,34] identified a clear association between high levels of CF and the desire to leave the profession. This finding is consistent with previous narrative reviews that noted that CF significantly contributes to job dissatisfaction and increased turnover rates [64,65]. The emotional and psychological burden of CF can lead to burnout, decreased job satisfaction, and ultimately the decision to seek employment in less stressful fields. This trend not only affects individual careers but also poses a significant challenge to healthcare systems, which struggle with staff shortages and the loss of skilled personnel. Addressing CF through targeted interventions, such as those suggested

by Coetzee and Klopper (2010), is therefore crucial not only for the well-being of healthcare workers but also for maintaining the stability and efficiency of healthcare services [66]. Implementing strategies such as increased mental health support, resilience training, and workload management could help mitigate CF and retain this vital workforce.

To advance the understanding of CF among FLWs, it is crucial to establish a consistent definition of CF that accurately captures the domains it is intended to address. The current paucity of empirical data necessitates further research into the factors contributing to CF. Consistency in measurement tools, such as the Secondary traumatic stress scale, Compassion fatigue self-test, Compassion fatigue assessment scale and the Professional Quality of Life (ProQoL) assessments, is essential for reliable data on CF as an outcome [67]. Larger sample sizes are needed for robust quantitative analyses, including regression models to determine the direction of associations. Research should also extend beyond nurses to include other FLWs, such as those in palliative care. Comparing CF data pre- and post- COVID-19 will provide insights into the pandemic's impact on CF and how it has evolved. Additionally, more studies are required to explore the interaction between individual-level and system-level factors. Finally, developing and evaluating interventions to reduce CF among FLWs is imperative for improving their well-being and the quality of care they provide. Future research should aim to identify more upstream determinants and investigate long-term outcomes of implemented support programs.

This review is limited by the availability of recent studies and there may be potential biases in the included research. The studies included within this review were primarily cross-sectional and are reliant on voluntary participation, thus lack the ability to discern causality and are open to volunteer and recall bias. The studies are from LMICs, with a majority proportion from China, and hence cannot be generalized for the global context. Additionally, the absence of data on conflict-affected countries makes it difficult to classify the effect of conflict on factors of compassion fatigue. These limitations suggest caution in generalizing the findings without consideration of critical context.

Conclusion

This narrative review highlights the large shadow that CF cast over the lives of FLWs from different LMICs around the globe. The key findings suggest the multi-faceted nature of CF and the importance of a comprehensive approach to support healthcare workers. Given the unique national and local contexts, the findings of this review should be interpreted cautiously, necessitating context-specific research to inform local policy and practice. Our review could ideally be used to inform interventions and actions which focus on individual resilience and organizational support, with the purpose of creating a more sustainable and compassionate healthcare environment for FLWs of present and future.

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Ethical consideration

This review did not require institutional ethical approval because it is a secondary analysis of existing, publicly available data. It did not involve collecting new data from human or animal subjects.

CRediT author statement

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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