

A Systematic Review of the Measurement of Compassion fatigue, Vicarious Trauma, and Secondary Traumatic Stress in Physicians.

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Abstract

Compassion fatigue, vicarious traumatising and secondary traumatic stress, are all terms used to describe the potential emotional impact on health professionals of working with traumatised patients and clients. These terms are often used interchangeably although recent thinking supports some differences. The consequence of experiencing emotional distress as a result of patient contact is not less in physicians than in other health care professionals. However, these constructs have received little attention in the physician work force. This article reports on a systematic review of literature that reported one or more of these three constructs and as well as including attempts to measure them.

Keywords: *compassion fatigue, vicarious traumatising, secondary traumatic stress, physicians, systematic literature review*

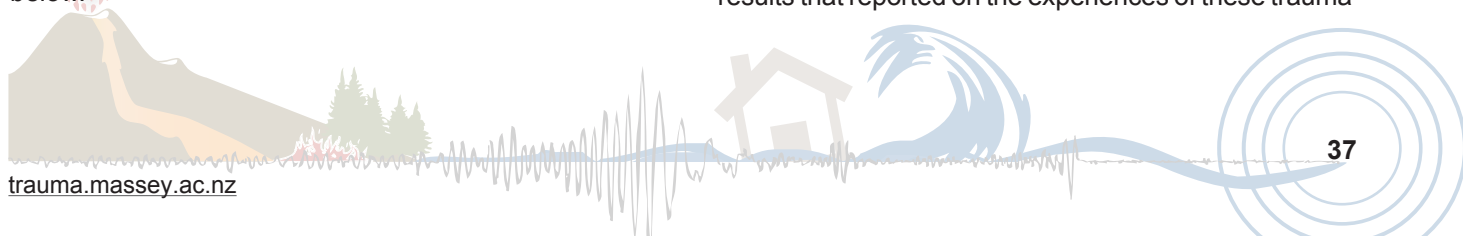
Introduction

Compassion fatigue, vicarious trauma and secondary traumatic stress describe a group of potential occupational hazards that are increasingly being recognised as such among those who work in caring roles (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Emery, Wade, & McLean, 2009; Pearlman & Saakvitne, 1995). A description of the three constructs appears below.

Although these work-related experiences are described as possibly having negative personal effects, there is a view that they should be regarded as a normal consequence of working in a caring and helping profession, and therefore there is a need to depathologise and normalise such emotional responses in relation to working with traumatised patients (Jenkins & Baird, 2002). Additionally, recent literature has conceptualized certain positive changes resulting from trauma work as vicarious posttraumatic growth (Arnold, Calhoun, Tedeschi, & Cann, 2005) or vicarious resilience (Hernandez, Gansei, & Engstrom, 2007).

Studies that have explored compassion fatigue, vicarious trauma and secondary traumatic stress often emphasise the significant and enduring repercussions when any such negative experiences are ignored (Bauer & Kracen, 2003; Bride, Hatcher, & Humble, 2009; DuBois, 2010). Reports of clinicians' experiences are often reflected in outcomes of emotional distress, pain, and suffering, and may manifest in increased rates of absenteeism, reduced service quality, low levels of efficiency, high attrition rates and eventually, workforce dropout (Darr & Johns, 2008; Figley, 1999; Garrett, 1999; Gorman & Brooks, 2009).

This article presents findings from a larger study that explored the existence and significance of compassion fatigue, vicarious trauma and secondary traumatic stress amongst professionals (physicians, emergency personnel, teachers) working in health, emergency services (police, fire and ambulance) and education. In the larger study, a series of literature reviews was conducted. First, a review of the literature assisted in characterising each trauma construct. This was done in order to gain an understanding of the constructs of compassion fatigue, vicarious trauma and secondary traumatic stress with respect to their definitions, theoretical implications and measurement. Second, systematic reviews of the trauma literature with respect to physicians, emergency personnel, and teachers, were carried out, employing the use of methodological protocols and quality assessment guidelines to review and assess the quality of literature found. Findings of the search were appraised, generating a series of results that reported on the experiences of these trauma



experiences amongst the three groups of professionals. This current study reports the findings in relation to physicians.

While compassion fatigue has been referred to in a number of articles reporting stress in physicians, very few articles have been found that have attempted to measure compassion fatigue, or the other two related constructs of vicarious trauma and secondary traumatic stress. This systematic review was conducted to identify those articles that reported attempts at measurement of one or more of these constructs.

The presence of these constructs, although receiving relatively little attention in the lives of physicians, are none the less of importance. A doctoral dissertation by one of the authors of the current study (PH) found that 17 percent of the 253 Resident doctors participating in the research showed high levels of compassion fatigue (Huggard, 2009).

This article will briefly outline the three constructs of compassion fatigue, vicarious trauma, and secondary traumatic stress, as well as commonly used measures. A description of the review process will then follow, detailing the search strategies, and search criteria and appraisal criterion used to assess the data. The discussion will then review findings of the physician literature appraisal. The purpose of this article was not to conduct a critical appraisal of the three constructs; however, there is still an on-going need for continued debate in order that accurate exploration of the constructs within health care settings can be conducted.

Construct analysis

The following section attempts to clarify conceptually the constructs of Compassion Fatigue (CF), Vicarious Trauma (VT) and Secondary Traumatic Stress (STS). This was conducted as there have been reported definitional overlaps between the constructs (Thomas & Wilson, 2004), thus highlighting the need to appraise current conceptualisations of these terms in the literature.

Compassion fatigue

Compassion fatigue is described as the diminished capacity of a health professional when experiencing the distress at knowing about or witnessing the suffering of their patients and clients (Boscarino, Figley & Adams, 2004; Figley, 1995; Figley, 2002a). It results in behaviours and emotions subsequent to the knowledge

of trauma inflicted upon a significant other (Figley, 1995). Earlier studies explored the vocational contexts of professionals working alongside trauma patients and the vicarious or empathetic responses of these professionals to the effects of trauma exhibited by their patients (Adams, Boscarino & Figley, 2006; Figley, 1995). This research helped to determine compassion fatigue as a consequential outcome of working with traumatised patients with emphasis placed on the level of exposure that professionals had to trauma and the capacity of professionals to empathise (Figley, 1995). Research on this construct contributed to the construction of two theoretical models which attempted to portray the general developmental pathways of compassion fatigue. Figley's model of Compassion Stress and Fatigue (Figley, 1995) and the reconceptualised version, the Professional Quality of Life (ProQOL) model (Stamm, 2005) both attempt to provide theoretical direction in understanding the development of compassion fatigue in a professional's life. A more recent description of the latter model is discussed in detail by Huggard, Stamm and Pearlman (2013).

Common instruments used for measuring compassion fatigue are the Compassion Fatigue/Satisfaction Self-Test (CFST) (Figley, 1995) and more recently, the ProQOL scale developed by Stamm (2005, 2009). The CFST measures the level of risk an individual might have to developing compassion fatigue and is perhaps the most universally applied measure due to its specific development for the measurement of both direct and indirect trauma (Bride, Radey & Figley, 2007; Marsay & Higson-Smith, 2005). The CFST scale was re-developed and re-named ProQOL following improvements in the psychometric problems of the CFST scale and also, to re-orientate current thinking behind compassion fatigue by emphasising the positive aspects of clinical practice such as compassion satisfaction (CS) – i.e. the gratifying and rewarding aspects of providing care (Stamm, 2005, 2009).

Vicarious trauma

Vicarious traumatisation is a term that describes the undesirable outcomes of working directly with traumatised populations and presents as negative transformative processes experienced by the health professionals when exposed to traumatised patients (Boscarino, Adams, & Figley, 2004; Figley, 2003; Pearlman & Saakvitne, 1995). This process arises out of the empathetic nature and engagement of the health

professional with the distressed patient or client (Figley, 2003; Trippany, Kress & Wilcoxon, 2004). At times, these negative and distressing effects of working with traumatised clients may not be recognised by the health professional (Trippany, Kress & Wilcoxon, 2004). The early description of vicarious traumatisation (McCann & Pearlman, 1990) conceptualised vicarious trauma as the change in cognitive representation and perception of the affected professional's psyche. Their Constructivist Self-Development Theory is a framework that helps to identify why clinicians respond to patient trauma in the way they do.

A commonly used method of measurement for vicarious trauma is the Traumatic Stress Institute Belief Scale – Revision L (TSI-BSL) which consists of an 80-item questionnaire measuring levels of disruption among five separate domains of safety, trust, control, esteem and intimacy (Jenkins & Baird, 2002). Another instrument used for measuring vicarious trauma is the Traumatic Stress Institute Life Events Checklist (TSI-LEC). In this measure, the scale attempts to identify the added vulnerability that an individual professional might have to the onset of vicarious trauma due to the personal trauma that may have occurred over the course of their own lives (Bride, Radey, & Figley, 2007).

Secondary Traumatic Stress

Secondary Traumatic Stress is a stress response resulting from witnessing or knowing about the trauma experienced by significant others (Bride, Robinson, Yegidis, & Figley, 2004; Figley, 1995; Figley, 2002b; Huggard, 2003). It has been defined as the destructive emotional distress resultant of an encounter with a traumatised and suffering patient or client who has suffered primary or direct trauma (Bride, Hatcher, & Humble, 2009). More recently, it is being recognised as driven by fear that arises from a threat to one's personal safety (Huggard, Stamm & Pearlman; 2013).

The Secondary Traumatic Stress Scale (STSS) developed by Bride, Hatcher, and Humble (2004) is a measure developed to quantify the negative effects that occur in those who encounter traumatised patients. The scale conceptualises secondary traumatic stress as a construct built upon the symptomatic components of post-traumatic stress disorder. It attempts to evaluate the incidence of arousal, avoidance and intrusion among professionals within these three sub-scaled domains.

There have been some attempts to better conceptualise the three constructs of compassion fatigue, vicarious

traumatisation, and secondary traumatic stress (Baird & Kracen, 2006; Thomas & Wilson, 2004). While there appear to be similarities between the constructs, individually they each contribute to an understanding of the positive and negative aspects of caring. Common characteristics between these three constructs are that they may be experienced by anyone working in a helping and caring profession, they are the result of exposure to the suffering of others, and such experiences may result in long term negatives effects on one's ability to perform one's professional roles and maintain safe and effective therapeutic relationships with patients and clients.

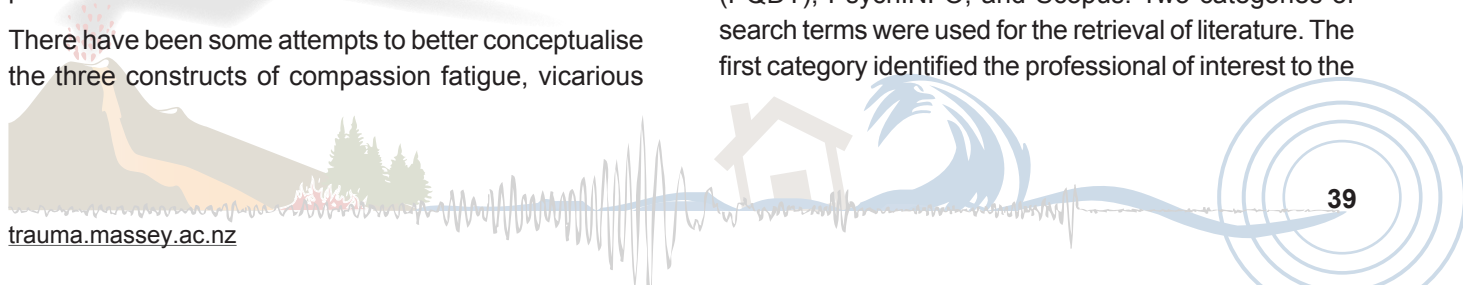
Methodology

Systematic review methodology

A systematic review of electronic literature was conducted to obtain scholarly articles for appraisal. Systematic methodologies and quality criterion were reviewed and applied as guidelines for carrying out the search and appropriating the literature. Preliminary searches of the literature helped to identify suitable databases for inclusion whilst they also facilitated in the development and application of particular search conditions. The search criteria encompassing inclusion and exclusion measures, further narrowed the return of literature resulting in a small number of articles. There are several methodologies and guideline for the optimal reporting of systematic reviews and meta-analyses in healthcare research, specifically for quantitative studies such as observational studies, randomised control studies and public health interventions (Brand, 2009; Moher, Liberati, Tetzlaff & Altman, 2009; Sensky, 2003). One of these, the PRISMA protocol, was chosen to be used in the current study as this protocol is able to be applied to both meta-analytical and systematic literature reviews (Moher, Cook, Eastwood, Olkin, Rennie, & Stroup, 1999). Figure 1 depicts each step of the systematic retrieval of literature.

Search strategy

A series of databases, keywords and search criteria helped to narrow the return of literature on physicians. A number of wide-ranging databases were searched, including CINAHL Plus, ERIC, Medline & Medline In-Process (M/MIP), PILOTS, ProQuest Educational Journals (PQEJ), ProQuest Dissertations & Theses (PQDT), PsychINFO, and Scopus. Two categories of search terms were used for the retrieval of literature. The first category identified the professional of interest to the



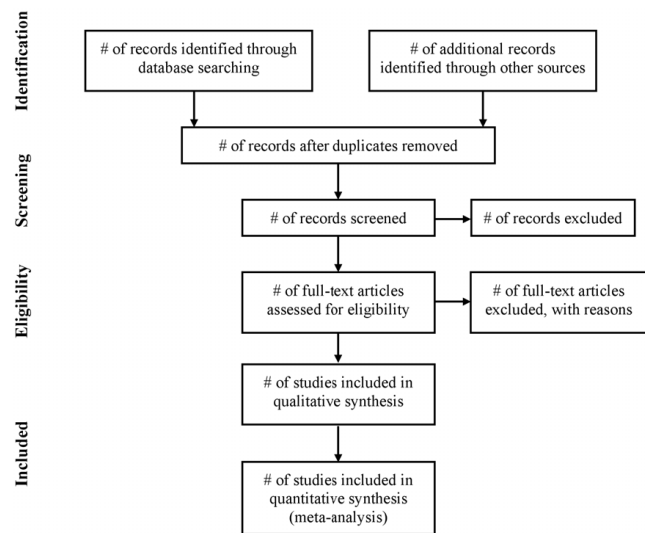


Figure 1.: The PRISMA guidelines, a flow of information through the different phases of a systematic review. Sourced from: Moher, D., Liberati, A., Tetzlaff, J. & Altman, D. G. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Medicine, 6(7), e1000097. doi:10.1371/journal.pmed.1000097.g001

research (physicians) with the second category identified the trauma-related concepts that were of interest (compassion fatigue, vicarious trauma and secondary traumatic stress). These terms were combined with “AND” to produce a comprehensive search string for the retrieval of literature.

The literature returned from each database was screened for relevancy by the application of inclusion and exclusion criteria. For articles to have been made eligible for inclusion in one of the systematic reviews, the article must have: (i) at least studied or included the interested professional group/occupation and (ii) to have measured at least one of the traumatology concepts among this group. Exclusion of articles was based on those that were: (i) not of the English language, and, (ii) were documents other than journal articles, reports or theses/dissertations.

Quality appraisal

Systematic reviews require literature of the highest available quality to help answer proposed ‘clinical’ aims and objectives regarding the effectiveness of a given treatment or therapy (Glasziou, Vandenbroucke & Chalmers, 2004). Various criteria for assessing the quality of literature have been reported (Pluye, 2009), however no one set of assessment criteria was identified that would be suitable for the range of articles that might be retrieved during the current systematic review. From existing literature, a set of criteria was developed to assess the quality of literature retrieved (Table 1).

Table 1: Criterion used to appraise quality among the traumatology literature reviewed

Quality Criterion	Y/N
1. The research question/aims/objectives is clearly explained	—
2. An appropriate study design has been used	—
3. The study adequately describes the following:	
(i) Sample/Participants	—
(ii) Sample strategy	—
(iii) Methods	—
(iv) Data collection methods	—
(v) Context of collection	—
4. Construct description and definition	—
5. Researcher reflexivity provided	—
6. Ethical concerns mentioned	—

Quality criteria 5 (researcher reflexivity), used in this review, is a novel construct that concerns the researchers disclosure of their brief personal narratives on their current biases, beliefs, and behaviours, especially in the field of qualitative research (Watt, 2007). For each article found, titles and abstracts were initially examined to determine whether the selection criteria (physicians PLUS one or more of the three constructs PLUS measurement of the construct[s]) were met. If an article was unable to meet these criteria, the reference was excluded and the full text article was not retrieved. The data abstracted from each article includes author and year of publication, the journal or publication, research objectives, population or sample used for the study, the construct measured, type of instrument used to measure the construct, analysis measures undertaken and results of the study.

Results of the search for Physicians

Fifty-six references were retrieved from the selected databases. Table 2 below displays the findings for each database searched before the removal of duplicates.

Table 2: Number of articles sourced from each database

Physician AND	CF	VT	STS
CINHAL Plus	5	0	0
ERIC	0	0	0
ETHOS	0	0	0
M/MIP	6	3	1
PILOTS	0	0	2
PQDT	4	0	4
PQEJ	0	0	0
PsychINFO	4	0	2
Scopus	18	4	3

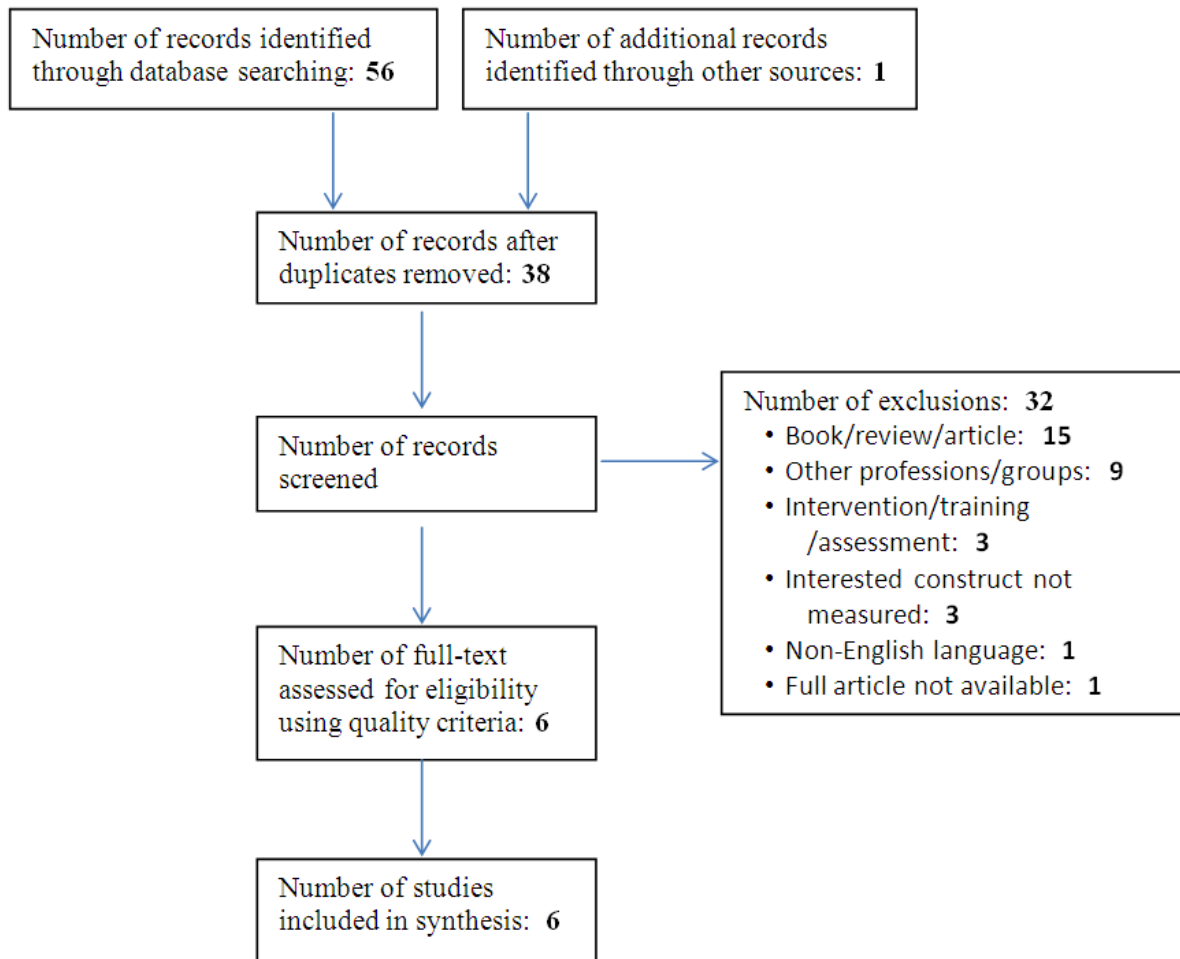


Figure 2. An adapted PRISMA flow diagram of the literature selection process for inclusion in the systematic review for Physicians

Results were then combined and duplicates removed, leaving 38 articles. Further analysis of reference titles, abstracts and reference lists was made. Of the 38 references, six were identified to have fulfilled the search criteria. Figure 2 shows the systematic process used for the search of literature.

Articles included in the review

Table 3 (next page) lists the six articles, dissertations, and reports that were identified as meeting the search criteria. The first reference (Markwell, & Wainer, 2009) is based on the earlier more extensive survey conducted by the Australian Medical Association (2008).

Quality appraisal

Quality appraisal of the 6 studies was carried out. Scores allocated to each criterion listed in Table 2 are shown in Table 4. Each ‘Y’ counts as 1 point, with the exception

of criterion 3, which is broken up into five sub-questions and therefore a ‘positive’ or ‘Yes’ score being given only 0.2 points. These points are then added together, the highest total being 6. This is then divided by the total number of criteria to give a percentage in decimal form, the highest score being 1.0. Four articles met all the quality appraisal criteria previously listed in Table 2.

Table 4. Summary of quality scores

Criterion	1	2	3(i)	(ii)	(iii)	(iv)	(v)	4	5	6	Total Score
Articles											
Markwell	N	Y	Y	Y	Y	Y	N	N	N	N	0.3
AMA	Y	Y	Y	Y	Y	Y	Y	Y	N	N	0.67
Reese	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
Way	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
Van Deusen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
Garrett	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1

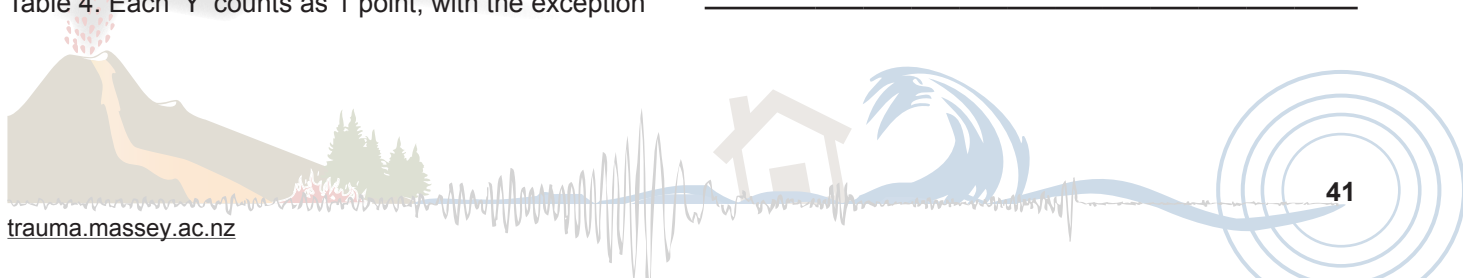


Table 3. Physician-related references identified from the systematic review

Reference	Research Aims and Measures Used	Results
Markwell, A. L., & Wainer, Z. (2009). The health and wellbeing of junior doctors: Insights from a national survey. <i>Medical Journal of Australia</i> , 191(8), 441-444.	To assess several areas related to junior doctors' health and wellbeing, including; intention to continue to practise medicine, perceptions of morale and wellbeing, career satisfaction, workload and the working environment, coping strategies when faced with work-related stress; and self-care and work-life balance. Compassion fatigue was measured using the ProQOL.	A majority of junior doctors (54%) met the criteria for compassion fatigue.
Australian Medical Association (2008). <i>AMA survey report on junior doctor health and wellbeing</i> . ACT, Australia: Australian Medical Association.	To obtain a view of the health and wellbeing of junior doctors and assess how well they are coping with the pressures of balancing work, study and, in many cases, family commitments at the start of their professional careers. The survey also aimed to establish a national baseline from which the Australian Medical Association will be able to monitor trends in the health and wellbeing of junior doctors. Compassion fatigue was measured using the ProQOL.	54% of doctors surveyed are at risk of compassion fatigue and/or secondary traumatic stress
Reese, M. (2008). <i>Compassion fatigue and spirituality with emergency health care providers</i> . Unpublished doctoral dissertation, Regent University, Virginia, USA.	To examine the relationships between the constructs burnout, compassion fatigue and compassion satisfaction (as measured by the ProQOL) with demographics, job satisfaction and spirituality among emergency health care providers.	A statistically significant relationship was found between spirituality and compassion fatigue. A statistically significant inverse relationship was also found between participant age and compassion fatigue
Van Deusen, K. M., & Way, I. (2006). Vicarious trauma: an exploratory study of the impact of providing sexual abuse treatment on clinicians' trust and intimacy. <i>Journal of Child Sexual Abuse</i> , 15(1), 69-85.	To examine whether male and female clinicians who treat sexual abuse survivors had altered cognitions about trust of and intimacy with others (as indicators of vicarious traumatisation) , as well as a history of personal childhood maltreatment. Vicarious traumatisation was measured using the Trauma Stress Institute Belief Scale.	There was no relationship between a history of child sexual abuse and vicarious trauma effects. Scores for self-reported disruption in cognitions about intimacy with others exceeded norms for mental health professionals.
Way, I., Van Deusen, K. M., & Cottrell, T. (2007). Vicarious trauma: Predictors of clinicians' disrupted cognitions about self-esteem and self-intimacy. <i>Journal of Child Sexual Abuse</i> , 16(4), 81-98	To explore whether male and female clinicians who treat sexual abuse survivors or offenders experience different vicarious trauma effects and the contribution of variables associated with vicarious traumatisation as measured by the Trauma Stress Institute Belief Scale. This study particularly focused on cognitions of self as an indicator of vicarious traumatisation.	Male gender predicted greater disrupted cognitions about self-esteem and self-intimacy. Clinician age (inverse relationship) and childhood emotional neglect predicted greater disrupted cognitions about self-intimacy.
Garrett, C. (1999). <i>Stress, coping, empathy, secondary traumatic stress and burnout in healthcare providers working with HIV-infected individuals</i> Unpublished doctoral dissertation. New York University, New York, USA	To explore how different healthcare providers experience stress, coping, empathy, burnout and secondary traumatic stress (measured by the Compassion Satisfaction/Fatigue Self-Test) to explore the differences between these professionals on a number of variables	Physicians in this study showed low levels of secondary traumatic stress

Discussion

The research results suggest that physicians, like other health professionals, may experience compassion fatigue and vicarious trauma; however no articles were found that described measuring secondary traumatic stress in physicians. The reason for such an absence of articles is unclear but may be due to a limited acceptance of the term "secondary traumatic stress" in the health professional literature. High presence of the risk of developing compassion fatigue was reported in two linked studies (Australian Medical Association, 2008; Markwell & Wainer, 2009). Two studies identified physician age as being significantly and inversely

related to compassion fatigue (Reese, 2008) or vicarious trauma (Way, VanDeusen & Cottrell, 2007). Reese's study also reported a significant relationship between compassion fatigue and spirituality and Way et al. reported that male gender and childhood emotional neglect predicted vicarious traumatisation. Two studies (Garrett, 1999; VanDeusen & Way, 2006) reported that the nature of a physician's work may be a potential risk factor for the development of compassion fatigue or vicarious traumatisation. They suggested that physicians who provided certain types of care, such as sexual abuse therapy (Van Deusen & Way, 2006) or HIV-AIDS treatment (Garrett, 1999), may be at greater risk.

The generalisation of these results to wider populations of physicians must be treated cautiously, as the sampling methodologies employed across the studies limited the scope for generalisability. Most of the studies used some form of convenience sampling. This involved the recruitment of participants through organisational membership or through their employment in certain geographical areas and programmes. However, results from the studies included for review do indicate that the constructs are present in the groups of physicians studied. Literature identified since the current systematic review was conducted has reported on the presence of compassion fatigue in resident doctors (Huggard & Dixon, 2011; Huggard, Stamm & Pearlman, 2013).

Conclusion

The results of this study highlight that research into the presence of compassion fatigue, vicarious trauma and secondary traumatic stress in physicians has received little attention, despite being reported as negatives experience by this group of health professionals. This lack of literature suggests opportunities for further research in this area, and particularly research focusing on gaining an understanding of the causative effects. Within a clinical environment, the interaction of the various constructs, as well as with those of burnout and compassion satisfaction, is complex, and therefore the design of studies aimed at further exploring these constructs and interactions may present some methodological difficulty. An additional area of research relates to studying the effect of preventative or mitigating interventions aimed at assisting physicians to manage the effects of compassion fatigue, vicarious traumatisation, or secondary traumatic stress. Various articles report a variety of behaviours and practices aimed at mitigating the effects of compassion fatigue, vicarious traumatisation, and secondary traumatic stress. However, although a review of preventative interventions was not the purpose of the current study, no articles were identified in this systematic review that reported on research measuring the effectiveness of any such interventions.

References

- Adams, R. E., Boscarino, J. A., & Figley, C. R. (2006). Compassion Fatigue and Psychological Distress Among Social Workers: A Validation Study. *American Journal of Orthopsychiatry*, 76(1), 103-108.
- Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochalski, J., & Silber, J. H. (2002). Hospital Nurse Staffing and Patient Mortality, Nurse Burnout, and Job Dissatisfaction. *JAMA: The Journal of the American Medical Association*, 288(16), 1987-1993.
- Arnold, D., Calhoun, R.G., Tedeschi, R., & Cann, A. (2005). Vicarious posttraumatic growth in psychotherapy. *Journal of Humanistic Psychology*, 45(2), 239-263.
- Australian Medical Association (2008). *AMA survey report on junior doctor health and wellbeing*. ACT, Australia: Australian Medical Association.
- Baird, K., & Kracen, A. C. (2006). Vicarious traumatization and secondary traumatic stress: A research synthesis. *Counselling Psychology Quarterly*, 19(2), 181-188.
- Bauer, J., Häfner, S., Kächele, H., Wirsching, M., & Dahlbender, R. W. (2003). The burn-out syndrome and restoring mental health at the working place. *Burn-out und wiedergewinnung seelischer gesundheit am arbeitsplatz*, 53(5), 213-222.
- Boscarino, J. A., Figley, C. R., & Adams, R. E. (2004). Compassion fatigue following the September 11 terrorist attacks: A study of secondary trauma among New York City social workers. *International Journal of Emergency Mental Health*, 6(2), 57.
- Brand, R. A. (2009). Standards of Reporting: The CONSORT, QUOROM and STROBE guidelines. *Clinical Orthopaedics and Related Research*, 467, 1393 - 1394.
- Bride, B. E., Robinson, M. M., Yegidis, B., & Figley, C. R. (2004). Development and Validation of the Secondary Traumatic Stress Scale. *Research on Social Work Practice*, 14(1), 27-35.
- Bride, B. E., Radey, M., & Figley, C. R. (2007). Measuring Compassion Fatigue. *Clinical Social Work Journal*, 35(3), 155-163.
- Bride, B. E., Hatcher, S. S., & Humble, M. N. (2009). Trauma Training, Trauma Practices, and Secondary Traumatic Stress Among Substance Abuse Counselors. *Traumatology*, 15(2), 96-105.
- Darr, W., & Johns, G. (2008). Work Strain, Health, and Absenteeism: A Meta-Analysis. *Journal of Occupational Health Psychology*, 13(4), 293-318.
- DuBois, A. (2010). *An inquiry of the lived experiences and contextual understandings of early childhood special educators related to children's trauma (3427789)*. Unpublished doctoral dissertation. Duquesne University, Pennsylvania, USA.
- Emery, S., Wade, T. D., & McLean, S. (2009). Associations among therapist beliefs, personal resources and burnout in clinical psychologists. *Behaviour Change*, 26(2), 83-96.
- Figley, C. R. (1995). Compassion fatigue as secondary traumatic stress disorder: An overview. In C.R. Figley (Ed.). *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized*, (pp. 1-20). New York, NY: Brunner/Mazel.
- Figley, C. R. (1999). Compassion fatigue: Towards a new understanding of the costs of caring. In B. H. Stamm (Ed.), *Secondary traumatic stress: Self-care issues for clinicians, researchers, & educators* (2nd ed., pp. 3-28). Lutherville, MD: Sidran Press.
- Figley, C. R. (2002a). Compassion fatigue: Psychotherapists' chronic lack of self care. *Journal of Clinical Psychology*, 58(11), 1433-1441.
- Figley, C. R. (2002b). *Treating compassion fatigue*: New York, NY: Brunner-Routledge.

- Figley, C. R. (2003). Compassion fatigue: An introduction. Retrieved November 15, 2011, from <http://www.giftfromwithin.org/html/cmpfatig.html>
- Garrett, C. (1999). *Stress, coping, empathy, secondary traumatic stress and burnout in healthcare providers working with HIV-infected individuals*. Unpublished doctoral dissertation. New York University, New York, USA.
- Gorman, D. F., & Brooks, P. M. (2009). On solutions to the shortage of doctors in Australia and New Zealand. *Medical Journal of Australia*, 190(3), 152-156.
- Hernández, P., Gangsei, D., & Engstrom, D. (2007). Vicarious resilience: A new concept in work with those who survive trauma. *Family Process*, 46(2), 229-241.
- Huggard, P. (2003). Secondary traumatic stress. *New Ethicals*, 9-14.
- Huggard, P. (2009). *Managing compassion fatigue: implications for medical education*. Unpublished doctoral dissertation: University of Auckland, Auckland, New Zealand.
- Huggard, P.K. & Dixon, R. (2011). "Tired of Caring": the impact of caring on Resident Doctors. *Australasian Journal of Disaster and Trauma Studies*, 2011(3), 105-111.
- Huggard, P.K., Stamm, B.H. & Pearlman, L.A. (2013). Physician Stress: Compassion Satisfaction, Compassion Fatigue and Vicarious Traumatization. In C.R. Figley, P.K. Huggard & C. Rees (Eds.), *First Do No Self-Harm* (pp.127-145). New York: Oxford University Press.
- Jenkins, S. R., & Baird, S. (2002). Secondary Traumatic Stress and Vicarious Trauma: A Validation Study. *Journal of Traumatic Stress*, 15(5), 423-432.
- Markwell, A. L., & Wainer, Z. (2009). The health and wellbeing of junior doctors: Insights from a national survey. *Medical Journal of Australia*, 191(8), 441-444.
- Marsay, G., & Higson-Smith, C. (2005). Exploring Compassion Fatigue and Trauma in the South African Learning Environment. Retrieved November 15, 2011, from <http://www.learningandviolence.net/violence/MarsayViolence.pdf>
- McCann, I. L., & Pearlman, L. A. (1990). Vicarious traumatization: A framework for understanding the psychological effects of working with victims. *Journal of Traumatic Stress*, 3(1), 131-149.
- Meadors, P., Lamson, A., Swanson, M., White, M., & Sira, N. (2009). Secondary traumatization in pediatric healthcare providers: compassion fatigue, burnout, and secondary traumatic stress. *Omega: Journal of Death & Dying*, 60(2), 103-128.
- Moher, D., Cook, D. J., Eastwood, S., Olkin, I., Rennie, D., & Stroup, D. F. (1999). Improving the quality of reports of meta-analyses of randomised controlled trials: the QUOROM statement. *Lancet*, 354(9193), 1896-1900.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Prisma Group, T. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med*, 6(7), e1000097.
- Pearlman, L. A., & Saakvitne, K. W. (1995). Treating therapists with vicarious traumatization and secondary traumatic stress disorders. In C.R. Figley (Ed.), *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized*, (pp.150-177). New York, NY: Brunner/Mazel.
- Pluye, P., Gagnon, M.-P., Griffiths, F., & Johnson-Lafleur, J. (2009). A scoring system for appraising mixed methods research, and concomitantly appraising qualitative, quantitative and mixed methods primary studies in Mixed Studies Reviews. *International Journal of Nursing Studies*, 46(4), 529-546.
- Reese, M. (2008). *Compassion fatigue and spirituality with emergency health care providers*. Unpublished doctoral dissertation, Regent University, Virginia, USA.
- Sensky, T. (2003). The utility of systematic reviews: The case of psychological debriefing after trauma. *Psychotherapy and Psychosomatics*, 72(4), 171 - 175.
- Stamm, B. H. (2005). *The ProQOL manual*. Pocatello, ID: Idaho State University.
- Stamm, B. H. (2009). *The concise ProQOL manual*. Pocatello, ID: ProQOL.org.
- Thomas, R.B. & Wilson, J.P. & (2004). Issues and controversies in the understanding and diagnosis of compassion fatigue, vicarious traumatization, and secondary traumatic stress disorder. *International Journal of Emergency Mental Health*, 6(2), 81-92.
- Trippany, R. L., Kress, V. E. W., & Wilcoxon, S. A. (2004). Preventing vicarious trauma: What counselors should know when working with trauma survivors. *Journal of Counseling & Development*, 82(1), 31-37.
- VanDeusen, K. M., & Way, I. (2006). Vicarious trauma: an exploratory study of the impact of providing sexual abuse treatment on clinicians' trust and intimacy. *Journal of Child Sexual Abuse*, 15(1), 69-85.
- Watt, D. (2007). On becoming a qualitative researcher: The value of reflexivity. *The Qualitative Report*, 12(1), 82-101.
- Way, I., VanDeusen, K. M., & Cottrell, T. (2007). Vicarious trauma: Predictors of clinicians' disrupted cognitions about self-esteem and self-intimacy. *Journal of Child Sexual Abuse*, 16(4), 81-98.