



University of HUDDERSFIELD

University of Huddersfield Repository

Edward, Karen-Leigh and Ousey, Karen

The Role of Resilience in Rebuilding Lives of Injured Veterans

Original Citation

Edward, Karen-Leigh and Ousey, Karen (2016) The Role of Resilience in Rebuilding Lives of Injured Veterans. *Journal of Wound Care*, 25 (10). pp. 571-575. ISSN 0969-0700

This version is available at <http://eprints.hud.ac.uk/29413/>

The University Repository is a digital collection of the research output of the University, available on Open Access. Copyright and Moral Rights for the items on this site are retained by the individual author and/or other copyright owners. Users may access full items free of charge; copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational or not-for-profit purposes without prior permission or charge, provided:

- The authors, title and full bibliographic details is credited in any copy;
- A hyperlink and/or URL is included for the original metadata page; and
- The content is not changed in any way.

For more information, including our policy and submission procedure, please contact the Repository Team at: E.mailbox@hud.ac.uk.

<http://eprints.hud.ac.uk/>

Title: The Role of Resilience in Rebuilding Lives of Injured Veterans

Authors

Karen-leigh EDWARD PhD

Associate Professor of Nursing Research, ACU

Director/Chair, St Vincent's Private Hospital (Melbourne), Nursing Research Unit

Visiting Professor, University of Huddersfield UK

Mailing address -Faculty of Health Sciences

Australian Catholic University

Locked Bag 4115 FITZROY MDC 3065

E: karen-leigh.edward@acu.edu.au

T: +61 (03) 9411 7338

Karen OUSEY PhD

Professor and Director for the Institute of Skin integrity and Infection Prevention

Clinical Associate Professor, Australian Catholic University

Mailing address -R1/29, Ramsden Building

School of Human and Health Sciences

University of Huddersfield

Queensgate, Huddersfield

HD1 3DH

T: 0044 (1) 484473462

E: K.J.Ousey@hud.ac.uk

Abstract

The aim of this commentary is to discuss potential clinical implications of introducing resilience building interventions into care for veterans who are living with a war wound. Some war veterans are expected to live with a wound upon discharge from an active military role and also to fit into civilian life. These lifestyle adjustments can tax the person's coping abilities and in that context may hinder successful adaptation. The experience of living with a wound or wounds, either acute or chronic, is connected to losses, including loss of mobility, loss of financial capacity (unable to work during some of the wound healing period) and losses attached to changed social roles. Psychological stress is also a common experience for veterans returning to civilian life. Psychological stress is associated with impaired healing or dysregulation of a biomarker associated with wound healing. Modern health practice is centred on symptom reduction and working with pathology however, working with people's adaptive behaviours such as resilience has not been a consideration. Using the resilience model as a conceptual framework healthcare professionals can engage with veterans towards resilience within the context of their personal experience of ill health. Using this contemporary framework for considering these aspects of care has the potential to facilitate resistance to stressors associated with being injured potentially averting quality of life impairments.

Key Words: Resilience, veterans, wounds, psychological

Declaration of interest: There are no declarations of interest.

Introduction

Veterans and wound care service utilisation varies dependent upon access to services and their own social contexts. ¹ The experience of living with a wound or wounds, either acute or chronic, acute wounds, for example surgical incisions, follow the normal healing trajectory of haemostasis and formation of a fibrin clot over the wound surface, progressing through the destructive inflammatory phase and then restorative, proliferative phase,² they will heal with no complications. In contrast chronic wounds are stalled at one of these healing stages,³ usually happening during the

inflammatory phase and is linked to elevated levels of matrix metalloproteinases (MMPs) in the wound. ⁴ Living with an acute or chronic wound is connected to losses, including loss of mobility, loss of financial capacity (due to being unable to work through some of the wound healing period) and losses attached to changed social roles. ⁵ Indeed the psychological effects of living with a malignant wound have been investigated. ⁶⁻⁸ Lo et al.,⁶ identified that patients with a malignant fungating wound has disturbed sleep patterns and received lower quality of life scores using the Taiwanese version of the McGill quality of life questionnaire. The psychological impact for veterans with wounds can be significant, where the effects of adverse psychological events occur most often when there are permanent changes in the body's structure or function(see figures A and B). It is well known living with pain, loss of mobility, and experiencing altered sleeping habits can impact both the physical and mental wellbeing of people. Losing control over the body can impede feelings of resilience in people, which may be exacerbated by a lack of information and advice about how to self-manage their wound as well as the physical limitations and psychosocial consequences. ⁹ Psychosocial consequences can encompass mood disturbances such as Post Traumatic Stress Disorder (PTSD), depression, ¹⁰ isolation, anxiety and stigma. ¹¹ The aim of this commentary is to discuss potential clinical implications of introducing resilience building interventions into the clinical care of veterans who are living with a war wound which may fail to follow the normal healing trajectory following discharge from the services.

Figure A - Blast injury (Copyright: Free to use even commercially through simple.wikipedia.org)



Figure B –Shrapnel wounds (Copyright: Free to use even commercially through commons.wikimedia.org)



Psychological Stress

The prevalence of post trauma stress globally for veterans of war or peace keeping operations can be as high as 17%.¹² For example a retrospective analysis of the prevalence of PTSD in a survey of American soldiers (both female and male) deployed to Somalia between 1992- and 1994 revealed a prevalence of PTSD of 8% (with no gender differences observed).¹³ The prevalence of combat-related PTSD in the United States since the Vietnam War ranges from 2-17% and similar statistics exist in US Iraq War veterans (4-17%).¹² Richardson and colleagues identified that following the 1990-91 Gulf war, veterans that were deployed reported greater ill health compared to those veterans who did not serve in the Gulf War especially related to significant fatigue and psychological stress. Others described peripheral, respiratory, gastrointestinal, and psychological problems. Similarly a large study undertaken by Simmons et al¹⁴ of UK veterans deployed to the Gulf war (n=24,379) compared to non-Gulf war veterans (n=18,439) (demographically similar personnel who were in service on Jan 1st 1991) revealed that while the physical manifestations were comparable between the two groups the prevalence of mental disorders and fatigue were worse in the veterans who were deployed. The study was retrospective and used a validated questionnaire mailed out to eligible veterans in the UK (n=42,818). Interestingly of the veterans who answered the question related to whether they considered they had Gulf war syndrome (GWS) (n=23,103) 5.6% believe they did while nearly 41% said they were unsure. While the healthcare systems of each country listed here is different, clearly more information related to reporting ill health for veterans is needed.

Psychological symptoms are reported as being more common in women than in men or non-deployed personnel while alcohol misuse was more common in men.¹⁵ A range of clinical studies¹⁶⁻¹⁸ have identified that psychological stress is associated with impaired healing or dysregulation of a biomarker associated with wound healing across different clinical and experimental wounds in both cutaneous and mucosal tissue types. Intervention studies have provided evidence of an association

between stress and healing¹⁹ with stress being associated with slower or delayed wound healing in stressed older adults, adults with leg wounds, people with diabetes and surgical patients.²⁰ Cole-King, Harding²¹ examined the relationship between the healing of chronic wounds and anxiety and depression. Psychological and clinical wound assessments were conducted, with the investigators and participants blinded to the results of the other assessments. The relationship between the healing of chronic wounds and anxiety and depression was statistically significant: delayed healing was associated with a higher mean Hospital Anxiety and Depression Scale score ($p=0.03$), demonstrating that symptoms of both depression and anxiety were associated with chronic wound healing. Walburn, Vedhara, Hankins, Rixon, Weinman²² in their systematic review examining the effect of stress on wound healing concluded that the size of the relationship between stress and wound healing was estimated to be $r=-0.42$, classified as a medium effect size, suggesting that it may be of significance clinically as well as statistically.

Having A Wound And Being Resilient

Modern health practice is centred on symptom reduction and working with pathology however, working with people's resilience has not been a consideration. Being resilient in reality translates to the idea when individuals believe that life events and outcomes are manageable, learned helplessness is avoided and, active attempts are made by the individual to overcome aversive situations opening the possibility of moving forward and achieve resilience.²³⁻²⁵ Alternatively, when individuals think they are incapable of controlling what happens in a situation their adaptive skills become restrictive and often ineffective. In everyday language, resilience is used to mean the ability of people to rise above a negative influence. The term resilience is often been used in the context of people thriving in the face of hostilities such as following terrorist events; for example, in the United States of America September 11, 2001 and the London bombings in 2005. Media reported that affected children, families, and communities were resilient in their physical and mental recovery in spite of being wounded (in some cases enduring amputations).²⁶⁻²⁸ Lessons can be drawn from this

example of people thriving in the face of being physically wounded by hostile forces, as is also the case in the veteran community. By being resilient individuals have the power to adjust, be able to resist stress and potentially thrive.²⁹⁻³⁹

Resilience and developing resilient strategies is beginning to be discussed as a concept in general healthcare however in relation to veteran health there is little research that explains how this can be achieved. Some war veterans are expected to live with a wound upon discharge from an active military role while also adjusting to civilian life. These lifestyle adjustments can tax the person's coping abilities and may hinder successful adaptation. Estimating the current and future size of the veteran community is important to ensure effective, timely and appropriate allocation of support structures that may be needed by veterans. However estimation of veteran numbers in the community and indeed services required by them is variable across the globe. For example, the UK census data does not collect information on military service (unlike the United States [US] which has collected such information in their census data since the 1800's). A UK veteran charity (Royal British Legion) estimated there were approximately 4.8 million veterans living in private households in 2014 representing 7% of the 64.1 million UK population.⁴⁰ The number of veterans living in the community in the US number approximately 20 million⁴¹ while in Australia there were 173,000 veterans listed in December 2014.⁴² Research examining the physical cost of war is common investigating amputations and other physical disability incurred during service.^{43,44} For example lower limb wounds and subsequent amputation is considered a common injury in conflicts in Iraq and Afghanistan.^{45 46} The psychological impacts of living with a serious and disabling wound incurred during conflict coupled other war related trauma impacts can manifest as serious mental disorders including depression, anxiety, PTSD, dissociative disorders and substance misuse disorders. For clinicians understanding the process of the healing process following ballistic injury is important in addressing the holistic care needs of the veteran. For instance, nearly a quarter of ballistic injuries in the military result in death due to appropriate care being delayed due to the environmental factors associated with combat.⁴⁷ In addition blast injuries involve pressure, shrapnel, burns and

potentially multiple wounds. Nevertheless, people can engage personal strategies both innate and learned to foster their personal resilience even when the situation seems dire.

Using a Resilience Framework to Guide Clinical Care

In healthcare a recent study examining resilience was undertaken by Edward, Welch, Chater²⁴ with people who experienced mental illness. This qualitative study indicated that people were able to use certain strategies to build or lift their experience of resilience. This was true for those individuals whether mental illness symptoms were present or in remission. Emergent themes elucidated from participant transcripts were: *Universality, Acceptance, Naming and knowing, Having faith, hope and being the fool, Striking a balance, Having meaning and meaningful relationships, and 'Just doing it'*. Following Edward et al study a model for conceptualising resilience within the healthcare setting emerged (see figure 1) which health care professionals can use to engage many existing skills to foster resilience in patients/clients in their care.

Figure 1- The Edward model and domains of resilience²³



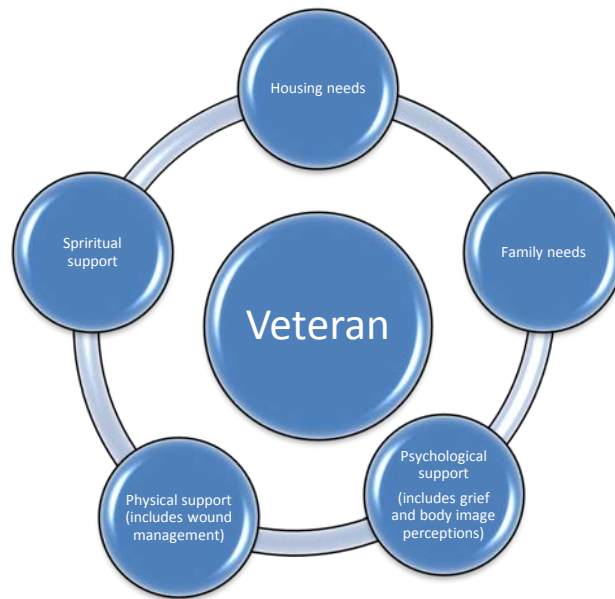
Using the resilience model as a conceptual framework healthcare professionals can engage with people towards resilience within the context of their personal experience of ill health. Self-management and self-righting capabilities are now being considered integral to reducing the

negative impact of chronic conditions and as can be considered for people who have chronic wounds. Existing person related resilience factors can be assessed by the health care professional and optimised through routine interventions such as clear and effective holistic assessment of physical and mental health needs, promoting self-management of the wound, involving family in care interventions.

Developing a Resilient Framework for Veterans

Lacoviello and Charney ⁴⁸ reported that resilient individuals used active rather than passive coping skills including being mindful of one's thoughts about the situations they find themselves. In this context individuals were actively minimizing the appraisal of threat (but not denying threat) so as not to become consumed by fear. They also highlighted the importance of a strong social support network that would assist in developing resilient behaviour and provide emotional strength. Using the resilience framework in figure 1 allows for healthcare professionals to plan both the physical and mental needs for veterans with wounds (Figure 2). This model should be used as a part of the discharge process and outcomes communicated between military and civilian carers to ensure the veterans needs are effectively assessed and met.

Figure 2 – A framework for enhancing resilience for veterans with wounds



Housing needs ensures that a safe, warm environment is established that meets the needs of any disabilities. The family require support not just for the wound management but also to adapt to an injured family member being able to integrate to civilian life. Psychological and physical support encompasses timely referral to appropriate members of the multi-disciplinary team for the veteran their family. This will include nurses, medical staff, physiotherapy, occupational therapy, dieticians, podiatrists, tissue viability specialists, pain management and mental health services. It should not be forgotten that children may require support if their parent or sibling has returned injured. Wound management will incorporate both the physical aspects of caring for a wound and also the psychological management linked to altered body image and being able to manage the wound themselves.

Conclusions

Returning to civilian life for veterans is complex and is often poorly understood by civilians.⁴⁹ For the veteran returning to civilian life and caring for a wound that may fail to follow the normal healing trajectory following discharge from the services can create quality of life limiting experiences related to employment, socialisation, and mobility and can also impact the psychological wellbeing of people. Care for veterans with wounds should focus on multi-dimensions that include consideration

of using resilience strengthening strategies to bolster emotional, psychological, social and physical strengths. Using this contemporary framework for considering these aspects of care has the potential to facilitate resistance to stressors associated with being injured potentially averting quality of life impairments such as stress. Given that stress has an association with slower or delayed wound healing the implications are substantial. Resilience strategies can be a care intervention for all clinical staff, however teams need to undertake professional development to better understand resilience and how this can be incorporated into day to day interventions. The model of health in first world countries such as the US, Australia and the UK focuses on working with the strengths of individuals towards healing yet little is known about using these personal strengths the care management of people to enhance their experience of resilience.

References

1. Bouldin ED, Taylor LL, Littman AJ, Karavan M, Rice K, Reiber GE. Chronic Lower Limb Wound Outcomes Among Rural and Urban Veterans. *The Journal of Rural Health*. 2015.
2. Westgate S, Cutting K, DeLuca G, Asaad K. Collagen dressings made easy. *WOUNDS UK*. 2012;8.
3. Vowden P. Hard-to-heal wounds made easy. *Wounds International*. 2011;2(4):1-6.
4. Singh O, Gupta SS, Soni M, Moses S, Shukla S, Mathur RK. Collagen dressing versus conventional dressings in burn and chronic wounds: a retrospective study. *Journal of Cutaneous and Aesthetic Surgery*. 2011;4(1):12-16.
5. Goldberg E, Beitz JM. The lived experience of diverse elders with chronic wounds. *Ostomy/wound management*. 2010;56(11):36-46.
6. Lo SF, Hayter M, Hu WY, Tai CY, Hsu MY, Li YF. Symptom burden and quality of life in patients with malignant fungating wounds. *Journal of Advanced Nursing*. 2012;68(6):1312-1321.
7. Lo SF, Hu WY, Hayter M, Chang SC, Hsu MY, Wu LY. Experiences of living with a malignant fungating wound: a qualitative study. *Journal of Clinical Nursing*. 2008;17(20):2699-2708.
8. Lunden-Nielsen B, Muller K, Adamsen L. Malignant wounds in women with breast cancer: feminine and sexual perspective. *Journal of Clinical Nursing*. 2005;14(1):56-64.
9. Probst S, Arber A, Faithfull S. Malignant fungating wounds—the meaning of living in an unbounded body. *European Journal of Oncology Nursing*. 2013;17(1):38-45.
10. Winkley K, Sallis H, Kariyawasam D, et al. Five-year follow-up of a cohort of people with their first diabetic foot ulcer: the persistent effect of depression on mortality. *Diabetologia*. 2012;55(2):303-310.
11. Stevelink S, Malcolm E, Mason C, Jenkins S, Sundin J, Fear N. The prevalence of mental health disorders in (ex-) military personnel with a physical impairment: a systematic review. *Occupational and environmental medicine*. 2015;72(4):243-251.
12. Richardson LK, Frueh BC, Acierno R. Prevalence estimates of combat-related post-traumatic stress disorder: critical review. *Australian and new Zealand Journal of Psychiatry*. 2010;44(1):4-19.
13. Litz BT, Orsillo SM, Friedman M, Ehlich P, Batres A. Posttraumatic stress disorder associated with peacekeeping duty in Somalia for U.S. military personnel. *The American journal of psychiatry*. Feb 1997;154(2):178-184.
14. Simmons R, Maconochie N, Doyle P. Self-reported ill health in male UK Gulf War veterans: a retrospective cohort study. *BMC Public Health*. 2004;4(1):27.
15. Rona RJ, Fear NT, Hull L, Wessely S. Women in novel occupational roles: mental health trends in the UK Armed Forces. *International Journal of Epidemiology*. 2007;36(2):319-326.
16. Loo WT, Sasano H, Chow LW. Pro-inflammatory cytokine, matrix metalloproteinases and TIMP-1 are involved in wound healing after mastectomy in invasive breast cancer patients. *Biomedicine & Pharmacotherapy*. 2007;61(9):548-552.
17. Li J, Chen J, Kirsner R. Pathophysiology of acute wound healing. *Clinics in Dermatology*. 2007;25(1):9-18.
18. Schrementi ME, Ferreira AM, Zender C, DiPietro LA. Site-specific production of TGF- β in oral mucosal and cutaneous wounds. *Wound Repair and Regeneration*. 2008;16(1):80-86.
19. Kabouridis PS, Janzen J, Magee AL, Ley SC. effects of relaxation with guided imagery on surgical stress and wound healing. *Research in Nursing & Health*. 2007.
20. Finestone HM, Alfeeli A, Fisher WA. Stress-induced physiologic changes as a basis for the biopsychosocial model of chronic musculoskeletal pain: a new theory? *The Clinical journal of pain*. 2008;24(9):767-775.
21. Cole-King A, Harding KG. Psychological factors and delayed healing in chronic wounds. *Psychosomatic Medicine*. 2001;63(2):216-220.

22. Walburn J, Vedhara K, Hankins M, Rixon L, Weinman J. Psychological stress and wound healing in humans: a systematic review and meta-analysis. *Journal of Psychosomatic Research*. 2009;67(3):253-271.
23. Edward K. Chronic illness and wellbeing: using nursing practice to foster resilience as resistance. *British Journal of Nursing*. 2013;22(13):741-746.
24. Edward K, Welch A, Chater K. The phenomenon of resilience as described by adults who have experienced mental illness. *Journal of Advanced Nursing*. 2009;65(3):587-595.
25. Edward K-I. Empowering cardiac patients using resilience as a practice strategy. *British Journal of Cardiac Nursing*. 2014;9(3):110.
26. Dryden P. When Nothing Is Left: Disaster Nursing After the Tsunami. *Medscape Nurses* 2005; eLetters: Corresponding with nurses. Available at: <http://www.medscape.com/viewarticle/501567>. Accessed 22nd October, 2005.
27. Rutgers CR. Personal Resiliency. 2005; www.rcrc.rutgers.edu/money/resiliency/. Accessed 25th March, 2005.
28. Carter R. Australia is subjected to increasingly frequent and severe weather-related events, particularly flooding. . *The Australian* 2011.
29. Bachay J, Cingel P. Restructuring Resilience: Emerging Voices. *Affilia*. 1999;14(2):162-175.
30. Earvolino-Ramirez M. Resilience: A Concept Analysis. *Nursing Forum*. 2007;42(2):73-82.
31. Edward K. Resilience: A protector from depression. *Journal of the American psychiatric nurses association*. 2005;11(4):241-243.
32. Edward K. The phenomenon of resilience in crisis care mental health clinicians. *International Journal of Mental Health Nursing*. 2005/06// 2005;14(2):142-148.
33. Edward K, Warelow P. Resilience: When Coping Is Emotionally Intelligent. *Journal of American Psychiatric Nurses Association*. April 1, 2005 2005;11(2):101-102.
34. Egeland E, Carlson E, Sroufe L. Resilience as process. *Development and Psychopathology*. 1993;5:517-528.
35. Flach F. *Resilience: Discovering a new strength at times of stress*. New York: Fawcett Columbine; 1988.
36. Kumpfer K. Factors and Processes Contributing to Resilience:The Resilience Framework. In: Johnson Ga, ed. *Resilience and Development: Positive Life Adaptations*. New York: Kluwer Academic/Plenum; 1999.
37. Nygren B, Alex L, Jonsen E, Gustafson Y, Norberg A, Lundman B. Resilience, sense of coherence, purpose in life and self-transcendence in relation to perceived physical and mental health among the oldest old. *Aging & Mental Health*. 2005/07// 2005;9(4):354-362.
38. Tusaie K, Dyer J. Resilience: a historical review of the construct. *Holistic nursing practice*. Jan/Feb2004/// 2004;18(1):3-10.
39. Worthington E, Jr., Scherer M. Forgiveness is an emotion-focused coping strategy that can reduce health risks and promote health resilience: theory, review, and hypotheses. *Psychology & Health*. Jun2004/// 2004;19(3):385-405.
40. Legion RB. Household Survey 2014. 2014; <http://www.britishlegion.org.uk/>. Accessed 28 July, 2015.
41. Conard PL, Allen PE, Armstrong ML. Preparing Staff to Care for Veterans in a Way They Need and Deserve. *The Journal of Continuing Education in Nursing*. 2015;46(3):109.
42. DVA. Statistics about the veteran population. 2015; <http://www.dva.gov.au/about-dva/statistics-about-veteran-population>. Accessed 2 September, 2015.
43. Williams LH, Miller DR, Fincke G, et al. Depression and incident lower limb amputations in veterans with diabetes. *Journal of Diabetes and its Complications*. 2011;25(3):175-182.
44. Mayfield JA, Reiber GE, Maynard C, Czerniecki JM, Caps MT, Sangeorzan BJ. Trends in lower limb amputation in the Veterans Health Administration, 1989-1998. *Journal of rehabilitation research and development*. 2000;37(1):23-30.

45. Kim GY, Jabori S, Kim J, et al. Lower Extremity Amputations among Veterans: Have Mortality Statistics Improved? *Annals of Vascular Surgery*. 2015;29(5):880-881.
46. Wallace D. Trends in traumatic limb amputation in Allied Forces in Iraq and Afghanistan. 2012.
47. Hatfill SJ, Orient J. Immediate bystander aid in blast and ballistic trauma. *J Am Phys Surg*. 2013;18:101-104.
48. Iacoviello BM, Charney DS. Psychosocial facets of resilience: implications for preventing posttrauma psychopathology, treating trauma survivors, and enhancing community resilience. *European journal of psychotraumatology*. 2014;5.
49. Hazle M, Wilcox SL, Hassan AM. Helping veterans and their families fight on! *Advances in Social Work*. 2012;13(1):229-242.