EDITORIAL

Crash and burn

In keeping with the theme of psychological and psychosocial issues, I thought it appropriate to touch on a subject that is becoming more prevalent in the critical care nursing literature – PTSD or post-traumatic stress disorder,[1] a psychiatric disorder caused by exposure to a traumatic event or extreme stressor that is responded to with fear, helplessness or horror.

There is much published literature on other stressors experienced by critical care nurses,[2-5] but the psychological sequelae related to their working environment are relatively unexplored.[6-8] Repetitive exposure to cardiopulmonary resuscitation, end-of-life care needs and prolonging life by mechanical and pharmacological support, and the inability of critical nurses to adjust to this hostile and demanding environment, may result in psychological disorders such as PTSD.

There are a number of symptoms of PTSD,[1] which are grouped into three categories:

1. Re-experiencing symptoms:
   - flashbacks – re-living the trauma over and over again, including physical symptoms such as a racing heart or sweating
   - bad dreams
   - frightening thoughts.
2. Avoidance symptoms:
   - staying away from places, events or objects that are reminders of the experience
   - feeling emotionally numb
   - feeling strong guilt, depression or worry
   - losing interest in activities that were enjoyable in the past
   - having trouble remembering the dangerous event.
3. Hyper-arousal symptoms:
   - being easily startled
   - feeling tense or 'on edge'
   - having difficulty sleeping, and/or having angry outbursts.

Some of the above symptoms are experienced after any traumatic event (see Table I) and are deemed a natural response. Should the adverse symptoms not resolve within a few weeks, acute stress disorder (ASD) may be diagnosed. When the symptoms last more than a few weeks and become an ongoing problem, the person might have PTSD. Some people with PTSD do not show any symptoms for weeks or months.

Mealer *et al*.[9] listed traumatic events related to work as a critical care nurse (Table I).

Mealer and colleagues[9] reported that out of a population of almost 500 critical care and general nurses, 24% of the critical care nurses tested positive for PTSD, anxiety and depression using validated survey tools. The general nurses fared better, with only 14% exhibiting symptoms of PTSD. Although the questionnaires used in this study may have an excellent validity and reliability score, they do not diagnose PTSD in the sample population according to the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).[10] It is worth highlighting that the results clearly identify nurses who have obvious symptoms that are likely to affect their job satisfaction and may be a major factor in critical care nurses leaving the profession.

Mealer and other colleagues[11] also explored the prevalence and impact of PTSD and burnout syndrome (BOS) in nurses. Using the Hospital Anxiety and Depression Scale (HADS), the PTSS-10, the Post-traumatic Diagnostic Scale (PDS) and the Maslach Burnout Inventory (MBI), a cohort of 810 participants was divided into four pre-defined nursing categories: (*i*) intensive care unit (ICU); (*ii*) non-ICU high-stress areas (bone marrow transplant unit, high-risk obstetrics, recovery room, trauma unit); (*iii*) other inpatient non-ICU; and (*iv*) outpatient nurses.

Table I. List of traumatic events related to work as a critical care nurse[9]

Post mortem (last offices) care
Seeing patients die
Combative patients
Involvement with end-of-life care
Verbal abuse from family members
Verbal abuse from physicians
Verbal abuse from other nurses
Open surgical wounds
Massive bleeding
Trauma-related injuries
Providing 'futile' care to patients
Performing cardiopulmonary resuscitation
Stress related to feeling over-extended because of inadequate nurse/patient ratios
Stress related to not being able to save a specific patient

In order to ensure anonymity the questionnaires were handed out to the unit nurse managers, who distributed them as follows: 267 to ICU nurses, 184 to nurses in non-ICU high-stress areas, 253 to inpatient non-ICU nurses, and 106 to outpatient nurses. The total response rate was 41%, with ICU nurses rating the lowest at 37%. The prevalence of psychological symptoms was relatively high in all four groups – 16% were positive for anxiety, 13% for depression and 22% for PTSD. The nurses who were identified as having PTSD emphasised that exposure to dying and the deaths of patients, massive haemorrhage, open wounds, trauma-related injuries and carrying out futile care were the main causes. Of the nurses who met the diagnostic criteria for PTSD, 61% had had symptoms for longer than 6 months, 26% for 1 - 3 months, and 31% for less than 1 month. Interestingly, 86% of the total cohort had symptoms of moderate burnout and tested positive for at least one of the three types of BOS: emotional exhaustion, depersonalisation and lack of a sense of personal accomplishment. There were no differences in the prevalences of anxiety or depression between the four categories of nurses. The ICU cohort of nurses had a significantly higher prevalence of a PTSD diagnosis (20%) compared with the other cohorts (5%). There were no differences in BOS between the four cohorts.

The study also highlighted the fact that the prevalences of PTSD and BOS differed according to age. The cohort was divided into three groups: (*i*) positive for BOS and PTSD (*N*=59); (*ii*) positive for BOS and negative for PTSD (*N*=217); and (*iii*) negative for both BOS and PTSD (*N*=46). The nurses who were of average age (34.4±8.2 years) scored positive for BOS and PTSD, those who were a little older (37.4±10.2 years) scored positive for BOS only, and the more mature age group (46.2±11.9 years) scored negative for both BOS and PTSD.

Table II sets out the differences between nurses with BOS and PTSD and those with BOS and no PTSD.

It is important to note that overall 35% (115/325) of the nurses reported having nightmares that were directly related to their experiences at work, particularly in performing end-of-life issues, feeling over-extended, caring for combative patients or family members, and being exposed to open wounds (Fig. 1).

The nurses who experienced anxiety (19%, 63/325) reported that the primary triggers for their anxiety were similar to that of nightmares but in different ratios, as illustrated in Fig. 2.

It is hoped that all tertiary hospital institutions, especially those with ICUs, take cognisance of the reality of PTSD and BOS. The shortage of nursing staff is multifaceted, and it is imperative that nursing management and institutional administrators understand the wide range of reasons for nursing attrition.

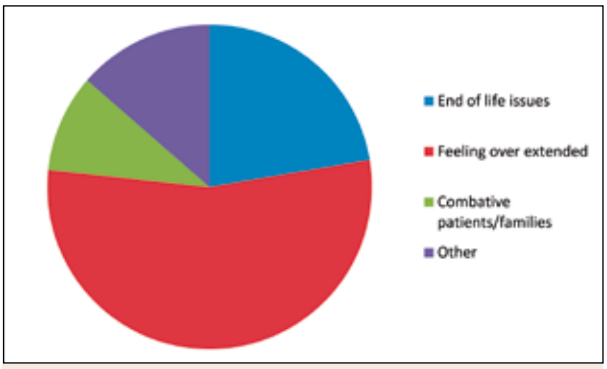

Fig. 1. Work experiences to which nightmares were related in nurses (prevalence of nightmares 35%).

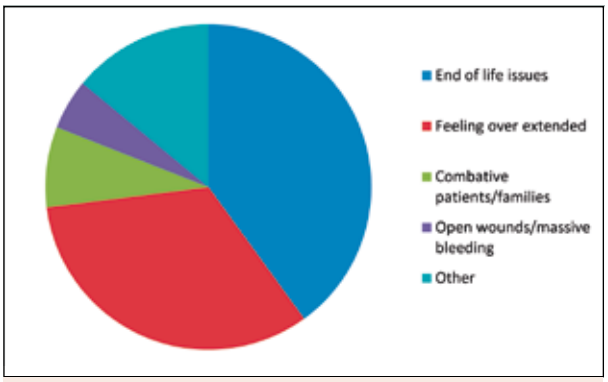

Fig. 2. Primary work experiences triggering anxiety in nurses (prevalence of anxiety 19%).

Table II. Differences between nurses with BOS and PTSD and those with BOS and no PTSD (expressed as % of nurses with a positive response)

	Nurses with both BOS and PTSD (*N*=59)	Nurses with BOS and no PTSD (*N*=217)
General satisfaction with life	76%	25%
Overall level of functioning in all areas of life	64%	16%
Relationships with friends	58%	16%
Fun and leisure activities	54%	20%
Sex life	53%	16%
Household chores and duties	51%	22%
Relationships with their family	49%	17%
Study	15%	3%

The literature suggests[12-14] that one of the strategies to address BOS is through the teaching of coping skills, although given the high incidence of PTSD among nurses who have BOS, this strategy alone may not be adequate. Potential treatment strategies to improve nurse job satisfaction include improved communication between intensivists and critical care nurses, especially when the provision of care appears futile. Other strategies include support groups to address grieving over dying and the deaths of patients. However, modifying critical care nurses' coping mechanisms without modification of the working environment may not be sufficient to address or prevent PTSD. Creating awareness and instituting some treatment strategies for PTSD and BOS is vital, as critical care nurses are at increased risk of substance abuse[15] and suicide.[16]

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1. National Institute of Mental Health. Post-traumatic stress disorder. http://www.nimh.nih.gov/health/topics/post-traumatic-stress-disorder-ptsd/index.shtml (accessed 1 September 2010).
2. Bailey JT, Steffen SM. Grout JW. The stress audit: Identifying stressors in ICU nursing. J Nurs Educ 1980;19(6):15-25.
3. Brosche TA. Death, dying, and the ICU nurse. Dimensions of Critical Care Nursing 2003;22(4):173-179.
4. Buyssen H. Traumatic Experiences of Nurses: When Your Profession Becomes a Nightmare. London: Jessica Kingsley Publications, 1996.
5. Lally L, Pearce J. ICU nurses' perceptions of stress. Nurs Crit Care 1996;1(1):17-25.
6. Badger JM. Understanding secondary traumatic stress. Am J Nurs 2001;101:26-32.
7. Kerasiotis B, Motta RW. Assessment of PTSD symptoms in emergency room, intensive care unit and general floor nurses. Int J Emerg Ment Health 2004;6:121-133.
8. Schwarz T. PTSD in nurses. Am J Nurs 2005;105:13.
9. Mealer LM, Shelton A, Berg B, Rothbaum B, Moss M. Increased prevalence of post-traumatic stress disorder symptoms in critical care nurses. Am J Respir Crit Care Med 2007;175:693-697.
10. DSM-IV. Diagnostic and Statistical Manual of Mental Disorders. http://www.dsmiv.net/diagnostic-and-statistical-manual-of-mental-disorders.html (accessed 1 November 2010).
11. Mealer LM, Burnham A, Berg EL, Goode CJ, Rothbaum B, Moss M. The prevalence and impact of post traumatic stress disorder and burnout syndrome in nurses. Depress Anxiety 2009;26(12):1118-1126.
12 Embracio N, Papazian L, Kentish-Barnes N, Pouchard F, Azoulay E. Burnout syndrome among critical care healthcare workers; Curr Opin Crit Care 2007;13(5):482-488.
13. Poncet M, Toullic P, Papazian L, *et al*. Burnout syndrome in critical care nursing staff. Am J Respir Crit Care Med 2007;75(7):698-704.
14. Embracio N, Azoulay E, Barrau K, *et al*. High level of burnout in intensivists: prevalence and associated factors. Am J Respir Crit Care Med 2007;175(7):686-692.
15. Reynolds M, Mezey G, Chapman M, Wheeler M, Drummond C, Baldacchino A. Co-morbid post-traumatic stress disorder in a substance misusing clinical population. Drug Alcohol Depend 2005;77(3):251-258.
16. Sareen J, Cox BJ, Stein MB, Afifi TO, Asmundson GJ. Physical and mental comorbidity, disability and suicidal behaviour associated with posttraumatic stress disorder in a large community sample. Psychosom Med 2007;69(3):242-248.