

EDITORIAL

Understanding military combat mental health

By its very nature, combat can have a severe impact on the physical, mental and social health of those exposed. The primary UK long-term cohort study of a sample of UK military personnel and veterans who may have served during the wars in Iraq and Afghanistan has shown a prevalence of mental health symptoms of 21.9% for common mental disorders, 10% for alcohol misuse and 6.2% for probable post-traumatic stress disorder (PTSD) [1]. PTSD has been the most common clinical keyword in the global military medical literature between 1988 and 2017 [2]. A recent paper by the ‘5 Eyes Mental Health Research and Innovation Collaborative’ provides a comprehensive review of the international understanding of military-related PTSD [3]. In October 2019, the North Atlantic Treaty Organization (NATO) published ‘a psychological guide for leaders across the deployment cycle’ and guidelines for ‘forward mental healthcare’ [4,5]. This editorial summarizes current knowledge on risk factors and workplace/health interventions to prevent and treat combat mental ill-health in military populations.

Risk factors for adverse mental health outcomes from exposure to combat extend from before military service through to post-military life and thus encompass both armed forces personnel and veterans. Indeed, the mental health consequences of such exposure may be delayed and first present after military service. For many individuals, their period of formal military service is a small proportion of their total life and interventions to prevent or treat these consequences need to be available to veterans.

Many military forces use conceptual models to explain their combat mental health policies. The NATO version describes mental well-being for an individual as fluctuating on a continuum of four phases: ‘fit (or healthy)’, ‘reacting’, ‘injured’ and ‘ill’ with a deteriorating impact on mental and social function within their community. This social context is important because it is often family, friends and co-workers who notice the consequences of mental ill-health before the individual recognizes or accepts their condition. ‘Fit’ individuals have a state of balanced ‘well-being’ across all domains of health and function in their role within their community; covering work, personal life and social environment. ‘Reacting’ individuals experience mild, transient stress reactions; a common human reaction resulting from combat-related experiences. ‘Injured’ individuals have more severe, persistent symptoms that result in

significant deterioration of the individual’s functioning within their community; but these would not meet the criteria for a formal clinical diagnosis. Finally, ‘illness’ occurs when the effects of an individual’s combat experience have a significant impact on their function within their community and results in a clinical diagnosis, such as anxiety, major depression, alcohol misuse or PTSD. This classification emphasizes the normality of a reaction to a stressful event and the importance of organizational and social interventions alongside formal clinical services to support affected individuals.

The risk of mental ill-health for armed forces personnel is influenced by a range of extrinsic and intrinsic factors during their life course, starting with pre-joining vulnerability factors [6]. These are common in the population that seek to join the armed forces and include: childhood adversity; childhood antisocial behaviour; low educational attainment (which has an influence on the choice of military employment and likelihood of being employed in a combat role); pre-service mental ill-health (though most militaries exclude applicants with a significant previous mental health diagnosis). Pre-exposure screening for these risk factors is unlikely to prevent combat mental ill-health.

Initial military training is designed to increase physical fitness and provide psychological preparation for the military role. Military experience and social community help to develop personal resilience factors. Resilience factors are those post-entry training, organizational and personal interventions that reduce (or the absence of which increase) the likelihood that an individual may experience mental illness after exposure to an adverse life event. Exposure to one or more ‘potentially traumatic events’ (PTEs) that caused or had the potential to cause risk to life to the individual or those around them is the most important risk factor for PTSD in military populations. The first PTE may result in a stress reaction (reacting) but it may be possible to return to fitness because of resilience factors. An individual could experience a second PTE which may compound the effects of the first PTE. Resilience factors include: being in a personal relationship; unit cohesion and leadership; rest and recuperation during operational deployment; post-tour third location decompression; higher rank; recipient of Trauma Risk Management support; deployment length less than 6 months; not being deployed as a reservist; absence of alcohol or substance abuse; absence of previous

mental ill-health; not in a combat role (though this may be solely due to reduction in risk of exposure to a PTE). These factors are the most amenable to the organizational interventions at the group level as described in the NATO 'psychological guide for leaders across the deployment cycle'.

Individuals exposed to a PTE may, after a variable duration, suffer a progressive deterioration of their mental health and become injured or ill as a result of precipitating factors. Precipitating factors are those that trigger a deterioration to the extent that the individual becomes mentally injured or ill. These may include: concurrent physical illness or injury; severity of PTE; poor sleep; physically aggressive behaviour and concurrent alcohol misuse. There may be a time lag between exposure, the onset of mental ill-health, and seeking help for combat mental illness due to stigma or other barriers to care [7]. There may also be differences between the factors that precipitate combat-related mental ill-health whilst in military service and those factors that apply after military service to veterans who seek help.

Successful therapeutic interventions to improve from illness will depend on treatment factors. Although there are clearly established clinical modalities for the treatment of combat mental illness, there is evidence that veterans have poorer treatment outcomes following support for PTSD than other client groups [8]. Some of this variation can be explained by clinical and non-clinical treatment factors such as: concurrent non-PTE mental illness; poor outcomes from concurrent physical illness; older age; duration of functional impairment prior to seeking treatment; severity of functional impairment; perception of stigma to seeking help; development of an internal locus of control. Long-term return to mental fitness will depend on recovery factors that predict recovery from the injured phase through to the fit phase and mitigate against the precipitating factors that may cause a recurrence of a deterioration in mental well-being for the individual. These factors apply both during and after military service. Recovery factors include: post-traumatic growth; remaining in military service; being in employment; being in a relationship; no decline in cognition in later age; not smoking; no substance or alcohol abuse; no risk-taking behaviour; no homelessness; no criminal activity. Social networks also play an important role in personal resilience with an increase in common mental disorders and PTSD symptoms in service leavers after they have left their social network in the military. Unfortunately, a permanent 'cure' may not be possible and individuals may retain a risk of precipitation of mental illness through the remainder of their life course.

Considerable additional knowledge in military combat mental health has been accrued over the past 20 years from experience and research into the potential consequences of exposure to combat in military populations deployed to Iraq and Afghanistan. However, there remain gaps in understanding especially in minimizing barriers to

seeking help, clinical treatment modalities, social interventions and neurobiological models. The research has been underpinned by government-funded longitudinal studies of defined military cohorts. It is vital that these are maintained to ensure comprehensive understanding of the long-term outcomes for the exposed groups. Additionally, new cohorts should be recruited in anticipation of exposure to combat in the future. International collaboration has proved invaluable to share knowledge and establish common practice. This should be maintained within NATO and extended to assist recovery of non-Western populations affected by conflict such as UN peacekeeping forces. There are observations from this military approach that may be extrapolated to other populations, e.g. first responders, journalists, humanitarian workers [9].

The development of military mental health policies has emphasized the importance of collaboration between clinical professionals, the Armed Forces as an employer, the government for statutory services for veterans, and the contribution of charities and the wider voluntary sector to meet the needs for Armed Forces personnel and veterans whose mental health has been affected by combat. The balance of responsibility between these actors merits further analysis and debate, especially the difference between entitlement to government services as a citizen and the specific needs of veterans arising from military service.

Finally, it should be emphasized that most armed forces personnel are mentally fit and not receiving mental health services. Recent statistics from the Ministry of Defence show that the rate of referral to specialist mental health services in the Armed Forces is around 3% per year, less than an age-matched group from the overall UK population. Only 0.2% of the Armed Forces were diagnosed with PTSD in 2018/19 [10]. Veterans can be very successful in their subsequent career.

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Why I became an Occupational Health Physician

In the late 1970s a patient from a factory in South Wales was admitted with abnormal brain function to the neurology unit at St Thomas' Hospital. Despite every imaginable investigation, including the barbaric air encephalogram, we were unable to establish a diagnosis. It was only as he was packing his bags to be discharged home that I asked him the question I should have asked earlier. 'What do you think might be the cause?' His reply: 'I know the cause. It is those chemicals in the factory where I work'.

That was my personal eureka moment, when I first realized that exposure to materials in the workplace might be the origin of disease. I visited our library; two books on industrial medicine, one written by Professor Schilling, who agreed to let me meet him. He advised me wisely to spend a few more years training in specialities helpful for work in industry before crossing the bridge.

There was no formal way of entering industrial medicine in those days, and companies often employed GPs who were towards the end of their career. One of the main industries in those days was coal and I was lucky enough to meet Dr Roy Archibald who subsequently offered me a locum in a Welsh mine. The night before I was due to travel it snowed, and all transport ceased. A colleague then put me in touch with BP who needed a locum in their Moorgate head office. Later through one of their doctors I heard that Mobil Oil required a doctor at their Coryton refinery where I spent the next 7 years surrounded by asbestos, lead, radiation,

noise, heat, acids, solvents, union officials, injuries (sometimes fatal) and tanker crews with exotic tropical diseases. Later I had the chance to spend time on the 'upstream' areas of drilling and production, which meant 1 week per month living offshore. Training the like of which is rare these days.

During this time the Health & Safety at Work Act came into fruition as well as the Faculty of Occupational Medicine and later the European Directives and Equality Act, all of which gave added impetus to our speciality. From Mobil I was fortunate enough to then work with Unilever, a totally different type of organization with different hazards and different culture. By now many of the major industrial diseases were starting to diminish, and workload became more focussed on musculoskeletal disorders, mental health, travel, pandemics and increasingly the business as well as medical benefits of promoting a healthy workforce.

And for now it is back to where I started; consulting for referrals as an independent physician. Occupational health has infinite variety and its focus changes from year to year and organization to organization, which is why it can be such a fascinating career. And when it achieves its main purpose, what can be more fulfilling than helping a person's health whilst at the same time helping business success? I owe a lot to that worker from South Wales.

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