Backahe – A Psychiatrist's Perspective

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Abstract

Backache is a common medical problem which physicians encounter and it causes significantly high costs in terms of loss of work force, health care and curtailment of physical activities. The same is also seen in the pilot population, especially helicopter pilots. Aviators with backache are not able to fly, and some have been grounded for an extended period of time which is a cause of concern to us. The implications of having a trained pilot on ground are enormous. In many the cause of the backache is left unaddressed when there is no collaborative physical evidence to account for the symptoms. As the number and complexity of the investigations increase, there are minor aberrations that are grabbed by harried sufferer, who becomes more and more disgruntled, appalled and demoralised. Mental health interventions are avoided both due to lack of exposure, as well as the stigma associated with psychiatric referrals. Mental health interventionists have an important, but unfortunately less explored answer to this malady. The article seeks to bust some myths associated with the psychiatric modalities of treating backache that will be useful for the community of aviators. Behavioural and psychological aspects play an important role in the causation and perpetuation of back pain.

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Introduction

The International Association for the study of pain (IASP) defines pain as an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage [1].

Back pain is an ill-defined entity, but is generally thought to represent the symptom of pain or discomfort felt in the back or buttocks. It may be the presenting complaint for a number of different disorders. Low back pain sufferers can be divided into acute and chronic groups. IASP defines pain that persists more than 12 weeks as chronic pain [2].

Chronic pain continues longer than the temporal course of natural healing linked up with specific types of disorder associated with pain and is usually worsened by environmental or psychopathological stress factors [3]. Back pain is a widespread problem among industrialized countries. Incidence of back pain is between 60 and 80%, however, prevalence rates do not exceed 35% of the general population [4]. Aufret and Villefond determined that back pain is twice more frequent in helicopter pilots than in the general population [5].

Backache & Aviators

The physical manifestations of pain in pilots have received more attention than the mental mechanisms causing pain, and studies have concentrated largely on the somatic, rather than the psychic component of the pain and its prevention [6, 7, 8].

However, De Oliveira et al. found a lack of evidence linking low back pain in helicopter pilots to poor posture in-flight and whole-body vibration [9] and only one pilot in the study showed significant

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correlation between vibration and spinal muscle response.

When backache assumes chronicity, it is associated with significantly high costs in terms of loss of work force, health care [10] and curtailment of physical activities. Patients suffering from chronic low backache modify or tailor their activities around the pain [11]. As the pain progresses with no relief in sight, a significant proportion of sufferers start believing that they are permanently disabled [12]. The absence of abnormal findings does not mean that there are no abnormal physical components, but simply means that the tests used to detect abnormalities did not detect a cause. This pain is often termed as 'Psychogenic'.

Psychogenic Pain

Psychogenic pain is the pain in the absence of physical causes to explain the severity, duration or the extent of the pain. Waddell's inappropriate signs are often present in these patients [13]. Waddell's signs comprise a series of manoeuvres and observations that indicate that a non-organic or psychological component is present. If more than 3 of the 8 signs are found, the clinician should assess the patient with a mental health perspective. Waddell's inappropriate signs include non-specific pain over the whole back, extreme behaviour and the loss of a positive straight leg raising test when the patient is distracted.

Pain symptoms that cannot be attributed, or at least not fully attributed, to an organic origin are more frequently and more severely experienced by patients with depression than by those without [14], as depression and pain are intimately linked. Sometimes, the two may create a vicious cycle and it may not be possible to pinpoint the causal event. In many people, depression causes unexplained physical symptoms such as back pain or headaches. This kind of pain may be the first or the only sign of depression [15]. However, because all investigators do not use the same criteria to determine the presence of depression, the exact prevalence of depression among chronic pain patients is not easy to estimate [16].

Depression, PTSD & Backache

A large number of persons suffering from low backache have comorbid depression which is linked with diminished function [17] and an insufficient response to treatment [18, 19].

Polatin et al. [20] reported that 59% of one sample of chronic pain patients demonstrated current symptoms for at least one psychiatric diagnosis, mainly major depression, substance abuse and anxiety disorders. Individuals with chronic neck or back pain are almost three times more likely to have Post Traumatic Stress Disorder (PTSD) than those with no pain [21]. The US National Comorbidity Study (using DSM-IV criteria), the 12-month prevalence of PTSD in individuals reporting chronic spinal pain was 7.3% (22). Beckham et al reported that 80% of a sample of Vietnam veterans presenting with PTSD also reported chronic pain (23)

Feelings of depression frequently accompany the pain experience [24]. Not only is pain a common somatic complaint in individuals suffering from depressive disorders [25], but according to some accounts more than 50% of clinically depressed patients report pain as a symptom [26].

Depression is about four times greater in people with chronic back pain than in the general population [27] and increases in a linear fashion with greater pain severity [28]. The combination of chronic back pain and depression was associated with greater disability than either depression or chronic back pain alone.

Aetiology of Pain & Depression

Depression and pain have a shared aetiology that involves a complex interplay between serotonin, norepinephrine, substance P, and corticotrophin

releasing factor [29]. In a similar fashion, chronic stress is the link between chronic pain and depression, as the HPA (Hypothalamic Pituitary Axis) axis may also be specifically involved in the aetiology of both [30]. The activation of the HPA axis by stress may cause chronically stressful conditions to present as both depression and pain.

Malfunctioning of the descending serotonergic and noradrenergic pathways allows routine sensory inputs to be interpreted as uncomfortable or even painful physical symptoms [31]. Many depressed patients complain of headache, abdominal pain, or musculoskeletal pain in the lower back, joints, and neck as well as fatigue and loss of energy. Instead of being suppressed, these sensations escape up the spinal cord and into the brain where they are interpreted as pain. This malfunction may be the reason no pathologic explanations for multiple physical symptoms turn up during medical evaluation of depressed patients.

Treatment of Psychogenic Pain

The commonly used antidepressants of the SSRI (Selective serotonin reuptake inhibitors) class have a remission rate of 35%, but the dual-action SNRIs (Serotonin Norepinephrine reuptake inhibitors) have a higher rate of remission [32].

Psychiatric interventions in patients suffering from chronic painful conditions aim at managing the pain and improving the sufferers' functioning. It is axiomatic that reducing pain will result in better functional status of the individuals. Reduction of the feeling of disability in individuals suffering from chronic pain invariably result in success. It has been shown that the most important variable in successful treatment of low backache is the reduction of subjective feelings of disability in patients [33].

Capuron, Dantzer et al determined that medications with antidepressant effect attenuated the behavioural and neuroendocrine effects of immune activation, and thus reduced the subjective pain [34]. It has been demonstrated that antidepressant treatment causes a shift in the balance between pro- and anti- inflammatory cytokine production in the brain [35]

The relationship of chronic pain and depression has also been explained by a cognitive schema of coping beliefs and behaviours. They play an important role in the patients' adjustment. Perpetuating the sick role play with its attendant beliefs that analgesics are necessary for recovery and the repeated queries about the sufferers' well-being perpetuate the ailment.

A belief that the outcome can only be bad by patients that suffer from chronic pain is called 'catastrophizing'. These patients worry excessively about possible negative consequences of events in an effort to defend against pain exacerbations. These cognitions have been found to be associated with depression [36].

Pain, therefore, is an integrated state caused by a pattern of both somatic and sensory stimulation of an individual. This is the basis of the Melzack and Wall's "Gate Control Theory," [37]. The feeling of pain, like depression, is both a distinct sensation and a motivation.

Depression and pain symptoms may become chronic through processes of sensitization which allow the symptoms to self-propagate, requiring less and less stimulation (perceived threat) to set them into motion. The neurochemical substrate that facilitates the sensation continues to fire in the absence of objective stimuli causes the central sensitization.

Central pain sensitization occurs as low threshold afferents that normally do not transmit pain signals become recruited through persistent central nervous system activation to transmit pain signals. This state of hyper-excitability includes the temporal summation of repetitive C fibre stimulation, amplification of the pain response, spinal neurons behaving as wide ranging dynamic cells, and the spread of pain sensitivity to non-injured areas. [38, 39, 40]

In the face of a psychosocial or physiological threat, the individual mounts a vigorous defence through the immune system, leading to high levels of circulating cytokines which can evoke both depressive symptoms and pain as part of the array of sickness behaviours designed to protect and defend the individual. The frequent co-morbidity of depression and pain arises because each symptom is a manifestation of the same homeostatic drive to conserve energy for survival. This cascade of events may be highly adaptive following an acute stressor but may become chronic and maladaptive.

Central sensitization processes sustains these illness behaviour in a positive feedback loop. With the passage of time, this loop causes depression and pain even in the absence of a precipitating threat [41].

In chronic back pain, exercise, behavioural therapy and a multi-disciplinary approach are beneficial. Painkillers, anti-inflammatory drugs, occupational therapy and massage are likely to be beneficial. Bed rest is unlikely to be beneficial. Facet joint injections and traction are considered unhelpful or harmful [42].

Depression is a condition with high prevalence among chronic low back pain patients. So it must not be a condition overlooked when attempting to manage pain. Chronic low back pain patients with exposure to depression in their childhood home have a decreased functional status. Depression has a very strong negative correlation to functional status, even when controlling for age and pain severity. Therefore treating a patient's depression might have efficacious results in improving the functional status of patients. If treatment of depression and anxiety can improve functional status doctors might be able to better serve their patients without placing patients on addictive pain management regimens.

It is therefore, essential that all personnel who continue to suffer from painful conditions are evaluated by a psychiatrist.

Conclusion

The psychiatrist should form an integral part of the approach to a case of chronic painful conditions, especially backache. Seeking psychiatric intervention to address personal and professional stress causing problems is not easily acceptable in our cultural milieu. This requires a change in our collective consciousness to enable people suffering from a chronic and disabling symptom are relieved of their distress. Psychiatric intervention offers the large number of aviators who have not flown for years because of their backache to return to the cockpit.

The stigma associated with psychiatric referrals is a major roadblock to this. Once, however, personnel realise that a backache need not be a permanent bar to being healthy, the scenario should and will change, and the sufferers will avail the time and opportunity to get psychological assistance which will help in early recovery and prompt reflighting.

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