The stigmatisation and denial of mental illness in athletes

A patient asks for your help with fatigue, which she has been experiencing for the past several weeks. She says she is having increasing difficulty carrying out her daily responsibilities, lacks motivation and energy, and is irritable and discouraged. She reports trouble sleeping, is often late to her scheduled responsibilities, is not performing as well as previously in her job and other roles, and has had several minor injuries and mild headache and back pain.

If you are a family doctor or general practitioner, you would suspect that this woman has a major depressive disorder (MDD), although the likelihood that a depressed patient would actually present her symptoms in such a clear and obvious fashion is extraordinarily low. However, if you are a sports doctor and the patient is a competitive athlete, you may label her as being burned out, overtrained or stale, depending on your personal nomenclature for this problem. You may carry out a routine battery of laboratory tests, often including measuring a variety of immunological, hormonal, and haematological variables, consult with the athlete's coach about a modified training schedule, and suggest the athlete consider a trial of rest which may even include cessation of all training and competition. On the other hand, the primary care doctor would recommend some combination of counselling and/or medication for the non-athlete patient, with an active treatment programme designed to maintain the patient's roles and responsibilities.

Why the dramatic difference in approach to labelling, diagnosing, and treating what appears to be the same disease? Three issues stand out when attempting to answer this question.

(1) Despite the known beneficial and protective effect of exercise on mental illness,[1] athletes are still susceptible to depression and other mental illness, although perhaps at a lower prevalence than the general population.[2]
(2) Athletes may be even more susceptible to underdiagnosis and inadequate treatment of depression and other mental illness than are non-athletes,[3] particularly for problems that are related to athletic training and performance and are viewed from a narrow physiological rather than a broader biopsychosocial perspective.
(3) The current conceptualisation of and approach to mental illness in athletes is fraught with stigmatisation, denial, and dichotomous paradigms of "psychological" versus "physical" disease, which are inaccurate, unhelpful, and deprive the athlete of effective care.

The similarities between "depression", as a psychiatric disease, and "overtraining", as a consequence of overly intense athletic training, are remarkable both for their number and strength, as well as for their denial by many sports doctors and psychologists. Current nomenclature defines overreaching as a short term decrement in performance in which recovery may take a few days to weeks, usually through a temporary and modest decrease in training load.[4] Overreaching is the athletic equivalent of an adjustment reaction, grieving, or a more minor depression in which psychosocial loss or stressors lead to a temporary decrement in social or work function. Overtraining (OT) is defined as a long term decrement in performance,[4] usually with various physiological, immunological, hormonal, and metabolic changes that are remarkably similar to those in MDD, the only difference being the nature of the role dysfunction: athletic performance in the case of the overtrained athlete, social, cognitive, and work in the case of the depressed patients.

The similarities between OT and MDD extend to immunological effects, in which natural killer cell and humoral immunological parameters are suppressed in both, leading to an increased risk of upper respiratory infection. In fact, the J shaped curve relating exercise to immunological function[5] is equally appropriate to describe the relation between exercise and mood, in which both too little and too much exercise correlate with increased levels of irritability and depression, and moderate exercise is associated with the lowest level of mood disturbance.

Both OT and MDD are related to central fatigue, with similar alterations in neurotransmitter levels and function.[6] Elevated and unsuppressed cortisol secretion are found in both OT and MDD.[7] Both depressed patients and overtrained athletes have decreased sensitivity to noradrenaline (norepinephrine) and dopamine, decreased levels of growth hormone, lutrophin, β-endorphins, and thyrotrophin, and increased levels of corticotrophin-releasing hormone leading to hypercortisolism. Similar changes may also occur in both MDD and OT in brain monoamines, including tryptophan and serotonin.[6] These intriguing similarities are enhanced by the highly anecdotal, but common and often successful, use of serotonergic antidepressants in overtrained athletes. These athletes report both early and delayed benefits in their energy, motivation, and training similar to those reported by depressed patients in mood, energy, and role function.

Perhaps the most telling comparison of OT and MDD is in the denial and avoidance of each diagnosis by the respective patient groups. There is a common response that the disease represents a personal failure, a loss of willpower, and a defect in character, and is a problem of which one is ashamed and hides.[8] Patients reject the implications of loss of control, diminished vitality, and inadequate coping skills that both diagnoses carry, and often vow to work harder so as to overcome their inadequacies, which usually leads to even more severe symptoms and dysfunction. Athletes with OT are particularly susceptible to harm from these myths because of their heightened levels of goal orientation and task mastery.

In summary, competitive athletes are special in many ways, including a high level of goal orientation, a commitment to intense physical training and competition, and a decreased risk of depression and possibly other mental illnesses. But the risk of depression is not eliminated, and may be reflected, at its most severe level, in what sports doctors and scientists currently call OT. MDD as a neuropsychiatric disorder causes profound chemical and role dysfunction that is remarkably similar to the effects of OT in athletes, the major difference being that the role dysfunction in athletes relates to the major role in their life—athletic training and performance. Most importantly, the stigmatisation of and denial by athletes with OT, similar to the behaviour of patients with MDD, are preventing sports doctors and scientists from a proper study and treatment of overtrained athletes. OT deserves a broader, more enlightened, biopsychosocial approach if we are to help athletes with this devastating problem.

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Exercise and the prevention of back pain disability

Back pain is an important health and social problem. Over the last 30 years the amount of time lost from work because of spinal problems has increased across all developed countries. In the United Kingdom, there was a 266% increase in the days of Invalidity Benefit paid for spinal disorders in the 10 years to 1994.[1] Since then, Incapacity Benefit has replaced Invalidity Benefit, and the number of days of benefit paid for spinal disorders (for periods of greater than six months) has stabilised at around 90 million a year (DSS figures). Notwithstanding this increase in benefit payments, the prevalence of back pain in the general population appears unchanged.[1] This suggests that there may be an epidemic of back pain disability rather than an epidemic of back pain itself. About one in six of the population report having back pain on any one day, one in three sometime in the last month, and 6% will have had long standing or serious disabling low back pain in the previous year.[1 2] In 1993, the annual cost to the NHS of treating back pain was estimated at £481 million, and the non-NHS costs of treating back pain was estimated at £197 million.[3] Even a small percentage reduction in disability could have a large impact on both NHS costs and the non-NHS costs borne by individuals and their private insurers.

Many different, general and specific, exercise programmes are advocated for the treatment and prevention of back pain disability. Convincing evidence of a clinically important effect has not been found for any regimens recommending specific spinal exercises for acute back pain.[4] There is research evidence that the resumption of normal activities shortens the duration of acute and subacute episodes of back pain, leading to the assumption that chronic disability will also be reduced.[5] The evidence review for the United Kingdom national guidelines for the management of acute low back pain considers the diagnosis and treatment of acute back pain in detail.[5] The guidelines recommend that patients with back pain who do not have nerve root compression or reasons to suspect a serious underlying condition should be classified as having "simple back pain". It is thought that encouraging those who develop simple back pain to resume normal activity, including exercise, as soon as possible will reduce the proportion who develop long term disability and is very unlikely to cause significant harm.

Data on the effect of recreational exercise on the development of back pain disability in symptom free people are sparse. Because few symptom free people progress to back pain disability and because there are significant problems ensuring compliance with an exercise regimen, any community based randomised controlled trial to show an effect of exercise would be unfeasibly large. A number of controlled trials in the workplace have suggested that exercise can reduce the incidence of back disability.[6] A 1994 review of observational studies concluded that increased general fitness, or spinal flexibility, may have a slight protective effect against the future development of back pain.[7] Most of the studies included were workplace, not community, based. Two long term studies, one Finnish workplace study[8] and one Danish population study,[9] published too late to be included in the review, also suggested that physical activity protects against the development of back pain. A recent population study based in two general practices in South Manchester followed a cohort of back pain free people for one year. Sporting activity had no effect on the incidence of back pain in men but increased its incidence in women.[10] These observational data must be interpreted with caution because the majority were obtained in the workplace, not the general population, and there is the possibility that unknown confounding factors could have affected the results. Most published studies do, however, suggest that regular general exercise has some protective effective.

In summary, the evidence on the effect of recreational exercise on the development of back pain in the general population is not conclusive. As regular physical activity is thought to reduce the proportion of those with back pain that progress to established disability, it is plausible to hypothesise that regular recreational exercise before the onset of pain would have a similar effect. Controlled trial evidence obtained in workplace settings supports this. Although the evidence for exercise preventing back problems is weak, the other potential benefits of exercise mean that it is reasonable to encourage regular physical activity as part of a strategy to reduce the overall impact of back pain disability, on both the individual and society overall.

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