

Over diagnosing? Time for the ‘exercise is medicine’ movement to react



Clinical medicine has been overdiagnosing for several years; sport and exercise medicine needs to guard against falling into the same trap. This was the message portrayed in a podcast in which Dr Karim Khan, editor of the *British Journal of Sports Medicine*, interviewed Ray Moynihan,^[1] one of the authors of the bestselling book *Selling Sickness: How the World’s Biggest Pharmaceutical Companies are Turning Us All Into Patients*.^[2] The concept of ‘selling sickness’ is becoming a major public health problem, with many patients being treated for diseases or injuries that do not require treatment. Often the treatment has more undesirable effects than no treatment at all.

The driving force for overdiagnosing can have different origins. The most common origin can be attributed to profit, particularly if the condition needs medication, or expensive diagnostic procedures. Another driving force can be academic/clinical status; a clinician develops a reputation for being able to make an unusual diagnosis, and this behaviour seems to attract more unsuspecting patients. It does not take long for a condition to become fashionable. Consider, for example, the rather sudden increase in the number of patients getting diagnosed with conditions that used to be rare (chronic fatigue syndrome, irritable bowel syndrome, attention deficit hyperactivity disorder in children, to name a few).

In the discipline of sport and exercise medicine, there are signs that overdiagnosing is becoming more mainstream. The number of referrals for a magnetic resonance imaging (MRI) diagnosis has increased precipitously. While it is accepted that elite professional sports participants need the best medical care to diagnose an injury, it is questionable whether a recreational athlete needs to incur the same expenses for a rather innocuous injury. While MRIs can identify structural abnormalities, these structural abnormalities may not be associated with pain or degeneration. There are many unanswered questions about the association between structural abnormalities, injury and degeneration. This raises the question of ‘what is normal?’ This is an important question, because the distinction between normality and abnormality forms the basis of medical practice.^[3] According to this paradigm, if a condition is abnormal, it needs to be treated; if it is normal, it can be left alone. Differentiating between normal v. abnormal is not as simple as it may initially seem. For example, is it appropriate for age-associated conditions to be regarded as abnormal? Should 50-year-old men and women be prescribed hormone replacement therapy because they no longer have the same endocrine profile as someone in their twenties? For the definition of normal to be applied appropriately, gender- and age-based comparisons should be made; failure to do so opens opportunities

for overdiagnosing. A caveat to this argument is that at some point, age-related changes are no longer considered normal. For example, the prevalence of sarcopenia and osteoarthritis increase with age and are regarded as a natural part of the ageing process. Therefore, one can argue that within a group of 80-year-olds, it is normal to have sarcopenia and osteoarthritis. But should they be regarded as normal and left untreated?^[4] Or should they all be placed on medication to reduce these effects? If the definition of normal v. abnormal is precise and indisputable, the chances of overdiagnosing will diminish. A murky definition provides fertile ground for practitioners prone to overdiagnose. This area of indecision is where the pharmaceutical companies have taken the initiative and generated an industry providing a variety of medications to counter the consequences of ageing. It is an easy marketing exercise to prescribe a pill for a condition. Compare this with trying to encourage a person to become more physically active. Even in the presence of an overwhelming amount of evidence supporting the positive role of physical activity in treating and managing many of the conditions associated with increasing age, the task of getting people to become more physically active is daunting. It is going to take much marketing and canvassing to convince the public that there are alternative options to medication to counter the natural consequences of ageing. This message is encompassed in the vision of the ‘Exercise is Medicine’ movement.^[5] They have a tough job ahead to make a case against overdiagnosing and treating ailments, particularly those conditions that occur as a consequence of getting old.

1. BMJ talk medicine. ‘Overdiagnosis’ in sports medicine? FAI for example? The great Ray Moynihan (‘Selling sickness’). <https://soundcloud.com/bmjpodcasts/overdiagnosis-in-sports-medicine-fai-for-example-the-great-ray-moynihan-selling-sickness> (accessed 20 August 2015).
2. Moynihan R, Cassels A. *Selling Sickness: How the World’s Biggest Pharmaceutical Companies are Turning Us All Into Patients*. Sydney: Allen and Unwin, 2005.
3. Koeslag JH. What is normal? *S Afr Med J* 1993;83(1):47-50.
4. Baldwin JN, McKay MJ, Hiller CE, et al. Forming norms: Informing diagnosis and management in sports medicine. *British Journal of Sports Medicine* 2015. <http://doi.org/10.1136/bjsports-2014-094489>
5. Exercise is Medicine. <http://www.exerciseismedicine.org> (accessed 20 August 2015).

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S Afr J Sports Med 2015;27(3):62. DOI:10.7196/SAJSM.8769