MENTAL HEALTH SYMPTOMS IN PROFESSIONAL FOOTBALL

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INTRODUCTION

In professional football, most of the epidemiological research focuses on the physical health of players, principally on the occurrence of musculoskeletal injuries and more recently on their prevention. In contrast, and despite the increasing number of anecdotal reports in the media made by either active or retired players, scientific information about the mental health of professional footballers remains limited. This is surprising as professional footballers are cumulatively exposed to generic and sport-specific stressors over the course of their careers that are likely to induce mental health symptoms which can negatively influence their sport performance and their quality of life. These mental health symptoms are also likely to manifest while transitioning out of professional football as this process is characterised by many challenges. This article focuses on the mental health symptoms that might occur during and after a career in professional football. After its definition, the magnitude of mental health symptoms among active and retired professional footballers is described. Subsequently, the nonspecific and football-specific stressors that play a role in the occurrence of mental health symptoms are presented. Then, a particular attention is given to the screening and management approaches for mental health symptoms. Finally, the prevention of mental health symptoms is briefly discussed and several clinical recommendations are formulated.

DEFINITION OF MENTAL HEALTH SYMPTOMS

Any player can occasionally experience sadness, anger, stress, irritability and anxiety; this is normal. However, if these symptoms persist over a long period of time and/or are negatively impacting the player's sport performance or ability to function in other realms of daily life, then it may be that this player is experiencing mental health symptoms. While mental health disorders refer to clinically diagnosed conditions significantly impacting one's life, mental health symptoms are defined as adverse/abnormal thoughts, feelings and/or behaviour that might lead to functional impairments (in daily life, work and/or sport)[1]. Examples of mental health symptoms are psychological distress, burnout, anxiety, depression, sleep disturbance, disordered eating and alcohol/drug misuse. Mental health symptoms are often co-morbid (several symptoms occurring simultaneously), especially anxiety and depression. Mental health symptoms may include[2]:

- **Thoughts:** excessive self-criticism, low self-esteem, pessimism, hopelessness, problems with focus, concentration and memory.
- **Feelings:** irritability, anger, mood swings, sadness, extreme disappointment that cannot be shaken, depression, loneliness, emptiness, lack of passion and sense of purpose, lack of motivation.
- **Actions:** aggression, withdrawal from others/not going outside as much, being much quieter than usual, unexpected drop in performance (e.g., in sport, at school or at work).
- **Physical changes:** low energy, poor sleep, changes in appetite, changes in weight and appearance, physical signs of harm by self or others, including cuts and bruises, evidence of alcohol or other substance misuse (e.g., tremors, bloodshot eyes, change in pupil size,

Table 1

Sport	Distress	Anxiety/depression	Sleep disturbance	Alcohol misuse
Active footballers	*10-15*	*26-38*	*23*	*9-19*
Retired footballers	*9-18*	*19-39*	*11-28*	*8-32*
Active cricketers	*38*	*37*	*38*	*26*
Retired cricketers	*26*	*24*	*21*	*22*
Active Dutch athletes	*27*	*45*	*22*	*6*
Retired Dutch athletes	*18*	*29*	*22*	*27*
Active Gaelic athletes	*38*	*48*	*33*	*23*
Active handball players	*20*	*26*	*22*	*3*
Retired handball players	*16*	*16*	*12*	*7*
Active ice hockey players	*9*	*17*	*9*	*6*
Retired ice hockey players	*12*	*19*	*17*	*29*
Active rugby players	*17*	*30*	*13*	*15*
Retired rugby players	*25*	*28*	*29*	*24*

Table 1: Prevalence of mental health symptoms among professional footballers and professional athletes from other sport disciplines[3-20].

characteristic smell of marijuana or alcohol, slowed or poor coordination, injuries or arrests after using).

PREVALENCE OF MENTAL HEALTH SYMPTOMS

As previously mentioned, scientific information about the mental health symptoms occurring in the context of professional football remains scarce. This is also the case for the group of retired players who might have struggled during transitioning out of professional football. In the past decade, a limited number of quantitative studies reporting the prevalence of mental health symptoms among active and retired professional footballers was published, looking especially at symptoms of psychological distress, anxiety, depression, sleep disturbance, substance misuse and disordered eating. The available scientific evidence suggests that active and retired professional footballers report mental health symptoms nearly as often as active and former elite athletes from other sports or the general population[1,3].

Mental health symptoms among active professional footballers

In 2013, a preliminary study on mental health symptoms was conducted in a sample of 149 male professional footballers (mean age of 27 years; mean career duration of 9 years)[4]. In this cross-sectional study, the 4-week prevalence of mental health symptoms was 10% for distress, 26% for anxiety/depression and 19% for adverse alcohol use[4]. Subsequently to this preliminary study, a prospective cohort study was conducted among 607 male professional players (mean age of 27 years; mean career duration of 8 years) recruited in 11 countries[5]. In that study, the 4-week prevalence of mental health symptoms found at baseline was 15% for distress, 38% for anxiety/depression, 23% for sleep disturbance and 9% for adverse alcohol use5. A sub-analysis of these baseline data showed that the prevalence rates of mental health symptoms were quite similar across five European countries, ranging from 6% in Sweden for adverse alcohol use to 43% in Norway for anxiety/depression[6]. A study among 471 top-level male and female footballers from Switzerland found a prevalence of 8% for mild to moderate depression, 3% for major depression, and around 1% for an at least moderate anxiety disorder[7]. In that study, male players had a lower prevalence of depression and anxiety than female players[7]. In 184 female players from the German first league, the prevalence of severe depressive symptoms was 12% and the prevalence of moderate to severe anxiety symptoms was 6%[8]. A recent cross-sectional study among male (N = 149; mean age of 24 years; mean career duration of 6 years) and female (N = 132; mean age of 23 years; mean career duration of 5 years) professional footballers from the Australian leagues showed that sport-psychological distress was common, prevalence reaching 52% and 63%, respectively[9]. Prevalence of other mental health symptoms ranged from 2% for substance misuse to 51% for alcohol

misuse among male players, and from 2% for substance misuse to 44% for alcohol misuse and disordered eating among female players[9]. The aforementioned research shows that the prevalence of mental health symptoms among active professional footballers seems similar to that of the general population, and it does not differ much to that of athletes from other professional sports (Table 1)[1,3,10-17].

Mental health symptoms among retired professional footballers

Depression, anxiety, sleep disturbance and alcohol misuse are amongst the mental health which are identified in retired male professional footballers. A preliminary study conducted in 2015 in a sample of 104 male retired professional footballers (mean age of 36 years; mean career duration of 12 years) found a 4-week prevalence of mental health symptoms ranging from 16% for burnout to 39% for anxiety/depression[4]. Subsequently, a prospective cohort study was conducted among 219 male retired professional players (mean age of 35 years; mean career duration of 12 years), showing at baseline 4-week prevalence ranging from 18% for alcohol misuse to 35% for anxiety/depression[18]. A likelihood of depression and anxiety was reported in 6% and 12% respectively by Fernandes et al (2019)[19]. A recent cross-sectional study among male (N = 81; mean age of 39 years; mean career duration of 12 years) retired professional footballers from the Australian league showed prevalence rates ranging from 11% for anxiety to 69% for alcohol misuse[9]. Among female retired professional footballers, research is lacking. A study by Prinz et al (2016) showed that 9% of female retired professional footballers met the criteria for a diagnosis of clinical depression in the first two years of retirement, with 21% describing their mood as 'low'[20]. The aforementioned research shows that the prevalence of mental health symptoms among retired professional footballers seems similar to that of the general population, and it does not differ much to that of retired athletes from other professional sports (Table 1)[1,3,12,14,16,17].

NONSPECIFIC AND FOOTBALL-SPECIFIC STRESSORS

The occurrence of mental health symptoms in professional football can be caused by a single stressor but is usually multifactorial. Among active and retired professional footballers, mental health symptoms can occur as a consequence of the dynamic interaction between nonspecific and football-specific stressors.

Nonspecific stressors

Biological (genetic, biochemical, etc), psychological (mood, personality, behaviour, etc.) and social (cultural, familial, socioeconomic, medical, etc.) stressors play a role in the occurrence of mental health symptoms (as well as physical health conditions)[21]. Especially, exposure to these stressors combined with potential predisposition and adverse life events (e.g., death of a loved one, relationship problems), can increase someone's vulnerability for mental health symptoms[1,21]. Because of the many stressors and life changes between the 18th and 25th year of someone's life, mental health symptoms occur especially in young adulthood, with some symptoms being clearly gender related[22]. As any human being, professional footballers are likely to develop mental health symptoms as a consequence of biological, psychological and social stressors combined with adverse life events. However, football-specific stressors should be considered as most relevant for players.

Football-specific stressors

Recently, the scientific literature has shown that players (as well as elite athletes from other sports) might be confronted with many distinct stressors related to their football career that could induce mental health symptoms[23]. These football-specific stressors can be divided into four main categories:

- **Leadership and personnel issues:** e.g., adverse coach's behaviour and attitudes, conflict with coach, dealing with media and spectators, governing bodies.
- **Logistical and environmental issues:** e.g., poor travel arrangements, poor accommodation arrangements, adverse weather conditions, poor facilities, poor equipment.
- **Cultural and team:** e.g., adverse teammates' behaviour and attitudes, lack of support, poor communication.
- **Performance and personal issues:** e.g., decreased performances, musculoskeletal injuries, concussions.

Among active professional footballers, musculoskeletal injuries that lead to a long layoff period can be considered as a major stressor that might induce mental health symptoms. Cross-sectional and longitudinal analyses have suggested that the number of severe time-loss (28 days or more) musculoskeletal injuries during a football career was correlated with distress, anxiety and sleeping disturbance[24,25]. Theses analyses especially showed that professional footballers who had sustained one or more severe time-loss musculoskeletal injuries during their career were two to nearly four times more likely to report mental health symptoms than professional footballers who have not suffered from severe musculoskeletal injuries[24,25].

As in other sports, the major stressors likely to induce mental health symptoms among retired professional footballers are those related to transitioning out of football. This period can be impactful for many players as they might be exposed to various stressors and challenges among which include adjusting to a new life and lifestyle, being suddenly 'like everyone else' or missing the football atmosphere and competition[1]. This period is even more challenging for players forced to retire from professional football (e.g., because of experiencing a career ending injury) as they are more likely to report mental health symptoms by comparison to those that planned their time to transition out of football. Being employed as well as a higher number of working hours were found to be protective for symptoms of distress among male retired professional footballers[26]. These findings confirm that combining a football career with sustainable attention for education and career planning is important, while preparing for retirement from professional football can ease players' transition and positively impact their wellbeing[1].

SCREENING FOR MENTAL HEALTH SYMPTOMS

It is essential to identify, at an early stage, players who are potentially at risk of or are already experiencing mental health symptoms. Therefore, based on several scientific steps (e.g., review of the scientific literature, modified Delphi consensus process, preliminary reliability and validity assessment), the International Olympic Committee (IOC) Mental Health Working Group has developed the Sport Mental Health Assessment Tool 1 (SMHAT-1)[2]. The SMHAT-1 (Figure 1) is developed for sports

SMHAT-1

The International Olympic Committee Sport Mental Health Assessment Tool 1

DEVELOPED BY THE IOC MENTAL HEALTH WORKING GROUP

Athlete's name: _____ Athlete's ID number: _____

What is the SMHAT-1

The International Olympic Committee (IOC) Sport Mental Health Assessment Tool 1 (SMHAT-1) is a standardized assessment tool aiming to identify at an early stage elite athletes (defined as professional, Olympic, Paralympic and collegiate level; 16 and older) potentially at risk for or already experiencing mental health symptoms and disorders, in order to facilitate timely referral of those in need to adequate support and/or treatment.

Who should use the SMHAT-1

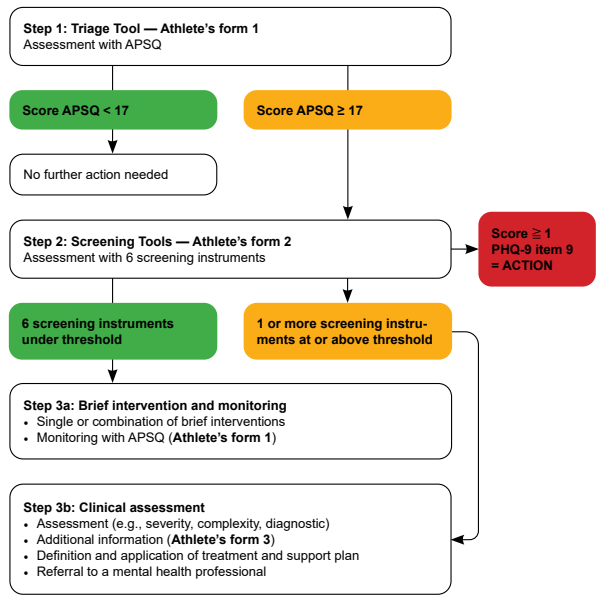
The SMHAT-1 can be used by sports medicine physicians and other licensed/registered health professionals, but the clinical assessment (and related management) within the SMHAT-1 (see step 3b) should be conducted by sports medicine physicians and/or licensed/registered mental health professionals. If you are not a sports medicine physician or other licensed/registered health professional, please use the IOC Sport Mental Health Recognition Tool 1 (SMHRT-1). Physical therapists or athletic trainers working with a sports medicine physician can use the SMHAT-1 but any guidance or intervention should remain the responsibility of their sports medicine physician.

Why use the SMHAT-1

Mental health symptoms and disorders are prevalent among active and former elite athletes. Mental health disorders are typically defined as conditions causing clinically significant distress or impairment that meet certain diagnostic criteria, such as in the Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5) or the International Classification of Diseases 10th revision (ICD-10), whereas mental health symptoms are self-reported, may be significant but do not occur in a pattern meeting specific diagnostic criteria and do not necessarily cause significant distress or functional impairment.

When to use the SMHAT-1

The SMHAT-1 should be ideally embedded within the pre-competition period (i.e., a few weeks after the start of sport training), as well as within the mid- and end-season period. The SMHAT-1 should also ideally be used when any significant event for athletes occurs such as injury, illness, surgery, unexplained performance concern, after a major competition, end of competitive cycle, suspected harassment/abuse, adverse life event and transitioning out of sport.



1

Step 1. Triage tool for mental health symptoms and disorders

ACTION: For this step, you need to refer to the Athlete's form 1. Complete the following.

Calculate the total score by summing up the answers on the 10 items — Total Score

Total score 10 – 16 **>>>** No further action needed
Total score 17 – 50 **>>>** The athlete should complete the Athlete's form 2. Once the Athlete's form 2 is completed, proceed to step 2

2

Step 2. Screening tools for mental health symptoms and disorders

ACTION: For this step, you need to refer to the Athlete's form 2. Complete the following.

Screening 1 (anxiety)

Calculate the total score by summing up the answers on the 7 items — Total Score

Screening 2 (depression)

Calculate the total score by summing up the answers on the 9 items — Total Score

Note the score ('0', '1', '2' or '3') of the athlete on item 9 — Score

Screening 3 (sleep disturbance)

Calculate the total score by summing up the answers on the 5 items. — Total Score

Screening 4 (alcohol misuse)

Calculate the total score by summing up the answers on the 3 items — Total Score

Screening 5 (drug(s) use)

Calculate the total score by summing up the answers on the 4 items — Total Score

Note which drug(s) caused concerns or problems for the athlete — Drug(s)

Screening 6 (disordered eating)

Calculate the total score by summing up the answers on the first 6 items — Total Score

medicine physicians and other licensed/registered health professionals to assess elite athletes (including professional footballers) potentially at risk for or already experiencing mental health symptoms and disorders in order to facilitate timely management and/or referral to adequate support and/or treatment[2]. The SMHAT-1 relies on a three-step approach: triage step (step 1) based on an existing validated screening instrument; screening step (step 2) based on six existing validated screening instruments related to the most prevalent mental health symptoms in elite sports; intervention and (re)assessment step (step 3) including in some cases a clinical assessment[2]. It is important to mention that physical therapists, athletic trainers and not clinically-trained sport psychologists working with a sports medicine physician can use the SMHAT-1, but any clinical assessment, guidance or intervention should remain the responsibility of their sports medicine physician.

For those working with elite athletes who are not sports medicine physicians or licensed/registered health professionals, and for athletes themselves, the IOC Mental Health Working Group has developed the Sport Mental Health Recognition Tool 1 (SMHRT-1)[2]. The objective of the SMHRT-1 (Figure 2) is to facilitate early detection of mental health symptoms in elite athletes in order to promote help-seeking among athletes in need of assistance from a sports medicine physician or other licensed/registered health professional and to facilitate further assessment and subsequent treatment as applicable[2].

Management approaches to mental health symptoms

There are different treatment modalities available to assist in the management of mental health symptoms, but these approaches have not been specifically developed and/or rigorously evaluated for efficacy in professional footballers. Therefore, generic treatment principles should be implemented for the management of mental health symptoms among professional footballers. The management of mental health symptoms in professional football should take a comprehensive, integrative approach that puts the player at the centre and addresses all relevant emotional, mental, physical, social, spiritual, and environmental influences that affect a person's mental health[1,27]. The strategy should also take into account differences across countries and cultures.

Physical activity

For mild to moderate mental health symptoms, lifestyle modifications may be sufficient to address the concerns. Physical activity on a regular basis, including jogging, swimming, cycling, walking, gardening, and dancing, is a key intervention that has been shown to alleviate mild to moderate mental health symptoms. It is important to note that the exercise prescription goes beyond endurance and muscle strength training. Being regularly physically active provides other health benefits as well, such as improved sleep, stress relief, improved alertness, increased energy levels during the day and weight management. Research has shown that physical activity also has a significant positive impact on mental health symptoms: it improves self-esteem and cognitive function, and it reduces stress, anxiety and depression. This effect might be explained by direct physiological reactions (e.g., exercise-induced increase in blood circulation to the brain) or by indirect mechanisms such as distraction, self-efficacy and social interaction.

Psychoeducation

Psychoeducation refers to the organised process of disseminating balanced and evidence-based information about a medical condition to patients and their entourage (e.g., family, friends, colleagues). Psychoeducation is an essential element of nearly all types of therapy and should be considered a prerequisite to any subsequent steps.

Psychotherapy

Referring to a range of treatments that can help alleviate mental health symptoms, psychotherapy enables patients to understand their feelings, and explore what makes them feel positive, anxious, or depressed. Based on the relationship and dialogue between the patient and the mental health professional, this process can provide them with the coping skills necessary to deal with difficult situations in a more

Clinicians should screen players for mental health symptoms regularly, that means at the start of and during a football season, as well as at the start of the transitioning process.

SMHRT-1

The International Olympic Committee Sport Mental Health Recognition Tool 1

DEVELOPED BY THE IOC MENTAL HEALTH WORKING GROUP

Sadness, anger, stress, irritability and anxiety are all normal parts of the human experience; however, if these problems persist for long periods of time or have a big impact on someone's sport career or daily life, it may indicate that the athlete is experiencing a mental health problem. As mental health problems are common in elite athletes, it remains essential to identify them as early as possible in order to refer the athlete for management and/or treatment for potential mental health problems in a timely manner.

The International Olympic Committee (IOC) Sport Mental Health Recognition Tool 1 (SMHRT-1) can be used by athletes, coaches, family members and all other members of the athlete's entourage to recognise mental health problems but not to diagnose them. The SMHRT-1 presents a list of athlete experiences (thoughts, feelings, behaviours, physical changes) that could be indicative of mental health problems. If an athlete reports and/or displays these experiences and they are significant and/or persistent, you have an important role in encouraging the athlete to get the support needed as early as possible.

1

Common experiences of mental health problems

Thoughts:

Excessive self-criticism, low self-esteem, pessimism, hopelessness, problems with focus, concentration and memory.

Feelings:

Irritability, anger, mood swings, sadness, extreme disappointment that you just can't shake, depression, loneliness, emptiness, lack of passion and sense of purpose, lack of motivation.

Actions:

Aggression, withdrawal from others / not going outside as much, being much more quiet than usual, unexpected drop in performance (e.g., in sport, school, work).

Physical changes:

Low energy, poor sleep, changes in appetite, changes in weight and appearance, physical signs of harm by self or others including cuts and bruises, evidence of alcohol or other substance misuse (e.g., tremors, blood-shot eyes, change in pupil size, characteristic smell of marijuana or alcohol, slowed or poor coordination, injuries or arrests after using).

Red flags

If an athlete (or you) experience or observe any of the following, seek immediate help.

Comments related to harming self or others.

Talking about feeling hopeless or so overwhelmed that you cannot function.

Dramatic weight changes.

Other highly uncharacteristic behaviours, emotions and appearances.

An episode of overwhelming sudden onset of fear with marked physical symptoms such as sweating or shortness of breath that has never before been experienced or is different from prior episodes (could be a panic attack or another medical problem).

2

What to do when mental health problems occur?

If you are observing mental health problems in an athlete, consider the following (depending on your role):

- Allow the athlete to tell their story.
- Be non-judgemental and understanding (e.g., with simple statements such as "I'm so sorry you are feeling this way; I'm glad you told me about it.").
- Know which resources are available and encourage help-seeking.
- Remember to look after yourself when assisting an athlete with mental health challenges.
- Consider what adjustments in your coaching approach might be needed to help an athlete's mental health while maintaining or creating a positive environment (e.g., recognising the need for positive feedback, encouragement and the right balance of challenge versus support).
- Consult with the medical team and discuss the possible adjustment of an athlete's training, in consultation with your technical staff.

If you personally are experiencing mental health problems:

Remember that seeking help is a sign of strength. Pay attention to what you are experiencing. Prioritise your mental health and life balance. Talk to someone you trust such as your coach, your parents, a friend and/or a teammate. Be open to advice and support. Consider seeking professional help.

Further information and material on mental health in elite athletes has been developed by the IOC and can be found here.

adaptive and positive way. Psychotherapy provides a safe and supportive environment that allows the patient to talk openly with someone who is objective, neutral and non-judgemental. There are several approaches to psychotherapy, cognitive-behavioural therapy being most often applied. Family therapy might also be helpful if family members are substantially impacted by, or involved in, the player's mental health symptoms. Therapy for concerns related to substance use might also be indicated.

Pharmacological treatment

Although psychoeducation and psychotherapy are typically the first-line treatments for mild to moderate symptoms of mental illness, pharmacological interventions may be needed. Important considerations when prescribing psychiatric medication to players include: any potential negative impact on athletic performance; potential non-therapeutic (ergogenic) impact on athletic performance which could trigger an anti-doping rule violation; and potential safety risks. Common side effects that may negatively impact athletic performance include: sedation; weight gain; cardiac side effects (including orthostatic hypotension, hypertension, tachycardia, palpitations, arrhythmias and electrocardiographic changes such as QTc prolongation); and tremor. Other relevant side effects include: impaired concentration; muscle rigidity; motor changes (including slowness of muscle movements); weight loss; blurred vision or dizziness; anxiety or agitation; and insomnia. For medication with potential ergogenic impact on athletic performance, specific anti-doping notifications (i.e., therapeutic use exemptions) may be required for participation at elite, professional or international levels. The degree to which side effects, safety risks, and organisational regulations are of concern may vary by sport and its demands, the level of performance required, the time frame within the athletic training/competition cycle and the anticipated duration of treatment.

PREVENTION OF MENTAL HEALTH SYMPTOMS

There are two main approaches to prevent mental health symptoms: (i) primary (universal) prevention aimed at preventing the occurrence of mental health symptoms in the first place, and (ii) secondary (targeted) prevention aimed at preventing the reoccurrence of mental health symptoms. While primary prevention of mental health symptoms is not always easy to achieve, several strategies or interventions are available for secondary prevention: focussing on stress control, maintaining an optimal life balance and regular sleep cycles, increasing resilience and boosting low self-esteem[1,27]. Included in secondary prevention is the advice to the player to remain physically active, as regular exercise has been shown to have a positive impact on alleviating psychological stress. It can also help in managing stressful lifestyles and helping people make better decisions when under pressure. Physically active people tend to be more awake, have calmer and more positive outlooks, cope better with stress and have better relationships with others. Physical activity has also been found to be effective at preventing the onset and management of depressive symptoms.

In both primary and secondary prevention, there should be an emphasis on ensuring that the sporting environment embodies the principles of "safe sport", where the players can participate in a culture and environment which is free from discrimination, harassment and abuse[28]. Eliminating the toxic cultures in sport can also lead to the prevention and improvement of mental health symptoms[28].

RECOMMENDATIONS FOR CLINICIANS

Clinicians have an important role to play for the mental health and wellbeing of professional footballers. Clinicians should screen players for mental health symptoms regularly, that means at the start of and during a football season, as well as at the start of the transitioning process. This should enable clinicians to facilitate timely management and care for any identified mental health conditions. Team doctors should have the clinical capacity to diagnose and manage uncomplicated mental health presentations with the treatment modalities outlined above. Clinicians should also provide professional footballers with education towards the prevention of mental health symptoms. With that regard, mental health literacy, defined as the cognitive and social skills that determine the motivation and ability of individuals to gain access to, understand and use information in ways that promote and maintain good mental health[29], should be considered as a prerequisite to any preventive approaches applied in the context of professional football. The significance of physical activity for health in general and for mental health in particular should be acknowledged by clinicians to players transitioning out of professional football.

References
Available at www.aspetar.com/journal

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