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THE ROLE OF MENTAL HEALTH IN COMPETITIVE SPORT: PREVALENCE, RISK FACTORS, AND MANAGEMENT STRATEGIES OF PSYCHIATRIC CONDITIONS AMONG ATHLETES

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ABSTRACT

Background. Historically, the sports culture has prioritized "mental toughness," often viewing psychological vulnerability as a contradiction to elite performance. However, growing evidence suggests that competitive athletes face a unique constellation of various stressors, which if not identified early and treated adequately, may result in mental health disorders.

Aim. To draw attention to the importance of psychological well-being of an athlete detailing prevalence, risk factors and specifics of various mental health conditions in competitive sports and to outline the role of integrated management strategies.

Material and methods. A narrative review of existing literature was conducted, incorporating cross-sectional surveys, prospective cohort studies and systematic reviews focused on elite and ultra-endurance athletes.

Results. Prevalence rates for mental health symptoms in athletes are comparable or even higher than among the general population, with depression and anxiety affecting up to 34% of elite cohorts. Specific risk factors include musculoskeletal injuries, career transitions, and the individual nature of certain sport disciplines.

Conclusions. Integrated management requires a core multidisciplinary team (CMT) to provide holistic care that balances clinical stability with athletic performance maintenance.

KEYWORDS

Mental Health, Elite Athletes, Sports Psychiatry, Competitive Sports, Psychiatric Conditions

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1. Introduction.

In competitive sports, mental health as well as athletic performance are undeniably tied to each other and should not be considered separately (1). While physical health of an athlete has traditionally drawn the most clinical attention, there is an increasing awareness that psychiatric disorders are common among that specific group, with prevalence rates mirroring or even exceeding those found in the general population (2,3). The World Health Organization defines health as a state of complete physical, mental, and social well-being, implying that health is more than just the absence of disease (1,3). In the competitive environment, a persistent tension often exists between athletes' endurance and satisfactory performance, where long-term well-being may be compromised in order to achieve success and better short-term results (1). Furthermore, stigma still remains a significant barrier; the prevailing sports culture often disapproves of any signs of weakness, leading many athletes to hide their psychological distress (4,5). In the past, a traditional approach focused almost exclusively on optimizing performance, often overlooking a reality of psychological distress (6). Recent evidence suggests that a major shift is needed in order to view mental health as an essential part of performance assessment of elite athletes (6).

Research objective. The purpose of this review is to provide a comprehensive analysis of the characteristics of psychiatric conditions among competitive athletes, outline the specific demographic and sport-related risk factors contributing to mental health vulnerabilities, and to evaluate integrated management strategies coordinated by multidisciplinary teams to support holistic athlete welfare.

Research problems. What is the reported prevalence of specific mental health disorders (such as depression, anxiety, and eating disorders) in elite athletic populations, and how does it compare to the general population? Which environmental and individual factors serve as primary determinants of psychopathological symptoms in the high-performance environment? How can the integration of a Core Multidisciplinary Team (CMT) effectively balance clinical recovery with the demands of performance restoration and maintenance?

Research hypotheses. Competitive athletes, particularly those in the individual and aesthetic disciplines, exhibit significantly higher rates of depressive and disordered eating symptoms than athletes in team-based sports. Cognitive vulnerabilities, such as perfectionistic concerns, act as critical moderators that increase the risk of psychiatric symptoms onset during periods of high competitive stress. The implementation of systematic mental health screening protocols and multidisciplinary management models leads to superior clinical outcomes and more effective athletic performance restoration compared to traditional performance-only psychological models.

2. Research materials and methods.

2.1. Study design

This paper utilizes a narrative review methodology to synthesize empirical observations and clinical consensus statements regarding mental health in competitive sports. The review was conducted with reference to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines for clarity of the reportings and search transparency. The analysis draws from cross-sectional prospective studies, longitudinal investigations, and systematic meta-analyses. The focus is on high-performance athletes, defined as those competing at professional, olympic, or collegiate levels.

2.2 Search strategy

A structured literature search was performed across Medline (via PubMed), Embase, and Web of Science. The search included peer-reviewed original research and expert consensus statements published up to the present date. The collected information included country, sport type (individual vs. team), level of play, assessment tools, diagnostic cutoffs, and reported prevalence rates. The search covered publications from December 1993 to March 2026 to include both foundational and contemporary evidence.

2.3. Inclusion and exclusion criteria

Articles were excluded if they were written in a different language than English, lacked primary empirical data (e.g., editorials, abstracts), or did not have a full-text available. Exclusion also concerned articles focused solely on non-elite/recreational populations.

2.4. Quality appraisal

The methodological quality of the studies included in this review was evaluated using a modified Parker et al. tool, which is specifically adapted for epidemiological prevalence research. Assessment was based on five markers: a clear definition of the target population, use of random or consecutive recruitment, a representative of the athletic population, response rate and adequate sample size. Furthermore, the strength of each study's design was categorized according to the National Health and Medical Research Council (NHMRC) Evidence Hierarchy. Studies consisting of original research were prioritised along with the cross-sectional ones.

2.5. Synthesis approach

Data was synthesised following a narrative approach, whereas categories were based on the clinical domains defined by DSM-5 and ICD-11 classifications. Evidence was grouped into specific categories: depressive disorders, anxiety disorders, eating disorders, ADHD, and sleep disturbances. Within these themes, data were synthesized by identifying and comparing prevalence rates, as well as mapping associated risk factors. The integration of evidence utilized a best-evidence synthesis model, where findings from studies achieving higher methodological quality scores were prioritised.

3. Research results.

3.1. Depressive Disorders

Depression is one of the most significant and frequently diagnosed mental health issues in the athletic community, with symptoms including persistent low mood, anhedonia, fatigue, sleep disturbances and cognitive changes that impair both quality of life and sport performance (4,7). Reported prevalence rates vary significantly, ranging from 6.7% in some collegiate samples to as high as 34% in elite cohorts (7,8). Research indicates that athletes are not inherently immune to depression due to their physical activity; instead, the strenuous lifestyle and high expectations of elite sport can act as significant contributors (4). Vulnerability often peaks during critical periods, such as the transition from junior to senior competition or when contemplating retirement. Athletes on the verge of retirement report odds of developing depression up to nine times higher than those which are not facing career termination (5,6). Physical health setbacks also seem to have a crucial impact, especially musculoskeletal injuries and concussions. History of three or more concussions might be associated with a threefold increased risk (1,5,7). Higher rates of depressive symptoms are consistently reported in female athletes and the onset of the mental health problems peaks around 19 years

of age, which is coinciding with major transitions like shift from junior to senior competitions or finishing high school (3,5). The type of sport is also a substantial determinant as athletes practising individual sports face approximately 4,2 times higher risk of developing depression than those in team sports (5,9). Despite a high prevalence of depression in the sports community, stigma still remains a formidable barrier and many athletes hide their distress. Evidence suggests that approximately 40% of athletes may be in need of psychological support, while only 10 to 15% actually receive it during their active careers (5,7,10).

3.2. Anxiety Disorders

Anxiety disorders, including Generalized Anxiety Disorder (GAD) and social phobia, manifest as excessive fear, apprehension and tension that can compromise executive function, negatively affecting both athletes' performance and everyday life (8). While prevalence rates differ across the studies, general anxiety disorder affects roughly 8,6% to 12% of elite athletes, while in case of collegiate athletes it has shown rates as high as 22%. Those findings are significantly exceeding the 5% rate typically found in the general population (2,6,11). The highest rates of GAD, reaching up to 38,9% in women, are presented by athletes competing in aesthetic sports such as gymnastics or figure skating. It most likely affects athletes whose self-esteem is exclusively tied to their success, which results in the extreme pressure to achieve perfection (8,9). Furthermore, performance anxiety and the fear of not performing in the desired manner similarly to depression is more prevalent in individual sports, where the competitive output is solely dependent on a single individual (5,7,9). Evidence identifies female gender, younger age and career dissatisfaction as primary determinants of symptomatic anxiety among elite athletes (8). GAD is one of the most common diagnoses among treatment-seeking athletes often manifesting as excessive worry about meeting high standards and troubling thoughts about the future (2,5). Social anxiety is characterized by a fear of social evaluation and scrutiny, which may lead to avoidant behaviors in competitive settings where athletes feel in the center of attention while being judged at the same time (4,9).

3.3. Eating Disorders and Disordered Eating

Disordered eating (DE) represent a critical mental health spectrum in high-performance sport, characterized by a persistent disturbance of eating or eating-related behavior that significantly impairs physical health or psychosocial functioning, which may results in clinical eating disorders (EDs) like anorexia nervosa, bulimia nervosa and binge eating disorder (12). The reported prevalence of EDs and DE in athletes varies significantly across disciplines and genders, typically ranging from 0% to 19% in men and 6% to 45% in women (12,13). Athletes in aesthetic, gravitational, and weight-class sports (e.g., gymnastics, figure skating, endurance running and wrestling) are at the highest risk (12,14,15). In these environments, pathological behaviors such as nutrient restriction, vomiting, use of laxatives or dieting pills, and "sweat runs" are sometimes normalized as inherent to the discipline (12,15). Body image dissatisfaction is a strong predictor of these conditions, with female athletes reporting significantly higher levels of concern than their male counterparts (12,14,16). While female athletes, particularly adolescents, report higher levels of dissatisfaction and ED symptoms, male athletes also face unique pressures, such as the pursuit of muscularity in wrestling or bodybuilding (14). Among National Cohorts studies of elite Icelandic athletes found that 18.2% were above the clinical cutoff for body image concern, with 9.5% exhibiting eating disorder symptoms, while concerning French high-level athletes, the prevalence reached 32.9%, with the vast majority classified as Eating Disorders Not Otherwise Specified (EDNOS). In Singapore, 16% of national athletes were suspected of having DE (15–17). DE is often linked to Low Energy Availability (LEA) and Relative Energy Deficiency in Sport (RED-S), which is a mismatch between energy intake and exercise load. It can lead to severe physiological consequences, including the impaired growth and development, bone stress injuries, hormonal dysfunction involving amenorrhea in women and reduced testosterone or libido in men (12,18). The early intervention is essential as EDs have one of the highest mortality rates among mental illnesses and are frequently comorbid with depression and anxiety. Effective management requires a Core Multidisciplinary Team (CMT) consisting of at least a doctor, a sports dietitian, and a psychologist (12,13).

3.4. Attention-Deficit/Hyperactivity Disorder (ADHD)

Attention-deficit/hyperactivity disorder (ADHD) is a complex and multifactorial neurodevelopmental disorder characterized by persistent patterns of inattention, hyperactivity, and impulsivity that interfere with daily functioning (3,19). ADHD prevalence in elite athletes is estimated at 7% to 8%, potentially exceeding general population rates as the disorder's attention-activating nature may draw individuals toward sports

(1,10,19). While sports activity can sometimes reduce symptom severity, proper management is critical for safety and performance (19). ADHD might be a substantial correlate for physical safety as athletes with a disorder are more likely to have a history of multiple concussions and often experience prolonged recovery times (1,19). ADHD rarely occurs in isolation and is frequently associated with other mental health disorders, including anxiety, depression, and substance abuse. Proper management is essential for both performance and long-term welfare of an athlete. While psychosocial interventions like Cognitive Behavioral Therapy (CBT) are recommended as a foundational treatment, pharmacotherapy is often necessary (3,18,19). However the pharmacological treatment often involves stimulants like methylphenidate, which require a Therapeutic Use Exemption (TUE) from the World Anti-Doping Agency (WADA) due to their potential for performance enhancement (1,3,19,20).

3.5. Psychotic Disorders

Psychotic disorders are much less researched in sports, but they pose significant risks to functioning and performance (21). The typical age of onset directly coincides with the period of peak athletic performance (13). Schizophrenia appears to be under-represented in the athlete community, likely due to the severe commitment and cognitive demands required for elite-level training which may be incompatible with the disorder's chronic course (21). Medications used for these conditions often have side effects, such as sedation or akathisia, that are particularly problematic for motor function and athletic output (21).

3.6. Sleep Disturbances

Sleep is fundamental for cognitive performance, motor skill consolidation, and physical recovery (11,22,23). Despite its importance, sleep disturbances are a global phenomenon among elite athletes with 14% up to even 50% of cohorts reporting clinically meaningful problems (22,23). Insufficient sleep increases the risk of injury and exacerbates mental health symptoms like anxiety and depression, while those disorders on their own worsen sleep parameters (11,22,23). Impaired sleep is also a high indicator of training overload and sign of overachieving (22). Factors inducing sleep problems specific to elite athletes include high training loads, travel-related jet lag, and pre-competition stress (11,22). Female athletes consistently report more sleep difficulties compared to the male athletes and they are also twice as likely to use sleep medications (22). Adolescents are particularly vulnerable due to a 3-5 hour delay in melatonin secretion starting at puberty, which often clashes with early school and training times (22,23). A preference for staying up late might also be a powerful predictor of ongoing insomnia (11). For management, sports physicians are encouraged to prioritize Digital Cognitive Behavioral Therapy for Insomnia (CBT-I) over pharmacological aids to avoid negative performance side effects such as slowed reaction times (22).

3.7. Substance Use and Alcohol Abuse

Substance use represents a significant clinical concern in the high-performance environment, with alcohol being the most frequently overused substance among competitive athletes (10). While being a competitive athlete is often viewed as a protective factor, current evidence suggests that athletes experience comparable or even higher rates of substance misuse relative to the general community (10,24). Current prevalence rates of alcohol misuse across various sports disciplines are estimated at 18.8% for active athletes and 21.1% for former athletes (10). In specific cohorts, such as Swedish elite athletes, hazardous drinking has been found in 25.8% of the examined, while some professional rugby samples have reported rates as high as 69% during the preseason (6,7). The type of sport serves as a primary determinant for the pattern and prevalence of substance use. Team sport athletes exhibit significantly higher rates of problematic alcohol use, binge drinking, and use of certain forms of nicotine or illicit substances compared to those in the individual sports, especially in collegiate sports. These disparities are often attributed to socialization and peer pressure, where the team environment creates frequent opportunities to celebrate victories or commiserate over defeats through substance use (9).

Beyond alcohol, cannabis consumption has emerged as a prevalent behavior. Athletes are more likely to use cannabis recreationally compared to non-athletes, which might be linked to high sensation-seeking tendencies (10,20). Furthermore, the misuse of prescription medications is a growing concern, approximately 17.9% of injured male collegiate athletes have reported using opioid pain medication without a prescription. There is also evidence of misuse of stimulants intended for ADHD treatment, with roughly 7.5% of collegiate athletes utilizing these substances without a valid prescription for perceived performance enhancement or weight loss (10,19). The deliberate use of performance-enhancing drugs (PEDs) including anabolic-androgenic steroids (AAS), human

growth hormone, and stimulants ranges between 14% and 39% based on athlete self-reports (20,25). Male athletes are consistently reported to have higher rates of PED use, likely due to societal pressures and greater access to substances perceived as "masculine" (20). The use of AAS is particularly problematic from a psychiatric standpoint, as high doses or "stacking" can induce subsyndromal hypomanic symptoms, aggression, or full psychotic episodes that may be misdiagnosed as primary psychiatric disorders (21).

4. Discussion

The evidence confirms that mental health symptoms and disorders are as common among elite athletes as they are in the general population, sometimes even exceeding their prevalence rates (1,7,10). This finding challenges the historical "mental toughness" paradigm, which suggested that elite status and high physical activity served as a protective shield against any psychological distress (1,4,5). Instead, the high-performance environment introduces a unique constellation of stressors including intense public scrutiny, fear of failure, and extreme training volumes that can cause or exacerbate psychiatric conditions (4,10,11). The relationship between mental health and athletic performance is bidirectional, while psychiatric disorders can significantly impair motor skills and decision-making, the stress of underperformance itself acts as a potent risk factor for the onset of symptoms (1).

4.1. Key Determinants: Demographics and Sport Type

Demographic variables, particularly gender and age, emerge as primary predictors of mental health vulnerability. Female athletes consistently report higher rates of depressive and anxiety symptoms, with some cohorts showing a threefold increase in risk compared to their male counterparts (5,8,11,24). Age also plays a critical role, as the peak period for athletic success often coincides with the typical age of onset for major psychiatric disorders, particularly around the age of 19 during the transition from junior to senior competition (2,6,21). Furthermore, the type of sport significantly modulates the risk, athletes in individual sports exhibit higher rates of depression and anxiety compared to those in team-based disciplines. While in team sports, there is a higher possibility of drug abuse or developing addiction (5,9,20,24). This disparity is largely attributed to the lack of social cohesion and the tendency for negative self-attribution after failure, where the burden of defeat rests solely on the individual rather than being dispersed across a team (5,9).

4.2. Physical Health Setbacks and Career Transitions

Physical injuries, especially those requiring surgery or prolonged rehabilitation are major triggers for clinical distress, as they threaten an athlete's sporting identity and career longevity. Notably, a history of multiple concussions (three or more) has been shown to triple the risk of elevated depressive symptoms (3,7,8,10). Beyond injury, career instability is a potent stressor, athletes who are undecided about their retirement report significantly higher rates of depression than those with stable career paths. This suggests that the psychological disturbances associated with retirement often begin well before the actual termination of a sporting career (5).

4.3. Cognitive Vulnerabilities: Perfectionism and Rumination

Recent longitudinal research has identified stable cognitive traits that escalate situational stress into clinical disorders. Maladaptive perfectionism, specifically "perfectionistic concerns," involves a morbid preoccupation with mistakes and fear of negative evaluation. Similarly, brooding rumination, a passive focus on negative mood acts as a stable mental habit that independently predicts the maintenance and recurrence of depressive episodes over time (4). These cognitive vulnerabilities are particularly dangerous in the elite context, where athletes with high brooding tendencies are significantly more likely to experience sharp increases in symptoms when environmental stress levels rise (26).

4.4. The Culture of Stigma and Barriers to Care

Despite the high symptom burden, a significant treatment gap still exists in elite sports. Stigma remains a formidable barrier, as many athletes fear that disclosing mental health struggles will be perceived as a lack of "mental toughness" or lead to deselection from their teams (4,5,10). Consequently, athletes often seek help outside their team's medical infrastructure to maintain confidentiality and avoid professional repercussions (6,7). This is further complicated by low mental health literacy among coaching and support staff, who may normalize symptoms like chronic insomnia or disordered eating as inherent requirements of elite performance (4,6,12).

4.5. Integrated Management: The CMT and Sports Psychiatry

Effective management requires a shift from performance-only psychological models to a Core Multidisciplinary Team (CMT) approach. The CMT, comprising a doctor, a sports dietitian, and a psychologist/psychiatrist, provides a holistic framework that balances clinical recovery with the physiological demands of training (12). Sports psychiatrists play a unique role by overseeing performance restoration and maintenance while ensuring that pharmacological interventions do not violate WADA anti-doping regulations or impair motor function (1). Furthermore, the use of advanced screening tools like the Athlete Sleep Screening Questionnaire (ASSQ) can help identify high-risk individuals early, allowing for timely interventions that protect both the athlete's health and their competitive career (3,11,22).

4.6. Limitations and Future Directions

While this review synthesizes a broad range of evidence, several limitations remain. Most current studies utilize cross-sectional designs and self-reported measures, which are susceptible to recall bias and social desirability effects. Furthermore, certain populations, such as para-athletes and those from non-Western cultures, remain underrepresented in the literature. Future research should prioritize longitudinal cohort studies and clinical interviews to establish causal relationships and evaluate the long-term effectiveness of integrated management models. Establishing ongoing surveillance of mental illness in high-performance sports is essential to advance the field of sports psychiatry and ensure the holistic welfare of athletes globally.

5. Conclusions

The comprehensive management of mental health in high-performance sports should transition from traditional performance-focused psychological models to integrated, holistic health frameworks (1,3,10). The Core Multidisciplinary Team (CMT) represents the organizational foundation for the effective assessment and long-term maintenance of athlete welfare (12). The sports psychiatrist fulfills a unique and essential role by overseeing performance enhancement and restoration, providing tertiary prevention for relapsing conditions (1). Crucial to successful management is the clinical ability to distinguish medical psychiatric pathologies from overtraining syndrome or situational performance anxiety, ensuring that athletes receive appropriate clinical care rather than mental training techniques alone (1).

Pharmacological strategies in elite sports require a highly individualized approach that balances clinical efficacy with anti-doping regulations and the avoidance of side effects that impair thermoregulation or motor function (1,3,19,21). Evidence-based psychotherapies, particularly Cognitive Behavioral Therapy (CBT) and Digital CBT-I for insomnia, are recommended as first-line interventions due to their structured nature, which aligns with the goal-oriented mindset of the competitive athlete (3,10,22). Furthermore, systematic screening using validated instruments such as the Athlete Sleep Screening Questionnaire (ASSQ) and the Sport Mental Health Assessment Tool 1 (SMHAT-1) should be integrated into routine pre-participation evaluations to facilitate early detection and referral (3,11,22,24). Finally, fostering the portrayed system requires a cultural shift through mental health literacy programs for coaches and support staff to reduce stigma and encourage early help-seeking (4,5,10,12). Management protocols should also support exit strategies for athletes whose chronic conditions may require a transition from elite competition to lower levels of participation or their resignation from sport (10,12,21). By prioritizing clinical recovery alongside performance restoration, sports organizations can ensure the long-term health, safety, and flourishing of the athletic population (1,10,12).

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