

Depression in Retired Athletes: An Overlooked Population

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ABSTRACT

Research regarding varsity athletes and depression continues to grow. Despite this, retired athletes are often overlooked. Current studies suggest retired athletes have similar reported outcomes when reporting depressive symptoms, but none address why they think this might be, what these specific symptoms are, or what we as clinicians can do to lower this number and provide good health care before and after retirement. Three articles were used to discern the highest quality evidence of this topic. The results of the 3 are inconsistent in their reported rates of depression among the retired athlete population in comparison to the general population. However, the articles were consistent in providing clinically significant information on the topic of depression in retired athletes. Themes included prevalence in depression in retired athletes and a need for more research, greater reported rates of depression in retired collegiate athletes compared to non-athletes, and a lack of care and resources for the retired athlete population. Conclusively, more interventional studies and longitudinal studies need to be completed, along with avenues for treatment.

Keywords: athletic retirement, depression, athlete mental health

CLINICAL SCENARIO

In the last 10 years, depression research has become a point of discussion in human research, especially in athletics.¹ Though research regarding varsity athletes and depression continues to grow, retired athletes are often overlooked. Athletes deal with stressors outside of their athletic obligations, such as pressure from family, teammates, friends, coaches, financial burdens, lack of time for social activities, academics, etc.² In addition to these stressors, the loss of athletic identity may also contribute to mental difficulties post-athletic retirement.³ The combination of these factors may lead to depression once their athletic career end.³

Depression is a common but serious mood disorder, causing severe symptoms with cognition and emotion.⁴ To be diagnosed with depression, the symptoms must be present for at least 2 weeks.⁴ These symptoms are defined in the DSM-5 as persistent sad, anxious, or “empty” mood, and feelings of hopelessness or pessimism, among others.⁴ The symptoms of depression can affect daily living and lead to a decreased quality of life, where it can adversely affect work, sleeping, and eating habits, and familial relations.⁴ Various treatments exist for depression; however, there is conflicting research on the “gold standard” for it because each individual experiences depression differently.⁵ Though a common diagnosis involving multiple treatment methods, depression can lead to hospitalization and suicide ideation without proper action.⁶ This may be a result of depression itself or the comorbidities that can commonly occur with it, such as anxiety, burnout, sleep disturbance, substance abuse, and disordered eating.³ These comorbidities are common negative outcomes in addition to depression during athletic retirement.³

In terms of athletics and retirement, depression may be a common by-product, as many athletes may be forced to retire before they are ready.³ Contributing factors to depression with athletic retirement include sustaining three or more concussions, playing a collision sport, sustaining a career-ending injury, and alcohol dependence.⁶ Furthermore, depression and factors such as cognitive impairment, anxiety, and alcohol misuse are more prevalent in retired athletes compared to the general population.³ Voorheis et al.³ found that this drastic alteration, that is, athletic retirement, can cause a shift in identity, social networks, career ambitions, and risks to physical and mental health. It is common for athletes to face a period of grieving but also struggle with monumental losses such as identity and purpose.⁷

Though the prevalence of these conditions may be higher in athletes, the symptoms of depression in retired athletes appear to be similar to the general population.^{7,8,9} Despite the amount of data present, there is a lack of information regarding what clinicians can do to support athletes before and after retirement.^{7,8,9} In order to identify proper solutions, identifying the rate of depression in retired athletes needs to occur first. This critically appraised topic provides a brief evidence-based review of the literature on why depression occurs in retired athletes.

Focused Clinical Question

Do retired athletes have a higher rate of depression in comparison to the general population?

Search Strategy

PubMed was searched in February 2024 using a PEO strategy.

- Patient: Athletes
- Exposure: Retirement
- Outcome: Depression

The following search terms were used in a Boolean phrase:

- “Athletic Retirement” AND “Depression”

Inclusion criteria feature retired athletes from high school, college, professional, or post-college teams with any number of years in their respective settings. Included studies needed to compare athletes to the general population and contain data on reported rates of depression. Studies were excluded if the focus was on current athletes, athletes who did not participate through 12th grade, or studies that were published more than 15 years ago. A depiction of the search strategy is included in Figure 1.

Figure 1: Summary of search history and included studies.



Evidence Quality Assessment

The STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) checklists for cohort, cross-sectional, and case-control studies were used to assess internal and external validity for each of the included CAT articles. The STROBE scores range from 0-22, with each section having several requirements that are necessary to be present in the article to achieve the criterion.

RESULTS OF THE SEARCH, BEST EVIDENCE APPRAISED, AND KEY FINDINGS

The initial search of the literature included 12 possible studies for inclusion. Upon further investigation, 9 studies were excluded due to a lack of exclusive depression rates. This left 3 studies meeting all criteria for inclusion. Of the 3 articles, 2 were case-control studies^{6,7}, and 1 was a systematic review.⁹ In terms of inclusion criteria, each article included data exclusive to depression as an outcome measure, a comparison to the general population or non-athlete population, while retired athletes were the main focus. All articles are summarized in Table 1.

Table 1: Characteristics of Included Studies

Study Characteristics	Kerr et al. ⁶	Simon et al. ⁷	Mannes et al. ⁹
Study title	Current Physical and Mental Health of Former Collegiate Athletes	Health-Related Quality of Life in Former National Collegiate Athletic Association Division I Collegiate Athletes Compared with Noncollegiate Athletes: A 5-Year Follow-up	Prevalence and Correlates of Psychological Distress among Retired Elite Athletes: A Systematic Review
Participants	421 female and 376 male former athletes	128 male and 65 female former athletes and 80 male and 89 female non-collegiate athletes	40 articles were included for review
Interventions	online, self-reported questionnaire compared to normative U.S. data collections	online, self-reported survey PROMIS with demographics questionnaire	articles included self-reported surveys as well as clinical diagnoses
Inclusion and exclusion criteria	Inclusion: 18 years or older, had an email address from the university alumni association, able to speak and understand English,	Inclusion: former Division I athlete, date of birth as used for inclusion criterion as well, participants who attended the university	Inclusion: retired collegiate or professional athletes, had to have played for at least one year at either level

	and played at least one season of collegiate sport between 1972-2012 Exclusion: incomplete data from survey	but did not participate in sanctioned athletics. Exclusion: volunteers who did not complete the full survey	inclusion for articles: English language, published peer-review journals, and quantitative studies Exclusion: studies examining cognitive impairment exclusively
Outcome measures	<i>t-tests</i> were used to compare PCS and MCS health composite scores between participants and the World Health Organization U.S. population data	Descriptive statistics, Cohen's d effect sizes, repeated measures multivariate analysis of variance, university analyses of variance, <i>t</i> tests, chi-square analysis, and a T-score metric were used for different parts of the study results. For the PROMIS scales, they used Shapiro-Wilk tests that were assessed by box plots.	Mixed Method Appraisal tool for evaluation bias. 21 articles measured depression rates, and 13 articles compared to results to non-athletes.
Results	They found that the MCS and PCS scores were similar between former collegiate athletes and the US population, and prevalent medical conditions in former athletes included anxiety, hypercholesterolemia/high cholesterol, and depression.	They found significantly higher scores for depression, fatigue, pain, and physical function scores compared to the non-collegiate population.	It was found that there was a higher prevalence rate when studies used a psychologist or psychiatrist to diagnose depression vs. self-reported data. From the articles, they also found that with greater physical activity, depression rates decreased. They also reported that there is a lack of care for former athletes' mental health once they end their careers.
Level of evidence	3	2	1
Evidence quality score	19/22	21/22	18/22
Support for the answer	Yes	Yes	Yes

Results Of Evidence Quality Assessment

Each article was independently appraised by one researcher. The article by Kerr et al.⁶ received a STROBE score of 19/22, Simon et al.⁷ received a 21/22, and Mannes et al.⁹ received a 18/22. Following the Strength of Recommendation Taxonomy (SORT) guidelines, each article had a different level of evidence. Kerr et al.⁶ received a 3, Simon et al.⁷ received a 2, and Mannes et al.⁹ received a 1.

CLINICAL BOTTOM LINE

There are moderate to low levels of evidence between the 3 articles, including levels 3,2, and 1.^{6,7,9} Simon et al.⁷ fully supported the research question, while the other two provided enough support to be included in this critically appraised topic. Kerr et al.⁶ and Mann et al.⁹ studies included self-reported questionnaires of a certain population sample size, and Mannes et al. included an analysis of 40 studies involving retired athletes the general population, and reported rates on depression, including self-reported data and data from a medical professional diagnosis.⁹

Within these 3 articles, there is conflicting evidence of a greater rate of depression in retired athletes when compared to the general population.^{6,7,9} Kerr et al.,⁶ and Simon et al.⁷ had an appropriate sample size, but both consisted of self-reported data. Kerr et al.⁶ reported similar levels of depression between the US population and former collegiate athletes. Simon et al.⁷ reported statistically significant data supporting higher reported rates of depression within the retired athlete population, in comparison to the general population.¹ Mannes et al.,⁹ a systematic review, reported depression rates decreased with physical activity, more reported depression rates came from a diagnosis from a psychologist or psychiatrist vs. self-reported data, and a significant lack of mental health resources for retired athletes after they leave their sport compared to athletes that are actively involved in their sport.

Based on the inquiry of these 3 studies, athletes are likely to have higher reported rates of depression after athletic retirement, but when compared to general population, there is still conflicting information regarding depression rates.^{6,7,9} Because of this factor, the evidence received a grade of B. Additionally, an average level of evidence of 2 was assigned to support the relationship between increased depression rates in retired athletes compared to general population depression levels. This recommendation is based on the inconsistency of evidence, the amount of self-reported data, sample sizes, and the variety of study designs.

IMPLICATIONS FOR PRACTICE, EDUCATION, AND FUTURE RESEARCH

The purpose of this critically appraised topic was to determine if there is a difference in depression rates in retired athletes compared to the general population. Though some conflict in results exists, the articles were consistent in providing clinically significant information, stating there is a lack of resources related to depression available for athletes once they leave their sport.^{6,7,9}

In terms of clinical impact, Kerr et al.⁶ reported that depression was prevalent in the retired athlete population and that it does need to be addressed by researchers in future literature due to it being a common disorder present in the retired athlete population. Simon et al.⁷ reported

similar, where there was a higher reported rate of depression. Furthermore, Kerr et al.⁶ implied that future research should include other variables like socioeconomic status and access to medical care, examination of injury and the effects on physical and mental health, include an older population of former athletes, look at a wider range of sports, and inform, develop, and implement interventions that utilize multiple forms of social support and facilitate health care access to help positively influence the physical and mental health and well-being of former collegiate athletes. Mannes et al.⁹ reported a common theme of lack of care and resources for the retired athlete population. This systematic review implied there is a need for more longitudinal studies, studies that evaluate adolescent mental health through their career and after, use clinical diagnoses, and a larger sample size of female participants.⁹

Depression, being a big factor within all populations worldwide, needs to be studied more as a whole, but especially for athletic populations.¹ Since there is no ‘gold standard’ treatment or coping mechanisms, each person can react, accept, and handle depression in various ways.¹⁰ Risk factors can include but are not limited to change in lifestyle, loss of identity, concussions, playing a collision sport, career-ending injury, alcohol, and drug misuse, and decreased physical activity.^{6,7,9,11,12,13} Based on the evidence, it seems there is a lack of clarity and/or what resources, education, and assistance are available to athletes once they are no longer actively playing their sports.^{6,7,9,11,12,13} Steps can be taken by health care providers, such as athletic trainers, to evaluate their patient populations, what access is available before and after athletic retirement, providing information and assistance for the health and well-being of their current athletes before they leave their care.^{14,15} Considerations of a “return to play” manual but reverse, such as “moving out of play” for athletic retirement, could be helpful with the inclusion of common experiences that occur pre- and post-retirement.^{11,14,15} Furthermore, providing exit screenings of depression can allow the athletes to be more efficiently referred to a mental health provider.¹⁵ Though more research is needed to determine the efficacy of these solutions, in the interim, interventions such as education on the disorder, creating lifestyle changes (maintaining physical exercise, eating health, etc.), psychological therapy and pharmacotherapy have proven to be beneficial in general populations.¹⁴

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