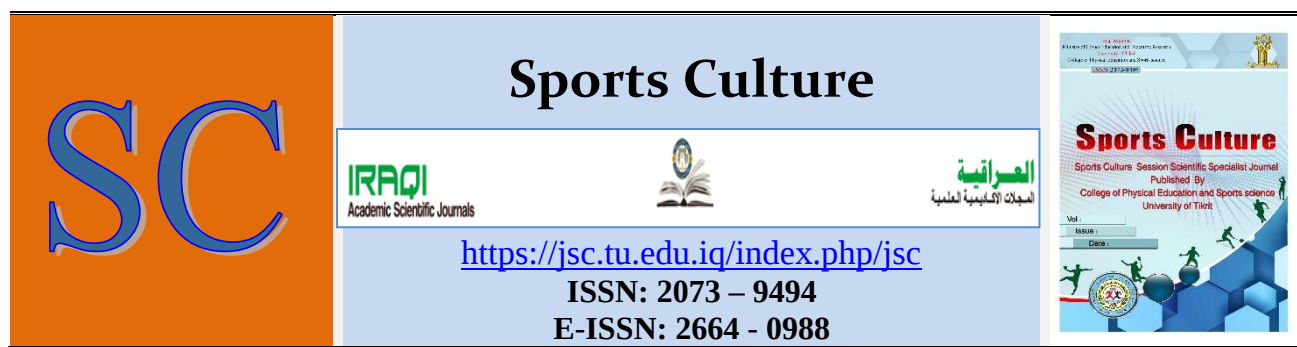




The Effect of Psychological Factors in the Rehabilitation Process of Sports Injuries: Review Article study

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Abstract

Psychological considerations are of special importance in practice regarding the rehabilitation following sports injuries. This paper aims to synthesise the current evidence on how affective responses, such as anxiety, fear of re-injury, motivation, and self-efficacy, can influence recovery rates, adherence, and successful return to sport. Patients often suffer from psychological distress that can interfere with physical recovery and lead to premature cessation of rehab services. Positive psychological characteristics and evidence-based interventions, such as goal setting, visualization, or emotional support, have been shown to help with adherence and faster recovery. Further, social support increases psychological resilience. A systematic review was conducted of articles published from 1990 to 2025 that focused on psychosocial factors in sports injury rehabilitation. Combining psychological therapy with physical therapy is key to optimal recovery. Targeting psychological factors with personalized interventions may optimize rehabilitation and reduce re-injury loss.

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تأثير العوامل النفسية في عملية إعادة التأهيل لإصابات الرياضة

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إعادة التأهيل،

إصابات الرياضة

تُعد الاعتبارات النفسية ذات أهمية خاصة الممارسة العملية المتعلقة بإعادة التأهيل بعد إصابات الرياضة. تهدف هذه الورقة إلى دمج الأدلة الحالية حول كيفية تأثير الاستجابات العاطفية، مثل القلق، وخوف الإصابة مرة أخرى، والدافعية، والفعالية الذاتية، على معدلات التعافي، والالتزام، والعودة الناجحة إلى الرياضة. غالبًا ما يعاني المرضى من ضائقة نفسية يمكن أن تتداخل مع التعافي الجسدي وتؤدي إلى التوقف المبكر عن خدمات إعادة التأهيل. الخصائص النفسية الإيجابية والتدخلات المبنية على الأدلة، مثل وضع الأهداف، والتصور، أو الدعم العاطفي، مفيدة للالتزام والتعافي الأسرع. بالإضافة إلى ذلك، يزيد الدعم الاجتماعي من المرونة النفسية. تم إجراء مراجعة منهجية للمقالات المنشورة من 1990 إلى 2025 التي ركزت على العوامل النفسية الاجتماعية في إعادة تأهيل إصابات الرياضة. دمج العلاج النفسي مع العلاج الطبيعي هو المفتاح للتعافي الأمثل. استهداف العوامل النفسية بتدخلات شخصية قد يحسن إعادة التأهيل ويقلل من خسائر الإصابة مرة أخرى.

Introduction

Sports injuries frequently occur in active individuals, and they may present with physical and psychological problems. While the interventions for physical rehabilitation target biomechanical dysfunction, psychosocial/cognitive constructs such as anxiety, depression, fear of re-injury, self-efficacy, and motivation are important determinants in the trajectory of recovery (Wiese-Bjornstal et al., 1998; Tracey, 2003). Psychological distress may lead to poor rehabilitation compliance, prolong recovery, and raise the risk of re-injury via maladjusted motor patterns or protective behavioural responses (Cupal & Brewer, 2001; Kvist et al., 2005). Conversely, stronger self-efficacy and motivation drive active participation in therapy and better outcomes at the activity level (Evans et al., 2021). Social support from coaches, family, and medical professionals provides a source of emotional energy that sustains the athlete during prolonged rehabilitation (Bianco et al., 1999). Psychological strategies, including goal-setting, mental imagery, relaxation techniques, and CBT, have proven useful for reducing psychological barriers (Arvinen-Barrow & Walker, 2013). This review integrates psychological research from 1990 to 2025 to structure the psychological aspects of sports injury rehabilitation and the effectiveness of interventions supporting holistic rehabilitation. This study is significant as it highlights the critical role of psychological factors in rehabilitation following sports injury and how they influence recovery outcomes (e.g., adherence, healing rate, successful return to sport) (Podlog et al., 2013; Walker et al., 2024). “Upon the psychological interventions and social support that were effective, encouragement to integrate mental health care with physical training is a way to promote recovery experiences in injured athletes themselves

(Koenig et al., 2024; Wiese-Bjornstal et al., 1998) as well as reduce the potential for re-injury” (p. This information is important for the design of interdisciplinary rehabilitation programmes in sports. The purpose of this study is to identify and evaluate psychological determinants that influence the rehabilitation of sports-injured individuals. But in assessing the effectiveness of interventions delivered during rehabilitation. Conversely, to provide evidence-based advice on incorporating psychological support into rehabilitation.

Methods

The search is based on the PubMed, ScienceDirect, and PMC databases, as well as Google Scholar. Keywords such as “psychological factors,” “sports injury rehabilitation,” and “psychological intervention for sports injury” were used to search. Eligibility criteria: Reporting was limited to peer-reviewed journals published between 1990 and 2025, in English, on psychological influences or interventions in rehabilitation processes following sports-related injuries. Both qualitative and quantitative designs were included. Publications that discussed exclusively physical dimensions to the neglect of psychological aspects were not included. Extracted information included psychological variables, intervention category, outcome measure, and rehabilitation context (Podlog et al., 2013; Walker et al., 2024).

Mental aspects in the rehabilitation of sports injuries

Emotional factors, such as anxiety, depression, and fear of re-injury, are prevalent in injured athletes and have been demonstrated to prolong healing time and predispose athletes to re-injury (Wiese-Bjornstal et al., 1998; Tracey, 2003). Motivation, self-efficacy, and confidence are protective factors that facilitate adherence to psychotherapy and recovery (Evans et al., 2021). Feelings and thoughts about injury predict participation in rehabilitation and physical functioning, underscoring the need to target these dimensions during rehabilitation (Cupal & Brewer, 2001).

Data and Research Findings

Investigations have demonstrated that almost half of the rehabilitation professionals identify anxiety and motivation as primary psychological barriers during recovery (Podlog et al., 2013). Quantitative research has demonstrated that interventions focusing on goal-setting and mental imagery can decrease psychological distress and enhance adherence to rehabilitation (Arvinen-Barrow & Walker, 2013). In addition, psychosocial support predicts psychological resilience, which, in turn, is associated with a faster return-to-sport period (Bianco et al., 1999).

Key Psychological Interventions

Effective psychological interventions include goal-setting , which enhances motivation for recovery by breaking the process into measurable stages, and mental imagery, which continuously prepares CNS functions during immobilisation (Evans et al., 2021). Relaxation techniques reduce stress and anxiety, thereby encouraging a focus on well-being (Cupal & Brewer, 2001). Patients are then treated using a cognitive-behavioral approach to help modify maladaptive beliefs and apprehensions regarding re-injury, once again allowing patients to become psychologically ready for ROM (Walker et al., 2024). This combined approach improves rehabilitation when used alongside physical therapy.

Social and Cognitive Aspects

The emotional and motivational dimensions during the rehabilitation process are crucial not only for controlling emotions but also for encouraging support from family, coaches, and healthcare providers (Bianco et al., 1999). Good communication and understanding also facilitate reducing the sense of isolation and frustration reported by injured athletes (Podlog et al.). Models such as the biopsychosocial one suggest that cognitive responses, emotional reactions, and social context interact dynamically to shape the recovery course (Wiese-Bjornstal et al., 1998).

Table Summary: Psychological factors and effects.

Psychological Factor	Common Effects	Intervention	Evidence
Anxiety and Stress	Delayed recovery, avoidance	Relaxation, CBT	Wiese-Bjornstal et al., 1998; Cupal & Brewer, 2001
Fear of Re-injury	Reduced adherence, re-injury risk	CBT, graded exposure	Kvist et al., 2005; Walker et al., 2024
Motivation	Rehab compliance	Goal-setting	Podlog et al., 2013; Evans et al., 2021
Self-efficacy and Confidence	Faster recovery, adherence	Mental imagery, positive self-talk	Evans et al., 2021; Arvinen-Barrow & Walker, 2013
Social Support	Emotional resilience	Counseling, social engagement	Bianco et al., 1999; Podlog et al., 2013

Literature Review

It is well documented that certain measures of psychological distress, such as fear and anxiety, are common features in those individuals who are working to recover from injury or illness (Wiese-Bjornstal et al., 1998) and have been linked with negative recovery outcomes, including delayed return to full functional capacity and low therapy compliance (Tracey, 2003). Positive

psychosocial characteristics, such as self-efficacy and motivation, have been associated with increased engagement and return to sport (Evans et al., 2021; Arvinen-Barrow & Walker, 2013). Psychological interventions such as goal setting, mental imagery (MI), relaxation training, and social support have been effective in promoting resilience and increasing the success of rehabilitation (Cupal & Brewer, 2001; Bianco et al., 1999). The biopsychosocial model offers a heuristic that explains the interplay of psychological, social and physical influences in Rehabilitation (Wiese-Bjornstal et al., 1998). However, large variability is observed in the psychological tools used and in the standardisation of interventions across studies (Podlog et al., 2013; Walker et al., 2024).

Results and Discussion

Psychological factors (e.g., anxiety and fear of re-injury) often constitute difficulties in effective rehabilitation, which is associated with avoidance behaviors that prolong the time to recovery (Tracey, 2003; Kvist et al., 2005). The evidence-based literature suggests that approximately 50% of rehabilitation providers have considered these variables as primary concerns affecting adherence and effectiveness (Podlog et al., 2013). Mental skills training, notably goal setting and mental imagery, has been shown to increase motivation and confidence, encouraging greater compliance with rehab and higher return-to-sport success rates (Arvinen-Barrow & Walker, 2013; Evans et al., 2021). Emotional social support from coaches, family members, and medical professionals is an important factor in sustaining a positive attitude and adherence to Rehabilitation (Bianco et al., 1999; Cupal & Brewer, 2001). The incorporation of psychological care with physical treatments enhances outcomes, but variability in the use of standardized psychological measures and interventions has hampered research comparisons and the sharing of best practices (Podlog et al., 2013; Walker et al., 2024). It is essential to use a multidisciplinary, biopsychosocial approach tailored to the specific injury and sport for efficient rehabilitation.

Conclusion

Psychological factors are key determinants of the outcome of sports injury rehabilitation. The psychological interventions may be beneficial in influencing anxiety, motivation, and fear of re-injury, which can improve adherence to rehabilitation, decrease risk for re-injury, and contribute to a comprehensive rehabilitation. Biopsychosocial models and combined psychological support and physical treatment Bridge the best long-term outcomes for sporting individuals undergoing a recovery process.

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