Sport is associated with an innate desire to excel and win but alongside there exists an inherent risk of getting injured. The injury to the musculoskeletal tissue is the most common sport injury observed in athletes. Rehabilitation is essential for recovery from both minor and major injuries, but it is observed that at times, the injured athlete may show weak therapeutic compliance. This not only leads to break from regular practice or competition but also increases the likelihood of re-injury. Rehabilitation personnel are clamoring for in-depth information regarding the factors affecting the injured athletes’ recovery process and return to competition. Research conducted in the past has shed light on the mental issues affecting the healing process. Thus, the present review was undertaken to reflect the role of psychological factors in rehabilitation which serve as an important consideration for rehabilitation specialists’ and sport organizations in order to ensure that injured athlete are medically and psychologically ready to play.

**Keywords:** Sport injuries, Psychosocial factors, Re-injury.
INTRODUCTION

Sport related injuries are of paramount concern worldwide, as they exert a significant social and economic impact on society. Undoubtedly, excellence is a part of sport, but it is achieved through facing impending risk of getting injured. According to Conn, Annest, and Gilchrist, 1 sport and recreation related injuries are becoming a central public health concern for both children and adults, nationally and internationally. The sport injuries involve musculoskeletal or soft tissue structures, and may cause interruptions in regular practice or competition. Sport participants of all levels, i.e., novice or elite could experience injury at any point of their career.1,2 It is therefore essential that injured athletes should be rehabilitated appropriately to enhance early recovery and prevent re-injury. It has also been reported that injured athletes may show difficulty adhering to the treatment protocols. 3

Undoubtedly, attention has been given to the physical part of rehabilitation in the form of designing and implementation of different programs, but the research shows that injured athletes’ exhibit myriad responses following sport injury which affect their rehabilitation. The wide horizon of the implications of sport injuries reveal that sport injuries may exert negative influence on the physical health of an injured athlete, 4 or may lead to increased anger, depression, anxiety, tension, fear, and decreased self-esteem. 5 It was also reported that sport injuries result in imbalance and disruption to the lives of the injured athletes in the form of decrements in athletic performance. 6 In few other rare cases, sport injuries may also lead to some form of permanent disability or could become the cause of death. 7 These kinds of consequences in the form of any loss to health, functional loss, behavioral changes, and discontinuation in practice could be devastating to an injured athlete and may lead to frustration. This could hinder the recovery process. Thus, there is a strong need to address these issues for the optimal rehabilitation of an injured athlete and for this, it is required that both physical and psychological rehabilitation should be considered together. Keeping in view these concerns, present review was undertaken to summarize the consequences of sport injury and to delineate the role of psychological factors in sport injury rehabilitation process.

INADEQUATE REHABILITATION

Research indicates that coaches and players need to be better educated about sport injury prevention and rehabilitation. In a study conducted by Backx, Erich, Kemper, and Verbeek in the year 1989,8 it was reported that incomplete recovery from a previous injury was a factor in 30% of acute and 50% of overuse injuries in children’s sport. Gerrard, Waller, and Bird 9 conducted a prospective cohort study on rugby union injuries and reported that 39% of the respondents had played against medical advice at some time in their playing history. Pringle, McNair, and Stanley10 from the findings of their study regarding whether players had experienced a previous injury to the same site, reported that 16 (30%) of the 53 players with a minor injury had sustained a similar injury within the preceding three months. Four (18%) of 22 children who had sustained moderate injuries re-injured the same area. The high percentage (27%) of children reinjuring the same site indicated that they returned to sport before recovery was complete.

The injured athlete has to deal with emotional disturbances and pressures regarding early return to play. The psychological factors have a role not only in the injury occurrence but also affect the potential recovery time from injury. Ryan and Deci11 through their self-determination theory reported the importance of fulfilling individual psychological needs for competence, autonomy, and relatedness in order to promote well-being, positive self-development, and self-determined behavior in a variety of settings. Further, Podlog and Eklund12 addressed the athletes’ psychological concerns according to coaches’ perspective and found that most of them emphasized that their key role was to ensure that their athletes were physically fit for re-entry into competition.

SPORT INJURY IMPLICATIONS

Sport injury may act as a stressful experience challenging the resources of athletes. According to Wiese-Bjornstal, Smith, Shaffer, and Morrey13 model, both pre- and post-injury factors and personal and situational variables influence athletes’ emotional and behavioural...
responses to injury, mediated by a process of cognitive appraisal. The researchers has largely focused on athletes’ emotional response to injury, and suggested that shock, anxiety, anger, depression and feelings of helplessness are prevalent at injury onset, whereas frustration, relief, jealousy, guilt and apathy characterize athletes’ responses during rehabilitation. Whereas, impatience, re-injury anxiety, excitement and fluctuating levels of confidence generally replace these emotions during athletes’ return to competitive sport.

The injured athletes may experience a number of injury-related stressors which are to a great extent phase specific. According to Evans, Hardy, and Fleming injury severity, contractual and financial issues, child care, playing/performance aspirations, incapacitation and isolation, weight gain, rehabilitation progress (and setbacks), and identity loss were the demands associated with the early phase of rehabilitation. During the rehabilitation phase, the stressors comprised of rehabilitation setbacks, contractual issues, playing expectancy, and financial demands. Playing/performance aspirations and fitness status characterized the re-entry to competition phase. The physical inability to complete everyday activities was also identified as a stressor among injured players.

The majority of coaches acknowledged that athletes had to overcome psychosocial barriers such as loss in confidence, re-injury concerns, feeling isolated from the team, and time pressures to return to sport following injury. In addressing these challenges, coaches typically reported using a variety of strategies. The coaches emphasized that they did not use strategies in a systematic or formal approach; rather, the individual nature of working with athletes to determine what they might need at a particular time was utilized.

**MANAGEMENT**

Rehabilitation of sport injury is a must and for this adherence to treatment protocol is important in achieving successful recovery. The complex nature of adherence, with psychological and physical components present in both the reasons for lack of adherence and the strategies used to prevent it. The amount and type of education physiotherapists provided were acknowledged by participants as key in helping and facilitating adherence. The injured athletes suggested that along with regular physical rehabilitation, regular feedback, exercises given in the written form, and prescription of a rehabilitation program that could be embedded in an athlete’s daily routine is essential. A team approach should also be incorporated, with involvement of an athlete’s coach and support network. Finally, it is vital for the physiotherapist to address the priority and self-motivation patients place on their rehabilitation.

The efforts aimed at preventing or reducing injuries should target at high risk activities, places of occurrence, activity, risk behaviors, and use of protective devices. Research has shown that strategies, such as coordinating support, team efforts, fostering communication among treatment team members, social support, positive thinking, goal setting, and role modeling were being used by coaches to facilitate injured athletes’ return to sport.

According to Brewer, adherence behavior in sport injury rehabilitation may include clinic-based activities, modifying sport activities (e.g., resting), taking medication, and completing home-based activities (e.g., icing). It was suggested that recovery from injury and decreasing the risk of re-injury is largely dependent upon an athlete’s adherence with a prescribed rehabilitation program. Also, a number of personal (e.g., self-motivation) and situational (e.g., injury duration) factors have been associated with adherence behavior.

Thus, the injured athletes’ optimal rehabilitation largely depends upon adherence to rehabilitation programs which is further related to treatment success and speed of recovery, with recent research addressing the physiotherapists’ role in facilitating this as reported by Niven. Social support from significant others including the physiotherapist, coach, parents, and teammates was effective as a strategy in improving adherence, whereas a lack of support was associated with poor adherence. Further, the level of trust in the physiotherapist and the prescribed rehabilitation program emerged as being perceived as an important factor on adherence. It was also purported that the physiotherapists’ may use goal setting to
improve motivation by setting goals and monitoring progress. The author also suggested that establishing a relationship with the athlete was important as it increases the confidence of the injured athlete in the physiotherapist. Further, Podlog and Eklund examined the coach perceptions of the return to sport from injury and found that effective forms of assistance were individual training sessions, keeping athletes involved in sport, and providing emotional, tangible, and informational types of social support.

CONCLUSION

The present review was an attempt to highlight the importance of psychological rehabilitation while designing and implementing core rehabilitation programs for injured athletes. It may aptly be put forth that a combination of physical and psychological rehabilitation may fabricate the most favorable environment for optimal adherence to rehabilitation. Also, the physiotherapists dealing with injured athletes need to provide a clear rationale regarding treatment and educate appropriately the injured athletes on injury and the rehabilitation provided, for early recovery.

RECOMMENDATIONS

The research on sport injury rehabilitation has been fragmented, with most of the research focusing on a limited number of sports as well as treatment regimens. Therefore, there is a need to produce awareness and information catering to the wider sporting community. The efforts should be focused on inculcation of habits of safe sport and laws that promote safety in sport activities (for example, bicycle riders should wear helmets). Further, the injury prevention and rehabilitation efforts need to be more thoroughly evaluated and promoted. Policies and programs should be made to enforce the use of appropriate safety gear in sport.

The nature of the injury-related stressors may serve as important tool for the design and implementation of interventions aimed at avoiding or alleviating their potentially detrimental effects. Thus, there is a need to create a supportive environment which could help reduce the likelihood of stressors experienced by the injured athletes associated with injury onset, particularly if the support received by the injured athlete does not matches his needs.

Thus, there is a strong need to highlight the importance of addressing this specific population of patients as “athletes” while contextualizing their rehabilitation in the sport setting.

CONFLICTS OF INTEREST

None declared

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