A Cross-Sectional Study to Estimate the Presence of Anxiety in Injured Cricketers.

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Abstract

Purpose: State anxiety is an unpleasant psychological state experienced by cricketers due to perceived performance stress. It is often an overlooked criterion for return to sports after an injury. There is a need to evaluate presence of anxiety as it leads to physical symptoms and hence injury. Mental training is a very important tool for handling anxiety but there is lack of training which further predisposes players to re-injury. This study aims to evaluate presence of anxiety in cricketers who have suffered sport-related injury and have returned to play. It also explores the method used by these cricketers to handle anxiety.

Method: 60 injured cricketers were selected based on inclusion and exclusion criteria. A baseline questionnaire was prepared to collect basic demographic data and Sports Anxiety Questionnaire (SCAT) which is a self-administered scale was included to determine presence of anxiety. Anxiety scores were calculated to determine the players level of anxiety.

Results: It was found that 65% players experience high anxiety, 32% had average anxiety and 3% had low anxiety levels. 45% of players reported re-injury.

Conclusion: Undiagnosed anxiety was found to exist in injured cricketers which may predispose them to re-injury. All the players were aware of mental training techniques but reported lack of guidance and professional help.

Keywords: *Anxiety, SCAT, cricket, injury, mental skills training, return to sport.*

Introduction

A sports injury has both physical and psychological consequences for the athlete. It can be viewed as part of a continuum where psychological factors are known to predispose an athlete to physical injury and physical injury can, in turn, lead to deteriorating psychological reactions. Psychological factors have been shown to be an important antecedent to the onset of athletic injuries and also play an important role in injury rehabilitation and ultimately successful return-to-play.[1] Evidence suggests that competitive athletes returning to sport following injury rehabilitation may experience a range of psychosocial concerns, like anxieties associated with re-injury, concerns about an inability to perform to pre-injury standards, feelings of isolation, a lack of athletic identity etc. These may adversely affect their return to sports performance.

Anxiety is an unpleasant psychological state experienced by cricketers due to perceived performance stress[1]. Cricket is a popular game in India wherein the demands of the game is more mental than physical. On one hand, it requires speed and precision and on the other hand, it requires strategic planning, focus and concentration. There is ample evidence suggesting the

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positive effects of anxiety on sporting performance in terms of physiological and physical readiness of the athlete. Smith and Smoll's proposed a conceptual model stating that when faced with a competitive sporting situation, an individual will make cognitive appraisals of the situation. These cognitive appraisals have a reciprocal relationship with physiological arousal. Hence anxiety, which causes a positive physiological arousal can turn into a negative outcome, if it remains unchecked.[2]

The concept of sports performance traditionally included participation in activities related to regular practice and competition; however, more recently, this has also included performance in activities that relate to sport injury prevention, rehabilitation, and the return to sport process[1,3]. To date, research has focused extensively on the role of anxiety in sports performance, to greater extent in injury occurrence and to some extent on injury rehabilitation. There is scarcity of studies on the presence of anxiety and its role in return to sports.

The deteriorating psychological responses are generally greatest immediately after sports injury and lessens during the rehabilitation process. However, they often rebound prior to return to sports, consistent with a U- pattern of recovery. If unaddressed and unresolved, these elevated psychological responses to the injury can slow rehabilitation progress and delay return to sports.[4]

After an injury, emphasis is often placed on the physical ability as a criterion to return to sport and not the psychological component. Psychosocial readiness is one criterion for return-to-play and it is essential the team physician understand that physical clearance to return-to-play may not correlate to psychological readiness. It is desirable that the team physician coordinate the athletic care network to monitor the psychological readiness of athletes who are preparing to return-to-play or have returned-to-play and coordinate psychological support services as needed.[3] Some of the most commonly used psychosocial interventions practiced by sportsmen include goal setting, imagery, relaxation strategies, and positive self-talk. Mental training is a very important tool for handling anxiety but there is lack of training for its correct application, which further predisposes players to re-injury.

With the above background in mind, there is a strong necessity to evaluate the presence of anxiety by means of easy clinical measures or pre-participation screening after an injury. There is a need to incorporate psychological readiness as a return to sport criteria. The need for our study was to find out presence and degree of anxiety in injured cricketers and the strategies implemented to handle their anxiety.

Methodology

The STROBE guidelines for reporting cross-sectional study was followed in writing this article. The study is a descriptive cross-sectional design. The objective of this study was to specifically identify anxiety in cricketers who have sustained an injury or injuries related to their sport. A minimum sample size of 60 was calculated. With regard to the primary aim of the study, sample size calculation indicated that at least 60 participants were needed to detect with a precision of 10% that 1 out of 20 cricketers suffer from a sports injury (power of 80%; confidence interval of 95%).

Independent Variables:

Injury in cricketers: Research has indicated that muscle injuries such as hamstring strains, groin strains and low back pain are the most common cricket injuries. On average, around 9% of cricketers have an injury at any given time, although in fast bowlers over 15% are injured at any given time. These injuries are due to the repetitive functional demands of the sport like sprinting and ball throwing

While injury incidence of these injuries has been largely studied in professional cricket, knowledge about the mental health among professional cricketers in general and specific to the impact of injury is still lacking.

Dependent variable:

Anxiety: Anxiety is one of the conditions seen as part of the common mental disorders seen in high performance athletes. In our study Sports Competitive Anxiety Test was used to measure levels of anxiety in the injured players. This scale was developed by Martens in 1977 and it aimed at measuring situation specific (competitive) trait anxiety. Trait anxiety predisposes one to perceive certain situations as threatening and to respond to these situations with varying level of state anxiety. Thereby implying that individuals with high trait anxiety tend to translate that anxiety into state anxiety. The SCAT is a self-administered Likert scale which contains 15 items, 10 of which measure symptoms associated with anxiety, with five others that

are not scored were included to reduce the likelihood of an internal response-set bias. The scores for the 10 items are summed to provide an overall measure, with a high score reflecting a greater tendency to experience competitive anxiety. A score of less than 17 indicates a low level of anxiety, 17 to 24 an average level of anxiety, and more than 24 a high level of anxiety.[9,10.]

Re-injury: It has been extensively suggested by researchers that anxiety leads to cognitive and somatic changes. These physiological changes hamper one's ability to focus and increases muscular tension.[1,12] This predisposes the cricketer to further injury. In our study, the cricketers were asked to self-report any injury or injuries experienced after the primary injury.

Procedure: Sixty participants were approached based on the selection criteria as semi-professional cricketers, having injury while playing cricket or during practice sessions, age group of 20-40 years and exclusion criteria of injury unrelated to the game. An electronic based form was administered to them which collected baseline information on demographic data, position in the game, injury related information, areas of injury, re-injury after the primary injury, mental training practices along with SCAT, which is a self-administered scale. It had instructions to answer how one feels when competing in sports. Out of 60, 12 participants did not respond even after verbal consent to participate in the study. We received 48 responses out of which 5 responses were above the age criteria as calculated by their date of birth and 3 responses had an injury about 8-9 years back. These responses were not taken into account as outliers in the study. Thesecricketers played 3 hours ± 1.8 on an average for 4 days a week ± 2, mean age of 28 years ±4.5, playing cricket since 10 years. They reported having injury since mean 4.5 years ±2.8. According to their position in the game, 45% were all-rounders, 22% batsman, 20% bowlers and 12% wicket-keeper. Descriptive statistics in the form of mean, median and standard deviation was used to calculate the results of this study.

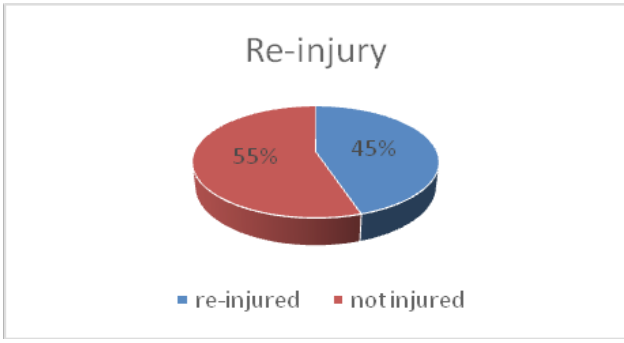
Table 1: Baseline Characteristics

Parameter	Mean	SD
Age	28	4.5
Practice hours	3	1.8
Practice days/week	4	2
No. of years of playing	10	4

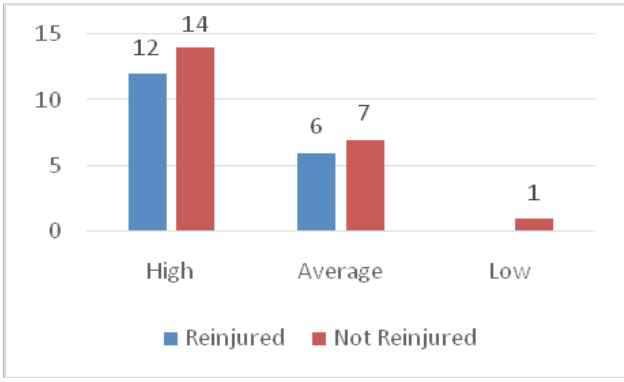
Results

Statistics:

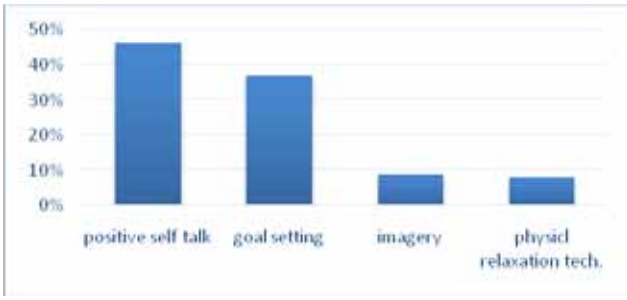
Graph 1 inference: 65% players-high anxiety, 32% players-average anxiety and 3%-low anxiety



Graph 2 inference: 45% of the population had re-injury and 55% did not suffer any re-injury



Graph 3 inference: Rate of re-injury incricketers suffering from high anxiety and moderate anxieties.



Inference: Commonly practiced mental training techniques.

Discussion

The findings of our study suggest that there was presence of anxiety in almost all players, with 65% (27±1.7) representing high level of anxiety and 32% representing average level of anxiety (22±2.36) Findings of similar study done in footballers suggests that the prevalence of mental health complaints ranged from 5% (burnout) to 26% (anxiety/depression) in 149 current players and from 16% (burnout) to 39% (anxiety/depression) in 104 former footballers.[13] Studies also suggest that injured players had higher scores for depression and anxiety than uninjured players, as previously described.[14] SCAT is a tool to measure trait anxiety which is an innate and relatively stable part of one's personality.[5,8,9] Individuals who have high level of trait anxiety have a tendency to perceive situations as potentially threatening and they consequently tend to experience more state anxiety. Evidence appears to affirm the role of not only trait anxiety but, other psychosocial factors such as stress, state anxiety, and daily hassles as potentially contributing to injury.[7] The SCAT scale has known to demonstrate a strong reliability (0.77–0.95).[5]

In our sample, we found out most common areas of injury were shoulder (28%), knee (21%), back (19%), wrist (16%), ankle (13%) and foot (2%). Since the sample size was very small, there was inconclusive results to link the of site of injury to the position of the players in the game of cricket. Maximum players were all-rounders.

Re-injury was reported in 45% of the players. This finding is supported by Podlog and Eklund who stated that re-injury anxiety during the return to sport phase can be detrimental for an athlete as it can lead to an increased risk of re-injury or secondary injury. Maximum players who had re-injury were found to have high anxiety levels. It is an established fact that high anxiety equates to high arousal. The spiraling effects of uncontrolled arousal are well documented as feelings of stress, unease, and worry that narrows the visual field, increase muscle tension, and increase distractibility, which in turn would subsequently disrupt the feed-forward and feed-back neuromuscular control required throughout athletic participation, leading to injury. it has been stated that reinjury anxiety, as compared to fear of reinjury, is more of a negative thought or worry of the consequences of injury (eg, additional surgery and more time in rehabilitation) while fear of reinjury is specific to fear of the injury itself. As there is no certainty about the extent of reinjury risk and situations, athletes possibly have more reinjury anxiety as opposed to fear of reinjury or these can occur together.[12] According to a study carried out at the IAAF World Championships in Athletics 2015, the anxiety experienced by elite athletes over illness symptoms is linked to the risk of being injured during competition and should be taken seriously.

An interesting finding of our study was the awareness and usage of mental training techniques. The cricketers reported using mental training to cope with anxiety, however it was not under guidance of a professional. The most used technique followed by our sample was positive self-talk and goal-setting. This highlights another lacuna in the domain of psychosocial rehabilitation of injured cricketers and as clinicians we should make efforts to work with sport psychology professionals in understanding and implementing techniques to improve athletes' coping mechanisms with the goal of decreasing anxiety.

Limitations and strengths of the study: There were drop-outs in our study leading to a smaller sample size. Additional samples could not be collected as this project was part of a time-bound internship completion for one of the authors.

Our sample consisted of club cricket/ semi-professional players; hence generalization of the results cannot be made, especially for elite cricketers. Elite cricketers would have better coping mechanisms and more awareness about the implementation of mental training strategies as compared to our sample.

The scale used to measure anxiety (SCAT) is a very old version. There are several new scales available but the author of this study has gone through the work of Martens (1977) and was convinced that this scale had the robustness to measure trait anxiety leading to state anxiety, thereby dealing with both components of anxiety. SCAT is also a Likert scale which accurately gives the level or degree of agreement on an item that is being measured. Hence more definitive responses are achieved. It justified the objective of our study which was the determine the presence and level of anxiety in the players.

The dependent variable of re-injury was self-reported by the players and we did not measure the intensity of either the primary injury nor the re-injury. This maybe a confounding variable in the interaction between anxiety and re-injury.

Our study implicit anxiety as one of the factors that may have contributed to re-injury. The confounding variable of physical strength, as criteria to return to sport, was not explored in our study. However, our baseline questions included use of physiotherapy rehabilitation services after injury to which the mean responses were positive.

Also, due to limitation of sample size, there was inconclusive findings on level of anxiety in different types of players in the game of cricket. Future research can be directed towards exploring the level of anxiety in bowlers, batsmen, fielders and wicket-keepers.

Conclusion

Undiagnosed anxiety was found to exist in injured semi-professional cricketers which may predispose them to re-injury. All the players were aware of mental training but reported lack of proper guidance and professional help.

Implications: The findings of this study can help physiotherapists to identify anxiety as a potential risk for re-injury. It also highlights the importance of mental/ psychological rehabilitation along with physical rehabilitation.

Conflict of Interest: There is no conflict of interest

Source of Funding: Self

Ethical Clearance: The study was undertaken after due clearance from the institutional ethics committee. Informed consents were taken from the subjects before data collection.

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