

ADDRESSING FEAR OF REINJURY IN DANCERS: A LITERATURE REVIEW

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ABSTRACT

Fear of reinjury, or reinjury anxiety, is a common post-injury psychological disorder that occurs in return to practice. This perspective overviews the psychological mechanism principles behind such anxiety and psychosocial interventions therapy used in previous experiments. This study provides suggestions on how to address the insufficiency in psychological recovery by reducing fear of reinjury during rehabilitation especially among dancers. Future research is needed to address methodological limitations and evaluate the examined methods in its application in dancers across the continuum of treatment and return to sports.

Keywords: Psychology, Fear of reinjury, Injury anxiety, Dance

Introduction

The unique repetitive nature of ballet dancing, which often involves transgressing endurance limits of anatomical structures, makes dancers prone to injury. Several potential risk factors for overuse injuries in the adolescent population have been identified, including growth and maturation, the onset of menarche, and lower extremity alignment. Over half the participating professional dancers fear the consequences of sustaining a dance-related injury, with short-term employment and casting concerns being the most common, partially due to competition within the industry, fear of being replaced, and not being competitive for roles and contracts and other legitimate practical concerns.

Literature Review

Reinjury anxiety is a related psychological construct that is not emphasized in fear-avoidance models for chronic pain development. Current sports injury rehabilitation protocols focus on resolving physical impairments and do not directly address fear of reinjury. Existing research mostly focus on injury prevention strategies and risk factors, and reinjury anxiety is a related

psychological construct that is not emphasized the fear-avoidance model (FAM) or the cognitive-behavioral model of fear of movement/(re)injury. Taking into consideration how the psychological aspects of the injury affect an athlete's sports performance, it is crucial to address psychological factors during physical rehabilitation for an athlete to rebuild confidence and overcome fear of reinjury. Dancers, like sport athletes, face inherent risks for injury due to the artistry and physicality of dancing, yet there is limited research on the psychological responses of dance-related injuries. Thus, research on injury incidence and post-injury responses in dance is necessary to help dancers recover from injury by reducing related psychological anxiety.

Rehabilitation and Recovery

Rehabilitation in mental health, or psychiatric rehabilitation, refers to the services provided to promote the individual's recovery process and support different aspects of their life. Typical responses noted during the rehabilitation process include feelings of frustration, relief, guilt, and apathy. Return-to-sport recommendations are varied, and often the clinical experience of the therapist is fundamental in decision making. For therapists to be able to best serve and assist their patients toward the goal of return to play, it is important for them to understand the complexity of factors, the interplay between the physical and mental that may determine their likelihood for return to play, and what interventions are suitable for use during the rehabilitation process.

In dance, as in any athletic activity, injuries are prevalent. In research reporting the percentage of dancers injured out of a studied sample, the range was 42%–97% across a variety of genres and skill proficiencies. The lower extremities have been shown repeatedly to be the most commonly injured region of the body in dancers. For dance injuries occurring in children and adolescents aged 19 years and younger, increasing age has been associated with increasing likelihood of injury to the lower extremity versus the upper extremity.

Fear of Reinjury

Once sport injury occurs, psychological consequences of sport injury encompass cognitive, emotional, and behavioral responses. Fear of Reinjury, a specific form of pain-related fear, is one of the typical responses to injury. Therapists referred to fear of reinjury as presenting in early-stage rehabilitation, often in the immediate postoperative phase, and associated it with pessimism, linking it to pain, immobility, and lack of function. Fear of reinjury levels may decrease during rehabilitation only to rise as return to sport is imminent. Most patients experienced fear of reinjury at the 12-month follow-up assessment, when care has typically ceased and patients have generally returned to desired physical activities. Fear of re-injury is particularly evident if rehabilitation has complications, unusual obstacles, or setbacks that slow

recovery or interfere with effective rehabilitation.

Fear of reinjury develops from a lack of confidence and trust in the injured area which are natural expected reactions following injury. Athletes with high fear of reinjury may reduce exposure to physical activities in which they can potentially reinjure themselves, which leads to an athlete's perception of low function. Fear of reinjury may be a significant predictor of postsurgical levels of sporting activity and confidence in one's ability to return to sport. Escape and avoidance anxiety responses were associated with greater use of overt pain behaviors for coping. Generally, cognitive anxiety was associated with less overall coping with pain, whereas physiological anxiety was associated with a greater coping with pain. Emotions related to re-injury thoughts actually predispose athletes to re-injury. and fear of re-injury also detrimentally influences performance when the athlete returns to competition. Responses to fear of reinjury include psychological decrements such as reduced confidence and poor focus that inhibit progression in the return to sport in addition to physiological changes, such as muscular bracing, which can increase the likelihood of re-injury.

In a study on what participant-, training- and post-injury-related factors are associated with an injury and re-injury occurrence in female pole dancers, the calculated logistic regression model revealed three main variables associated with re-injury occurrence in our sample: lower level of training experience, shorter pause before returning to training post-injury, and subjective quantification of incomplete recovery. Participants who declared advanced or extreme level of pole dance skills had lower odds ratio of re-injury occurrence than beginner or basic dancers. Such trend can be generalized to the occasion of dancers of different genres in terms of influential factors that leads to fear of reinjury.

Interventions to Reduce Re-Injury Anxiety

Fear of reinjury was something that presents, predominantly in early-stage rehabilitation, but it is seen as a normal, manageable reaction, dealt with mostly by educating the patients and adjusting the goal-setting interventions. The therapist is a central part of intervention in injury rehabilitation and teaching and communication are considered integral to this process. Given the potential implications of re-injury anxiety upon performance and psychological readiness during rehabilitation and return to competition and the increased likelihood of actual re-injury it is important to address coping strategies and interventions that could be employed by athletes to cope with re-injury anxiety.

Education

Educational intervention emerged as the therapists' preferred method of dealing with fear of reinjury. Education plays a role in dealing with coaches and managers and setting the outline of

the rehabilitation process. Education underpins the client–therapist relationship, is key to interventions, and imparts the necessary skills and knowledge that practitioners use in the clinical setting.

Communication

Therapists use communication to build the client–therapist relationship and deal with the correction of misinformation and worries clients have about reinjury. Communication was further broken down to the client–therapist relationship, dealing with misinformation, and fear of reinjury. It is important to provide detailed answers/explanations at a suitable level in relation to the age of the athlete, their sport and injury status and their understanding of injury/healing processes. Another thing that was communicated to the athlete in an attempt to reassure the client that her injury had in fact healed hence any anxieties regarding the weakness of the site or the worry that the site had in fact not healed were not justified.

Systematic desensitization

Systematic desensitization has been demonstrated as an effective method to reduce fears. It is a technique also termed counter-conditioning, which pairs relaxation with images of the anxiety-provoking stimulus. Counter-conditioning involves reducing a conditional response (e.g., reinjury anxiety) by establishing an incompatible response (e.g., relaxation) to the conditioned stimulus (e.g., heading the ball when challenged by another player). Pairing relaxation with the anxiety-provoking stimulus causes a new learned response to be developed, which is incompatible with. To conduct systematic desensitization the athlete must recognize the anxiety that is preventing them from full participation, and should be advocated that the anxiety can be managed therefore it should not be viewed as a problem.

Graded exposure

The progressive nature of sports injury rehabilitation, particularly during advanced exercise, can be similar to graded exposure intervention. Briefly, graded exposure interventions involve progressive exposure to a hierarchy of situations or activities that cause fear for the purpose of showing that these can be completed without causing harm. In order for rehabilitation exercise to become a graded exposure intervention, it is necessary to ascertain the activity that causes fear of reinjury and develop a hierarchy that increases exposure to the feared activity. It is possible that advanced exercise reduces fear of reinjury in some athletes by exposing them to challenging environments. However, a more direct approach for patients with high fear of reinjury is necessary to prescribe activities in a manner consistent with graded exposure and to prevent situations where athletes may be willing to do certain high-level activities but avoid others that are feared.

Psychometric tests

Questionnaires like the Re-Injury Anxiety Inventory (RIAI), Injury-Psychological Readiness to Return to Sport Questionnaire (I-PRRS), Athlete Fear Avoidance Questionnaire (AFAQ) can be used to identify related fear, raise the awareness of athlete and clinician to prevent chronic pain, minimize anxiety levels, and address any RTS psychosocial barrier. Re-Injury Anxiety Inventory (RIAI) that identifies levels of anxiety within rehabilitation and RTS can minimize anxiety levels and promote confidence; Injury- Psychological Readiness to Return to Sport Questionnaire (I-PRRS) that identifies confidence levels aims to address and support areas of low confidence; athlete Fear Avoidance Questionnaire (AFAQ) is useful in preventing chronic pain development and delayed RTS due to fear by identifying fear avoidance behavior and preventing the development of chronic pain. Those approaches help scale self-reported level of confidence and fear after injury, which serves as important references for therapists to aid patients during rehabilitation process.

Acceptance and commitment therapy (ACT)

ACT is a process-based, third-wave, cognitive behavioral therapy (CBT) that has shown its effectiveness in a broad set of psychological problems. ACT may assist in the management of fear-avoidance beliefs and ultimately help athletes to RTS with less fear. The ACT therapy aims to improve awareness of symptoms (injury), accept suffering (associated pain experience), and ensure committed action (maintaining rehabilitation goals despite setbacks) towards what is essential in an athletes' life (values). Patients could act against the fear of re-injury by accepting this fear as they reframe and acknowledge therationality of such anxiety.

Screening

Screening of dancers' physical and psychological attributes, prior injuries, and current and planned dance activity can identify areas that should be addressed to minimize the likelihood of injury. Despite not being able to accurately predict injuries, screening athletes for ACL-(re)injury-relevant factors tracks their progress during training or return-to-sport and, most importantly, offering them tailored preventive countermeasures is still possible by combining different screening tests.

Training

Physical training of dancers, apart from their technical training in dance, should be encouraged, with special attention to the core and to the musculature specific to the demands of their genre(s). Taking into consideration that patients report fear and confidence in their ability to reengage in competitive and recreational sports, implementing imagery techniques in physical therapy may

help to alleviate these factors. Imagery is associated with a reduction in stress levels (measured by levels of noradrenaline and dopamine) as well as improved healing (KT100 scores). Guided imagery may have a positive effect on the autonomic system, reducing stress hormones that can potentially delay healing process. Relaxation and imagery can potentially increase muscle strength and reduce pain and anxiety related factors after a reconstructive surgery. Adding a visualization aspect to therapy during the initial stages of rehabilitation can help increase pain control, lower effusion, swelling, and inflammation.

Conclusion

This study overviews the fear of reinjury in dance as a sport and examines methods to reduce its impact on dancer's career. The main source of (re)injury for dancers locates at their low extremities, which is mostly related to lower level of training experience, shorter pause before returning to training post-injury, and subjective quantification of incomplete recovery after a long period of rehabilitating. The fear of re- injury, or reinjury anxiety is often heightened towards re-entry into competition and practices, which can detrimentally affect dancers' performance. Responses include psychological decrements such as reduced confidence and poor focus that inhibit progression in addition to physiological changes related to injured body parts. Strategies that can be employed to assist athletes in managing their re-injury anxieties include education, communication, systematic desensitization, graded exposure, psychometric tests, acceptance, and commitment therapy (ACT), screening, and training, which target at dealing with the lack of confidence and unfamiliarity with the intensity of practices in dancers recovering from injury.

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