

Fear of reinjury: is it Psychological or Biological?

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ABSTRACT

A significant psychological problem athletes suffer after sports injuries is their fear of reinjury. In this paper, the author will investigate fear of reinjury by administering a focus group interview on five stakeholders which include international wrestler, physiotherapist, orthopedic surgeon, a psychologist and coach. The general aim was to test the hypothesis whether fear of reinjury is biological or psychological phenomenon. The results of the thematic analysis suggest that the fear of reinjury is a composite of both - biological factors (e.g. the memory of the pain and the instability of the joints) trigger this fear and psychological factors (e.g. anxiety, catastrophic thinking, and social pressure) maintain and exacerbate fear.

1. Introduction

Causative etiology of kinesiophobia or fear of reinjury consists of ecstatic and irrational fear of motion, movement and experiences of vulnerability to traumatic injury and re-injury. Based on the recent research done in sports medicine and athletic health care, they believe that this powerful effect of kinesiophobia can have the potential to affect sports player recovery and reentry into sport after suffering of an injury (Korie et al., 1990). Due to severe trauma and potential other damages, the phobia of movement is called kinesiophobia. It may be useful to observe moderate and severe psychological reactions of trauma (e.g. kinesiophobia). The fear of things related to traumas should be taken lightly and well tolerated by groups such as coaches, parents and even doctors. This especially is of paramount importance to contact sports. The footballers fear getting injured again, although it would have been



rudimentary to think so. Phobias are a lifelong condition, but over days or even weeks, much of the anxiety associated with reliving it may be removed rather than months or years. As with all other feelings, fear has its role, as it serves the purpose of keeping us mindful of our own progress as we relate to opportunities and challenges in our surroundings (Flett et al., 2014). A study with sportspersons suffering acute injury compared between them to a population suffering from overuse injury suggested more fear of reinjury among the acute injury population (Shubham & Chanan., 2024). Fear of reinjury essentially presents a biological and biomechanical outcome of injury in sports (Hsu et al., 2016). More specifically, the increased fear of reinjury is also related to the more rigid nature of movement pattern during dynamic exercises including reduced knee flexion, hip and trunk flexion, enhanced hip adduction, and varied patterns of muscle action in women who receive ACL reconstruction. These physiological outcomes of the psychological fear response are biomechanical adaptations and associated with a high risk for secondary ACL injury (Trigsted et al., 2018). Reinjury fear has a detrimental impact on rehabilitation outcome, self-reported functional capacity and successful sport recovery (Hsu et al., 2016). This means that the psychologically-induced bio-mechanical and biological shifting occurs because of fear of the healing injury. Although advances in sports medicine care poorly wounded ball players and a lot of them still fear that they will get wounded again. Whether fear of reinjury is more biological or psychological state is unclear. In the given paper, this question is answered, basing on the qualitative concepts of focus group of professionals and a wrestler. In this study, the problem of fear of reinjury as a biological/psychological phenomenon will be explored.

2. Objective

To study whether the fear of reinjury is a biological or psychological phenomenon?

3. Hypothesis

Based on the literature review, it is expected that fear of reinjury is a biological phenomenon.

4. Methodology

Research Design: Exploratory Qualitative research design was used to get different view of fear of reinjury.

Sample: The sample is made up of 5 participants including an international Wrestler, Physiotherapist, Orthopedic Surgeon, Psychologist, sports Coach. Snowball sampling technique was used to collect sample in conjunction with convenience sampling technique.



Tools: Focus group discussion was used to collect data (30 minutes). The single largest problem of the discussion as the moderator posed it was: Is fear of reinjury biological or psychological phenomenon.

Procedure: A rapport was established with the participants and told about the study's objective. Knowledge and information was shared by all the participants. This discussion and transcription were tape-recorded and then, thematic analysis was done.

5. Findings based on thematic analysis

1. Biological Perspective

Orthopedic Surgeon:

He explained, fear of reinjury has a biological cause. When a sports person is injured, the pain would be held in their brain as pain memory. The nervous system, itself, stays in such a protective state regardless of whether or not the tissues are restored. The muscles and reflexes automatically become clenched trying to protect the body. This will give the perception to the athlete that the body is not ready even after being examined by the medical practitioner. This system of biology work as a early warning alarm.

Physiotherapist:

He conceded that the biological factors were pain and stiffness and joint sounds. To go into more detail on this, when an athlete is in the rehabilitation process and he or she hears the sound, clicking, or even popping it is normal but the athlete has the fear that something bad is happening. The message biology sends is read, by psychology in the negative term.

2. Psychological Perspective

International Wrestling Player:

He told his own story: Doctor told me that I was all right but in the wrestling court, as often as I dared go out and make a shoulder tackle. I kept at the back of my brain that it would come to pieces. Too bad, Suffering was not real, psychological barrier was. It was not my biological problem but my psychological one.

Psychologist:

He has outlined the two primary issues that lead to the fear of reinjury: catastrophic thinking and kinesiophobia. Sportspersons are ultra sensitive to fussy little things e.g. a little stiffness is taken to be re-



injury. This takes the shape of conditioned fear phobia. The athletes believe that the body continued to betray them even after it has fully recovered.

3. The Social / Motivational Perspective.

Coach: The problem with his was on social pressure and the surrounding because he upheld fear of reinjury. Not only is a sportsman concerned about the injury, but (s) he is afraid of losing in the eyes of other sportsmen, the coach or the spectators. When the expectation and pressure to perform are great the fear is great.

However, it is important to consider, and add, that it is not only the physical or psychological self that becomes jeopardized, but also the social identity and reputation when deciding on fear of reinjury.

4. Group Consensus

At the end of the conversation with the five persons that were present, it was all decided:

Fear of a reinjury is both a biological and psychological type of co-occurrence. Everybody knows that Nerve teaches fear (as well fear of pain, reflex of stiffness).

The result is that Psychology is an extension of fear (anxiety, catastrophic thoughts, lack of confidence).

Along with that, the coach added that there is more fear brought out by social factors.

4. Sample Transcript (Extract)

Wrestler: I feel I would sustain an injury during the game. Nothing is wrong with my body it is just that psychologically I hold myself in.

Orthopedic surgeon: The nervous system is attached to the pain. It is a biological fear arousal stimulus.

Psychologist: your body may have already healed, but thinking about something terrible keeps Fear alive.

Physiotherapist : Pain and muscle stiffness can be most common cause of fear of reinjury .

Coach: Second fear is the performance pressure and fans expectation of the team.

5. Discussion

Results of the fear of reinjury also show that Fear of injury cannot be characterized solely as biological or psychological phenomenon. So, one tailed alternative hypothesis was rejected. The Biology of pain



memory creates fear, but psychological interpretations and social pressure maintain and increase it. This was supported by Lal & Shubham. (2025) conducted interviews with a surgeon, physiotherapist, sports psychologist, coach, and sportspersons, based on thematic analysis they said that, fear of reinjury is a haphazard issue that need attention to both its psychological and physical bases. Secondly these results were aligned by fear-avoidance model. One such psychiatric theory that explains the development and continued presence of chronic musculoskeletal pain is the fear-avoidance model/FA model, which asserts that fear-avoidant attention and pain behavior causes and perpetuates chronic musculoskeletal pain (Leeuw et al., 2006). Commenting on how such individuals experience pain when not ill, Lethem et al. first proposed this hypothesis in 1983 (Vlaeyen et al., 2000). A pain free situation will result in a person exhibiting more tendencies when approaching the avoidant behaviour in order to avoid the situation until an individual develops a great deal of pain (Herbert et al., 2005). It is an ideal quality since avoidance behaviour makes one rest to heal his injuries before working hard on them. It is however not desirable to discourage the activities being practiced once the injury has healed (Asmundson et al., 1999). The hypervigilance worsens the physical and mental states of an individual besides impeding the normal functioning of the tissues (Crombez et al., 2012). When the avoidance behavior is no longer rewarded the person leaves the positive feedback loop. The cause of the anxiety sensitivity is fear of the negative social and physical effects that would follow the anxiety symptoms, an example of the fear-avoidance model. Therefore, the person is unable to perform the normal things and delays the misfortunes by avoiding the stimuli that is involved with the misfortunes like activities and situations, which instill pain (Pincus et al., 2010) Another case which might be a result of the extreme distortion of the misfortunes as a pain is the chronic pain. The reason is that, under the influence of this belief, the individual will not expose himself to the noxious experience on a routine basis and will inflate any type of painfulness that he or she is likely to experience in the future. Sensitivity to pain helps to produce a very feeble body and an organism that refuses to make exercise (Crombez et al., 2012).

6. Conclusion

The conclusion after the focus group discussion is that fear of re-injury is psychological and biological. Fear of reinjury is not a matter of mere biological phenomena; neither is it a matter of mere psychological phenomenon, but of biopsychological phenomenon. Fear also can be elicited by biological impulses and can be reinforced by life not only by psychological exposures to fear but by social forces as well. The rehabilitation required will entail the physical and mental procedures of integrative rehabilitation.

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