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AN ANALYTICAL STUDY OF THE LEVEL OF FEAR OF RE-INJURY AS A PSYCHOLOGICAL DETERMINANT OF SPORT RELAPSE AMONG INJURED ATHLETES DURING THE MEDICAL REHABILITATION PHASE

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Abstract
This study aims to identify the level of fear of re-injury as a psychological determinant of sports relapse injured among athletes during the medical rehabilitation phase. The study adopted the descriptive approach and was conducted on a sample of injured athletes at the Sports Medicine Hospital in Baghdad, using the Fear of Re-Injury Scale. The results revealed that the level of fear of re-injury was high and statistically significant, indicating its clear impact on the injured athletes' behavior and readiness to return to sports activity. The findings also showed that fear of re-injury represents an important psychological factor that contributes to an increased likelihood of sports relapse despite the completion of physical rehabilitation. It is therefore concluded that the success of medical rehabilitation programs cannot be achieved by relying solely on physical aspects, but rather requires integrated attention to psychological aspects. The study recommends incorporating psychological preparation and the assessment of fear of re-injury within medical rehabilitation programs. It also emphasizes the importance of involving a sports psychologist to reduce relapse rates and ensure a safe and effective return to sports activity.
Keywords: fear, sports collapse, injured athletes, medical rehabilitation

1-1 Introduction to the research and its importance:

Sports injuries are an inherent part of athletic practice at all levels, whether competitive or recreational. They are a common problem faced by athletes at all levels due to the high physical exertion and repetitive movements required by sports activities, which can sometimes exceed the body's functional limits. The effects of sports injuries are not limited to the physical aspect alone, but extend to psychological and social aspects, making the recovery process more complex than simply restoring strength or range of motion. In this context, the medical rehabilitation phase is one of the most important stages for the injured athlete, as it represents the link between medical treatment and the actual return to athletic activity. The medical rehabilitation phase requires a balanced interaction between physical and psychological aspects, as the success of rehabilitation programs depends not only on their technical efficiency but is significantly affected by the athlete's psychological state and their willingness to accept and adhere to the rehabilitation requirements. Many athletes face multiple psychological challenges during this phase, most notably the fear of re-injury, which is a natural reaction resulting from the previous injury and the accompanying pain, absence from activity, or loss of athletic performance.

FFear of re-injury is one of the most common psychological variables among those who have suffered injuries. It manifests as hesitation in physical performance, avoidance of certain exercises, or persistent anxiety as they approach a return to sports. This fear can negatively impact confidence in physical abilities and limit the necessary boldness to perform rehabilitation exercises correctly, potentially diminishing the benefits of the

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rehabilitation program despite its completion in terms of both time and technique. Furthermore, the continued fear of re-injury during the rehabilitation phase can increase the likelihood of a relapse, whether during the gradual return to activity or after a full return to practice. Relapse is a problem faced by those who have seemingly recovered from injury and may result from physical, psychological, or a combination of both factors. Psychological factors, particularly the fear of re-injury, can lead to unbalanced physical performance or avoidance of certain movement patterns, increasing stress on other parts of the body and exposing the body to the risk of re-injury. Therefore, it is crucial to address the psychological aspects associated with injury during rehabilitation and not rely solely on physical indicators to assess an individual's readiness to return to sports. Understanding the level of re-injury among athletes is a crucial step in diagnosing the psychological factors that may hinder full recovery and contribute to athletic relapse. Therefore, this study aims to identify the level of re-injury as a psychological determinant of athletic relapse among athletes during rehabilitation, by highlighting the prevalence and nature of this fear and its correlation with relapse. The findings of this study are expected to contribute to raising awareness of the importance of the psychological dimension in rehabilitation programs, thereby supporting the development of more comprehensive and integrated programs that reduce relapse rates and help athletes return safely and effectively to athletic activity.

1-2Research problem

Despite significant advancements in medical rehabilitation methods and programs for sports injuries, relapse remains a problem for a considerable number of athletes after completing rehabilitation and gradually returning to sports activity. The researcher observed that some athletes experience re-injury or a decline in their performance level, even after completing physical rehabilitation programs. This suggests the presence of other factors that may affect the success of the rehabilitation process. All of this presented the researcher with a problem to investigate. Psychological factors are among the most prominent causes of this decline, with fear of re-injury being a primary concern. This fear often arises during rehabilitation due to past experiences associated with the injury, including pain and the resulting absence from sports. This fear can negatively impact the athlete's behavior during rehabilitation exercises and their confidence in their physical abilities, potentially leading to hesitant or unbalanced movements and increasing the likelihood of relapse. Despite the importance of this psychological variable, attention to it in medical rehabilitation programs is often limited. The focus tends to be primarily on physical aspects, with a lack of systematic assessment of the level of fear of re-injury and its role in determining the athlete's readiness for a safe return to sports activity. Furthermore, the lack of clarity surrounding this fear during the medical rehabilitation phase contributes to the difficulty in explaining the causes of athletic relapse in some patients. Therefore, the research problem lies in the need to identify the actual level of fear of re-injury as a psychological determinant influencing athletic relapse in patients during the medical rehabilitation phase. This will contribute to a deeper understanding of this phenomenon and support efforts aimed at improving rehabilitation outcomes and reducing athletic relapse.

1-3 Research Objectives

1. Identifying the reality of the level of fear of re-injury as a psychological determinant of the level of athletic relapse among those injured during the medical rehabilitation phase.
2. Providing scientific indicators that contribute to supporting medical rehabilitation programs by paying attention to psychological aspects in addition to physical aspects.

1-4 Research Hypotheses

1. There is a statistically significant level of fear of re-injury and sports relapse among those injured during the medical rehabilitation phase.
2. Fear of re-injury contributes statistically significantly to predicting the occurrence of athletic relapse in injured athletes during the medical rehabilitation phase.

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1-5 Research areas:
1-5-1 Human Field: (116) Athletes with various injuries
1-5-2 Spatial area: Baghdad – Sports Medicine Hospital
1-5-3 Timeframe: Period from 3/11/2024 - 10/7/2025

2- Research methodology and tools

2-1: Research Methodology

The study adopted the descriptive approach as the most suitable for measuring the level of fear of re-injury as a psychological determinant of sports relapse among those injured during the medical rehabilitation phase (the descriptive approach is one of the scientific approaches that aims to describe phenomena as they are in reality, and analyze the relationships between their variables, in a way that contributes to understanding and interpreting them in an accurate scientific manner).(Matthew, 1994, page 62)

2-2 Research population and sample:

Given the nature of the research problem and its objectives, the research population was intentionally defined to include athletes who had sustained sports injuries and were participating in rehabilitation programs. The research sample was randomly selected to ensure accurate representation of the study population. The sample was divided into three groups as follows: a preliminary survey sample of (4) injured individuals, used to test the clarity of the items and instructions; a scale development sample of (54) athletes with various injuries who visited the Sports Medicine Hospital between Wednesday, November 20, 2024, and Thursday, February 13, 2025; and a second scale application group of (62) athletes with various injuries who visited the Sports Medicine Hospital between Sunday, March 2, 2025, and Thursday, July 10, 2025, used to extract the final research results.

2-3 Information collection methods used in the research

- Arabic and foreign sources.
- Tests and Measurement
- world wide web
- A questionnaire form specifically for measuring (fear of reinfection).

2-4 Search tool:

The researcher adopted the questionnaire as the primary tool for data collection, as it is one of the most suitable tools in psychological and descriptive studies. The researcher developed and constructed a specific scale to measure the fear of re-injury that athletes face after recovering from sports injuries, following these steps.

2-4-1 Identifying the domains of the fear of reinfection scale

After reviewing the theoretical literature and previous studies related to sports psychology and athletes' injuries, the researcher identified three main areas representing the dimensions of the scale: fear of re-injury and the occurrence of a sports relapse. The first axis is psychological anxiety and apprehension about re-injury, measuring the internal feelings and psychological emotions associated with the previous injury experience and the fear of its recurrence. The second axis is fear-related behaviors, focusing on the practical actions and behaviors undertaken by the injured athlete as a result of their fear of re-injury. The third axis is perception of the risk of a sports relapse, addressing the athlete's beliefs and expectations regarding the possibility of a sports relapse after returning to activity. It measures the athlete's awareness of the risk of re-injury. These areas and their definitions were presented to seven experts and specialists in sports psychology and physical education on [date missing].endon the date3/11/2024, and requested feedback on its suitability and comprehensiveness.

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The experts approved the validity of all areas with a high degree of agreement. The title of the first axis was changed from "Psychological Anxiety and Fear of Reinfection" to "Psychological Dimensions of Fear."

Table (1)

son Expert response on areas of scaleFear of reinfection

no	axis	Those who agree	Disagreeers	Percentage	Notes
1	**Psychological anxiety and fear of reinfection**	**7**	**0**	**100%**	**Edit toPsychological dimensions of fear**
2	fear-related behaviors	7	0	100%	
3	Recognizing the risk of athletic relapse	7	0	100%	

2-4-2 Identifying the scale items

The researcher prepared the initial draft of the scale items, which consisted of (30) items distributed equally across the three domains, with (10) items for each domain. These items were presented to a group of experts and referees specializing in educational psychology and sports psychology on Sunday, November 10, 2024, to ensure the accuracy of the linguistic and semantic formulation, the clarity of the items, and their suitability for measuring the targeted variables. The refereeing process also aimed to verify the validity of each item in representing its respective domain and to ensure that the items were free from repetition or bias.(Abdul Qadir, 2013, page 122)This contributes to enhancing the scientific accuracy of the scale and its applicability in the field. The researcher adopted an acceptance rate of (75%) for approving the items. After considering the experts' comments and making the necessary modifications, all items were approved in their final form.

Table (2)

Expert responses are based on the scale's areasFear of reinfection

Firstly	axis**Psychological dimensions of fear**	Those who agree	Disagreeers	Percentage	Notes
1	**I feel anxious when thinking about returning to sports activity after an injury.**	**7**	**0**	**100%**	
2	**Thinking about my previous injury causes me to feel stressed and upset.**	**7**	**0**	**100%**	
3	**I am afraid of the pain if I resume exercising.**	**6**	**1**	**85%**	
4	**My sense of self-confidence decreases when I think about returning to competition.**	**7**	**0**	**100%**	
5	**I feel a constant apprehension when performing certain exercises.**	**7**	**0**	**100%**	

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6	**I'm scared of the possibility of getting injured again while exercising.**	**7**	**0**	**100%**	
7	**I find myself feeling psychologically stressed before every rehabilitation or training session.**	**7**	**0**	**100%**	
8	**I feel uneasy when I think about a full return to athletic activity.**	**6**	**1**	**85%**	
9	**Sometimes I overestimate the risk of injury when returning to sports.**	**7**	**0**	**100%**	
10	**My fear of a previous injury affects my ability to concentrate during training.**	**6**	**1**	**85%**	
secondly:	The focus of fear-related behaviors				
1	**I avoid certain exercises or movements during rehabilitation for fear of injury.**	**7**	**0**	**100%**	
2	**I perform the exercises with excessive caution to avoid any potential danger.**	**6**	**1**	**85%**	
3	**I reduce the level of effort during training due to my fear of relapse.**	**6**	**1**	**85%**	
4	**I stay away from competition or sports activity for fear of getting injured again.**	**6**	**1**	**85%**	
5	**I adjust my exercise technique to avoid straining the injured area.**	**7**	**0**	**100%**	
6	**I always ask for help from a trainer or specialist when exercising for fear of injury.**	**7**	**0**	**100%**	
7	**I move slowly or very carefully when returning to sports activity.**	**7**	**0**	**100%**	
8	**Ignore some of the difficult exercises for fear of re-injury.**	**6**	**1**	**85%**	
9	**I postpone or avoid a full return to sports for longer periods because of my fear.**	**7**	**0**	**100%**	
10	**I use alternative or less risky training methods to avoid injury.**	**7**	**0**	**100%**	
Third:	Focus on understanding the risk of athletic relapse				
1	**I believe the likelihood of reinjury is high upon returning to athletic activity.**	**7**	**0**	**100%**	

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2	**I am afraid that an early return to sports will lead to a relapse.**	**7**	**0**	**100%**	
3	**I think some movements or exercises might cause me to get injured again.**	**7**	**0**	**100%**	
4	**I believe that the risk of reinjury is always present during exercise.**	**7**	**0**	**100%**	
5	**I feel unsafe when performing sports activities after rehabilitation.**	**6**	**1**	**85%**	
6	**I believe that this athletic setback may affect my future performance level.**	**7**	**0**	**100%**	
7	**I think the previous injury makes me more susceptible to getting injured again.**	**7**	**0**	**100%**	
8	**I am afraid to make a full return to sports before I am sure that I am physically and mentally ready.**	**7**	**0**	**100%**	
9	**I believe that a sports relapse is possible no matter how much you adhere to the rehabilitation instructions.**	**7**	**0**	**100%**	
10	**I believe my personal assessment of injury risks may prevent me from making a normal return to sports.**	**7**	**0**	**100%**	

2- 4-3The construction was genuine.

First: The discriminatory power of the paragraphs(This method of verifying validity depends on the ability of the scale to differentiate between individuals who have high levels of the trait being measured and those whose levels are low in it.)[Radwan, 2012, page 244] To implement this method, after the scale was distributed by the support team at the Sports Medicine Hospital (physiotherapists) on Wednesday, November 20, 2024, and responses were collected until Thursday, February 13, 2025, the researcher first transcribed the responses of the experimental sample, which consisted of (54) injured athletes, and then calculated the final total score for each form. The forms were then arranged in descending order from highest to lowest scores. Twenty-seven percent (27%) of the highest scores (15 forms) and twenty-seven percent (27%) of the lowest scores (15 forms) were selected to represent the highest and lowest groups, while the middle group (46%) (24 forms) was excluded. The selection of the twenty-seven percent (27%) was based on the fact that it achieved the best degree of variance between groups, making it suitable for statistical analysis.[Al-Zubaidi and others, 1981])Then, a test was applied ((t-test) for independent groups with the aim of calculating the discrimination index for each of the (3) items of the scale0The results showed that all items were statistically significant, as the values of (t) calculated within the accepted significance level (0.05), and thus all items were retained except for item (9From the axis of the psychological dimensions of fearand the paragraph(12From the axis of fear-related behaviorsParagraph (26) of the axisRecognizing the risk of athletic relapse, and their number reached (27Paragraph as shown in Table (3).

Table (3)

It shows Values The letter T power Discrimination For phrases Fear scale from re Infection of a

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sample Construction

phrase	The group	Statistical indicators		Value (t)	Error level	Significance
		S	A			
The psychological dimensions of fear						
1	Upper Group	3.8000	1.14642	4.048	0.000	moral
	Lower group	2.2000	1.01419			
2	Upper Group	3.7333	79881	4.811	0.000	moral
	Lower group	2.2000	94112			
3	Upper Group	3.7333	1.22280	2.745	010	moral
	Lower group	2.7333	70373			
4	Upper Group	3.4667	1.24595	2.662	013	moral
	Lower group	2.2667	1.22280			
5	Upper Group	3.6667	1.11270	3.676	001	moral
	Lower group	2.4000	73679			
6	Upper Group	3.0000	92582	3.371	002	moral
	Lower group	1.8667	91548			
7	Upper Group	3.3333	1.23443	2.180	038	moral
	Lower group	2.2667	1.43759			
8	Upper Group	3.6000	1.24212	3.288	002	moral
	Lower group	2.2667	96115			
9	Upper Group	3.2000	1.37321	1.640	112	random
	Lower group	2.4000	1.29835			
10	Upper Group	3.6667	97590	3.833	0.000	moral
	Lower group	2.4000	82808			
The focus of fear-related behaviors						
11	Upper Group	3.5333	1.30201	3.307	003	moral
	Lower group	2.2000	86189			
12	Upper Group	3.8000	1.26491	1.953	061	random
	Lower group	2.9333	1.16292			
13	Upper Group	4.2000	86189	3.520	.001	moral
	Lower group	2.8667	1.18723			
14	Upper Group	4.4000	91026	6.497	000	moral
	Lower group	2.5333	63994			

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15	Upper Group	4.2667	70373	4.361	000	moral
	Lower group	2.6667	1.23443			
16	Upper Group	4.3333	61721	6.104	000	moral
	Lower group	2.6000	91026			
17	Upper Group	3.4000	1.12122	2.461	020	moral
	Lower group	2.2667	1.38701			
18	Upper Group	3.6667	1.04654	3.109	004	moral
	Lower group	2.1333	1.59762			
19	Upper Group	4.0000	92582	4.036	000	moral
	Lower group	2.5333	1.06010			
20	Upper Group	3.9333	1.09978	2.513	018	moral
	Lower group	2.7333	1.48645			
Focus on understanding the risk of athletic relapse						
21	Upper Group	3.0667	1.16292	2.279	030	moral
	Lower group	2.2667	70373			
22	Upper Group	3.7333	96115	2.972	006	moral
	Lower group	2.6000	1.12122			
23	Upper Group	4.0000	92582	5.229	000	moral
	Lower group	2.3333	81650			
24	Upper Group	4.0667	79881	5,100	000	moral
	Lower group	2.4667	91548			
25	Upper Group	3.9333	79881	5.150	000	moral
	Lower group	2.3333	89974			
26	Upper Group	3.1333	83381	315	755	random
	Lower group	3.0000	1.41421			
27	Upper Group	3.6667	1.04654	3.157	004	moral
	Lower group	2.5333	91548			
28	Upper Group	3.9333	70373	4.463	000	moral
	Lower group	2.5333	99043			
29	Upper Group	3.6000	82808	5.072	000	moral
	Lower group	2.2000	.67612			
30	Upper Group	4.0000	92582	5.553	000	moral

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	Lower group	2.1333	91548			

Second: Internal consistency coefficient (the relationship between the statement score and the total score): He didTresearcher[5]By transcribing all the answers from the construction experiment sample (54) Form,anduseTThe simple correlation coefficient between the scale score and the statement, consisting of (27)phraseAll of his statements were accepted and adopted because the correlation coefficient is high at the significance level (0.05), and Table (2) shows the internal consistency coefficient.

Table (4)

Internal consistency between responses to each item and the total scale score; Pearson's simple correlation coefficient for checking the validity of the items on the Fear of Reinfection scale.)

Phrase number	Correlation coefficient	Error level	Phrase number	Correlation coefficient	Error level
1	0.455	0.001	15	0.313	0.021
2	0.500	0,000	16	0.589	0,000
3	0.275	0.044	17	0.522	0.000
4	0.321	0.018	18	0.698	0,000
5	0.626	0,000	19	0.274	0.045
6	0.461	0,000	20	0.482	0,000
7	0.576	0.000	21	0.538	0,000
8	0.654	0,000	22	0.330	0.015
9	0.344	0.011	23	0.487	0,000
10	0491	0,000	24	0.527	0,000
11	0.322	0.018	25	0.341	0.010
12	0.621	0,000	26	0.317	0.020
13	0.728	0,000	27	0.558	0,000
14	0.565	0,000			

2- Scale reliability:

First: The halving method: The researcher adopted the split-half method, which is the most widely used method of reliability. The method is based on dividing the test items into two halves: the first half contains items with odd numbers, and the other half contains items with even numbers. Thus, this method covers equal scores for both halves of the items.[(Abbas, 1996, page 24)]The test was applied to a sample of (54) questionnaires, and to calculate the reliability coefficient in this way, the statements were divided into odd and even, and the value of the correlation coefficient in the (fear of reinfection) scale was The value between the two halves (0.930) at an error level of (0.000) indicates the reliability of the test half. Therefore, the Spearman-Brown equation

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was used, and the value of the reliability coefficient for the test half was adjusted using the Spearman-Brown reliability significance equation.Spearman – Brawn) and the value of the reliability coefficient reached (0.964), which is a good indicator and is a high reliability coefficient that can be relied upon to estimate the reliability of the test.

Second: The (Cronbach's alpha coefficient) method: This type of stability is called internal homogeneity and refers to the strength of the bonds.Among the statements in the test (Awda and Malkawi, 1987, page 161)To calculate the reliability using Cronbach's alpha coefficient for the (fear of reinfection) scale, it reached (0.886), which is a reliable reliability coefficient.

3-objectivity scale:

after that It was completed discharge Data from Forms It became clear that all phrases She was clear For the sample as that it It is characterized I'll be Alternatives to choose from multi no Accept Answer on more from substitute no There are In it phrase To answer Open where It is questionnaire The objectivity High no maybe Difference on Grades that He gets On it Individuals Sample.

2-5Description of the fear of reinfection scale and how it is scored:

The scale in its final form consists of (27A phrase distributed in (3Areas of the scale and adoptedTresearcher؛The Likert scale was chosen because it suited the nature and procedures of the search using the approved choices, and the weighting was calculated in a positive direction from (5-1According to the alternatives (always, often, sometimes, rarely, and never), the lowest degree is (27The highest grade (1)35The degree of neutrality is (81To determine the levels used in the study, the length of the cell was determined using a five-point Likert scale, by calculating the range between the scale scores.(1.33)Extracting three levels

2-6Applying the scale(Main experience).

The researcher appliedgauge(Fear of reinfection) on a sampleOf the athletes with various injuries who visited the Sports Medicine Hospital from Sunday, March 2, 2025 until Thursday, July 10, 2025, their number is (62) athletesThe scale was distributedBy the support staff during their review of the medical rehabilitation protocol

2-7Statistical methods:

The statistical data was processed using off-the-shelf software.(SPSS)*

3-1 Displaying the results of the fear of reinfection scale :

The arithmetic means and standard deviations of the study sample's responses to each item on the (Fear of Reinfection) scale questionnaire were calculated. According to the axesthreeThe arithmetic means and standard deviations using the stem and branch methods are shown in Table (6):

Table (5)

Results of a one-sample t-test to determine the significance of a scale level(Fear of reinfection)

Rank	axis	Degree	Importance Relativity	average Calculation	deviation Standard	S hypothetical	Value The letter T	sig	Significance	Level
1	**Psychological anxiety and fear of reinfection**	37.494	35%	4.166	2.236	27	12.654	0.000	moral	high

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2	fear-related behaviors	35.694	33.3%	3.966	1.976	27	10.744	0.000	moral	high
3	Recognizing the risk of athletic relapse	33.705	31.5%	3.745	2.255	27	7.743	0.000	moral	high
scale score		106.89		3959	5.775	81	14.664	0.000	moral	high

At a significance level of (0.05)

3-2Analysis and discussion of the results of the fear of reinfection scale :

The results in Table (5) indicate that the level of fear of re-injury among injured athletes during the medical rehabilitation phase was high, with a statistically significant level of (0.05), both in terms of the sub-dimensions of the scale and the overall score. This clearly reflects the pivotal role of psychological factors, especially fear, in influencing the recovery process and the likelihood of athletic relapse. The axis of psychological anxiety and apprehension about re-injury ranked first, achieving the highest mean score (4.166) and a high t-value. This indicates that those injured live in a state of constant anticipation and anxiety regarding the possibility of re-injury upon returning to athletic activity. This can be explained by the fact that the previous experience of injury, with its accompanying pain and cessation of training and competition, leaves a long-term psychological impact, exaggerating the perceived threat of any movement or physical exertion. This can lead to excessive psychological tension that weakens confidence in physical abilities even after the completion of medical rehabilitation. This anxiety is considered one of the most important psychological determinants that may hinder a safe return to full athletic performance. This aligns with what was indicated by (Ardern et al. (2013) found that fear of re-injury is one of the most common psychological factors among athletes returning to sports activity after injury, even after the completion of medical and physical rehabilitation. The researchers explained that this fear directly affects the decision to return to competition and the level of performance after return, as athletes who suffer from high levels of fear tend to hesitate in performing high-risk skills and exhibit avoidance behaviors that increase the likelihood of motor impairment. Their results also showed that the persistence of fear of re-injury is associated with an increased likelihood of experiencing a recurring injury or athletic relapse due to a lack of confidence in the injured limb and incomplete psychological adaptation to the demands of performance. (Ardern, Taylor, Feller, & Webster, 2013, pp. 489-492) The results also showed that the fear-related behaviors axis was at a high and statistically significant level, indicating that fear is not merely an internal emotional state, but is reflected in avoidance behaviors such as hesitation in performing skills, reducing the intensity of training load, or excessive reliance on protective measures. These behaviors are considered normal defense responses, but in the long run, they may contribute to weakening motor efficiency and increasing the likelihood of relapse due to a lack of proper gradual adaptation to the demands of athletic performance.

Here he explains (Brewer and Redmond state that the psychological response to sports injury goes through several emotional and cognitive stages, and that fear of re-injury is one of the most prominent psychological components that persists during the rehabilitation phase and after returning to competition. This fear affects the athlete's perception of risks and their motivation to adhere to rehabilitation programs and the gradual return to performance.(Brewer & Redmond, 2017, pp. 67-72).The researcher emphasizes that the absence of organized psychological intervention during medical rehabilitation may lead to persistently high levels of anxiety, which contributes to the emergence of abnormal motor behaviors that may increase the likelihood of relapse.The importance of integrating psychological preparation with physical rehabilitation to reduce the

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effects of fear and improve the chances of a safe return to athletic activity was highlighted. The perception of the risk of athletic relapse also came in at a high level, reflecting that those injured perceive returning to competition as a high-risk situation. This exaggerated perception of risk reinforces the cycle of fear and anxiety, where negative thoughts interact with emotions and behaviors to form a psychological pattern that may limit the full benefit of rehabilitation programs. The high overall score on the scale indicates that fear of re-injury is a pervasive psychological factor affecting various aspects of the injured athlete's experience. Wiese-Bjornstal et al. (1998) noted that cognitive factors, such as interpreting the injury and perceiving the risk of recurrence, play a fundamental role in shaping negative emotions like fear and anxiety. The model demonstrated that these emotions, in turn, influence rehabilitation and athletic behaviors, both in terms of adherence to treatment and in terms of motor performance after returning to activity.(Wiese-Bjornstal & et al, 1998, pp. 54–60)The researcher emphasizes that an exaggerated perception of risk can lead to a vicious cycle that increases the likelihood of athletic relapse, even in the presence of physical readiness. This indicates that fear of re-injury is a major psychological factor associated with relapse, potentially leading to changes in movement patterns, poor adherence to gradual return-to-work programs, or even premature and unsafe returns to competition. Furthermore, the absence of psychological intervention accompanying physical rehabilitation can exacerbate these fears, making athletes more susceptible to re-injury despite apparent physical readiness. Therefore, the study's findings confirm that fear of re-injury is not merely a fleeting psychological symptom, but a fundamental psychological determinant of athletic relapse. This necessitates integrating psychological preparation, particularly anxiety reduction and confidence-building programs, into medical rehabilitation plans. Such integration would contribute to reducing the likelihood of relapse and achieving a safe and stable return to athletic activity.

4-ConclusionsRecommendations

4-1Conclusions

1. A scale for fear of re-injury in athletes has been developed. As a psychological determinant of athletic relapse in injured individuals during the medical rehabilitation phase
2. thatFear of re-injury is a major psychological determinant of athletic relapse among those injured during the medical rehabilitation phase.andRelying solely on physical rehabilitation without addressing psychological aspects may not be sufficient to ensure a safe and stable return to athletic activity.
3. The level of psychological anxiety and apprehension about re-injury was the highest psychological determinant of sports relapse among those injured during the medical rehabilitation phase, indicating that the previous experience of injury leaves clear psychological effects that persist even during the rehabilitation phase.
4. Fear-related behaviors are among the most prominent psychological determinants of athletic relapse among those injured during the medical rehabilitation phase, which may hinder normal motor performance and increase the likelihood of athletic relapse.
5. The perception of the risk of athletic relapse was high, reflecting an exaggeration of the risks associated with returning to competition, even after the completion of medical and physical rehabilitation.

4-2Recommendations

1. It is necessary to integrate psychological preparation and support programs within the medical rehabilitation programs for injured athletes, with a focus on reducing anxiety and building confidence in the physical capabilities of the injured limb.
2. Attention should be paid to the periodic application of psychological measures, such as the fear of reinjury scale, during the various stages of rehabilitation, in order to detect and deal with high levels of fear early.

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3. Raising awareness among coaches and physical therapists about the importance of the psychological aspects of sports injuries, and training them to observe behaviors indicative of fear and to deal with them using appropriate scientific methods.
4. Designing psychological guidance programs for a gradual return to competition that take into account individual differences in psychological readiness, and not relying solely on physical readiness as an indicator of return.
5. The inclusion of a sports psychologist within the treatment team is essential to contribute to the development of psychological intervention programs aimed at modifying negative thoughts associated with the perception of relapse risk.
6. Conducting future studies that address other psychological variables related to athletic relapse, such as self-confidence, motivation, and psychological resilience, and linking them to the different stages of rehabilitation.

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