



# Assessment of Physiotherapy Techniques in the Management of Sports Injuries

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**Abstract:** In the course of this qualitative study, the assessment of physiotherapy approaches for the management of sports injuries is investigated. More specifically, the research investigates how physiotherapists feel about various treatment modalities and how they view the effectiveness of these modalities. There were six physiotherapists who were questioned in order to have a better understanding of their experience and background in the field of injury treatment. For the purpose of data analysis, thematic analysis (TA) was used. Concerns over the use of advanced procedures, the inequality in treatment between professional and amateur athletes, the factors that influence injury recovery, the appraisal of injuries by physiotherapists, and the utilisation of specialist physiotherapy techniques were the key difficulties that emerged. After the athlete returned to play (RTP), all of the physiotherapists demonstrated a comprehensive understanding of the physical aspects of injury rehabilitation and how these aspects influence the performance of the player. However, the findings indicate that contemporary physiotherapy techniques are not usually used for the purpose of sports rehabilitation. A number of physiotherapists have expressed their belief that they do not possess sufficient time or resources, while others have said that they have a tendency to underestimate the efficacy of certain procedures. A total of five out of the six physiotherapists emphasised the need of using interdisciplinary approaches, such as collaborating with specialists, in order to enhance the outcomes of the healing process. According to the results, physiotherapists should continue their education and professional development in sophisticated techniques in order to improve their ability to handle injuries and to support more effective RTP strategies in the field of sports rehabilitation.

**Keywords:** Physiotherapy, Management, Sports Injuries

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## INTRODUCTION

Involvement in athletics is inherently dangerous, and accidents do occur to athletes of all ages and skills, from amateurs to serious professionals. Any one of these illnesses, ranging from relatively minor aches and pains to more significant issues such as fractured bones, torn ligaments, or even dislocations, has the potential to impede an athlete's ability to train and perform as intended. In order to ensure a safe and timely return to play, it is vital to treat injuries in an appropriate manner. This is done with the ultimate goal of preventing additional injury and preserving long-term physical fitness. Physiotherapy has become an essential component of injury rehabilitation in this context as a consequence of its capacity to cater to the specific needs of each athlete via the implementation of customised preventative and restorative treatments.

Physical therapists are responsible for the management of sports injuries by the use of a variety of

therapies, including therapeutic exercise, electrotherapy, functional rehabilitation, and manual therapy respectively. The use of manual therapy methods, such as joint manipulation and soft tissue mobilisation, may help alleviate pain and restore mobility. Regaining full functional capacity is the primary goal of rehabilitation via therapeutic exercise. This is accomplished by strengthening those muscles that are weak, increasing flexibility, and improving coordination. Electrotherapy techniques, such as electrical stimulation and ultrasound, are often used in order to reduce inflammation, hasten the process of tissue healing, and enhance circulation. Furthermore, the primary objective of functional rehabilitation is to prepare the athlete for a safe return to play (RTP) via the utilisation of activities that are appropriate to the athlete's sport.

It is necessary to do a more comprehensive analysis of the effectiveness of physiotherapy treatments in the management of sports injuries, despite the fact that there is a plethora of alternatives available. In spite of the popularity of physical rehabilitation techniques and research, there is a growing movement towards acknowledging the influence that psychological factors have on the healing process of injuries. The degree of self-assurance, nervousness, and mental toughness that an athlete has is a significant factor in determining the chance that they will return to competition after a successful injury. If these psychological components were not taken into consideration throughout the rehabilitation process, it is possible that the operation would not be as effective as it might be. It is possible that the interactions that physiotherapists have with difficulties, such as time constraints, uneven training, and inadequate resources, might make it more difficult for them to consistently apply advanced rehabilitation therapies.

The major objective of this study is to investigate the current status of physiotherapy services for sports injuries and to investigate how these services influence the healing process as well as performance. Through the examination of the viewpoints and experiences of physiotherapists, the purpose of this research is to make the field better. The findings of this study will disclose the benefits and drawbacks of different therapies and provide opportunities to improve them. The study will also take into consideration the introduction of psychological treatments into rehabilitation, highlighting the need of a complete plan for injury care that takes into consideration both the physical and emotional components of healing. This research will assist enhance rehabilitation processes for athletes, which will increase the chance of a successful and long-lasting return to play. This will be accomplished by acting in this manner.

## **OBJECTIVE**

This study examines the effectiveness of physiotherapy in sports injury management, focussing on pain relief, rehabilitation, and performance recovery. Manual therapies, electrotherapy, exercise-based rehabilitation, and sophisticated modalities for sports injuries will be evaluated. Research will also evaluate how early physiotherapy intervention prevents injuries and speeds recovery. It also compares modern and traditional physiotherapy treatments to find the best ways to boost sports performance and reduce injury.

## **METHODOLOGY**

Through the use of an Interpretative Phenomenological Analysis (IPA) methodology, the purpose of this study was to assess the efficacy of physiotherapy treatments applied to the treatment of sports injuries. Through the process of conducting in-depth assessments of the lived experiences of persons, the International Psychological Association (IPA) intends to shed light on how individuals comprehend and

interpret their rehabilitation activities [Smith JA, Osborn M (2015)]. It is possible to do in-depth study using qualitative methods in this environment to explore the behaviours, perspectives, and assumptions that physiotherapists have on the effectiveness and utilisation of various physiotherapy techniques.

In this study, semi-structured interviews were utilised to evaluate the knowledge, experiences, and perspectives of physiotherapists about the strategies that are used to treat sports injuries. As a consequence of the open-ended questions that were included in the survey, recipients were given the opportunity to reflect on their own clinical practices, challenges, and decision-making elements in the field of rehabilitation. The views of physiotherapists on the physical and mental recovery of athletes, as well as their use of manual treatment, therapeutic exercises, electrotherapy, and other approaches, were better understood via the utilisation of this method.

Physiotherapists' technical knowledge and their own personal evaluations of the efficacy of these techniques in aiding a successful return to play (RTP) for athletes were both tried to be captured by the study via the use of IPA. This methodology was also helpful in identifying areas in which practice was missing, such as instances in which certain treatments were not being employed to their full potential or instances in which professionals need further training in more complicated rehabilitation approaches.

### **Sample**

When developing a method for conducting a research, it is normal practice to make use of inclusion and exclusion criteria in order to improve the credibility of the findings [Patino CM, Ferriera JC (2018)]. The physiotherapists who were questioned were expected to have a minimum of three years of experience working in the sports business. We made the assumption that individuals with greater experience would have mastered psychological techniques, thus we did not include physiotherapists who had just graduated from their programs. Researchers utilized deliberate sampling to choose a sample that they considered would effectively reflect the aims of the study [McCombes S (2022)]. This meant that they relied on their prior knowledge and expertise to make their selection. Despite the fact that the authors chose to use a voluntary response sample rather than actively seeking for participants, there is still a possibility that this technique is biased due to the fact that certain individuals may be more likely to participate than others.

### **Data Collection and Ethical Procedures**

The collection of data may start as soon as the University's Research Ethics Committee given its approval. A Gatekeeper Form was sent to the members of the local physiotherapists' organisation. In this, the organisation was required to supply its members with information sheets and consent forms, and it also provided specifics about the aims of the research, the sample, and the technique for collecting data. Our ability to choose volunteers without favouritism was made possible as a result of this. The first author made a request that all participants who freely decided to take part in the study give back the permission form that had been filled out. Individuals participated in the research project because they were ready to donate their time [Murairwa S (2015)]. It was concluded that six physiotherapists who answered to the call would be an appropriate sample size for the initial patient assessment (IPA) method [Ellis P (2016)]. In an ideal world, individuals would talk more freely during an in-person interview since they are more at ease opening up during this sort of encounter. This would result in more information being provided. However, in order

to accommodate the COVID-19 outbreak as well as the desires of the respondents, the interviews were carried out online via the use of Zoom. Audio recordings of each interview were created, and the participants gave their consent for this arrangement. Every interview lasted for around forty minutes. The first author was the one who conducted the interviews with the subjects as they were. It was necessary to conduct a pilot research prior to the completion of the interviews in order to guarantee the validity and reliability of the findings [Sridharan K, Sivaramakrishnan G (2015)]. Interviews were performed in a more complete way, devoid of bias and leading questions, as a result of this decision, which insured that they were conducted.

## **DATA ANALYSIS**

Throughout the course of the interviews, the first author, who is also physiotherapy, made every attempt to connect with the experiences that the physiotherapists shared [Pietkiewicz I, Smith J (2014)]. Immediate transcriptions were completed in order to facilitate a better recall of the conversation that had taken place. The transcriptions were examined via the use of the method known as thematic analysis (TA) [Braun V, Clarke V (2008)]. Reading the transcripts many times allowed for the generation of codes as well as the identification of potential themes and subthemes. The use of pseudonyms served to conceal the identities of those who took part in the study.

## **Reliability and Validity**

For the purpose of avoiding prejudice, it is necessary for both the interviewer and the interviewee to have the ability to articulate oneself unambiguously. When we speak about dependability, we are referring to the degree to which the chosen research technique produces the same results when it is repeated [Alshenqeeti H (2014)]. The questions were not offered to the participants in advance in order to lessen the likelihood of bias and invalidity occurring during the survey. It was possible to have a more natural discussion as a result of this, during which both the person being interviewed and the person conducting the interview were able to communicate their genuine thoughts about the topic at hand. Additionally, the physiotherapists who reached out to the author had a part in the reduction of bias among participants. There were many factors that led to the study being more dependable. These included avoiding leading questions, completing a preliminary test, and making some minor adjustments to the questions. The individuals that were interviewed were given the opportunity to expound on their remarks. In order to provide an explanation of the process for data collection, the first writer worked in conjunction with a sports psychologist and their professor.

## **RESULT AND DISCUSSIONS**

There were two female competitors, Roberta and Penny, and four male contenders, Jake, Luca, Sam, and Daniel. Roberta did not compete in the competition. Everyone who participated in the interview had at least five years of relevant professional experience, with the exception of Jake. Daniel, on the other hand, had an astonishing 36 years of experience. Jake, Roberta, Sam, and Daniel are mostly associated with football, whilst Penny works with athletes competing at the Olympic level and in a variety of sports. Luca, on the other hand, is providing assistance to student-athletes competing in a range of sports. The physiotherapists' perspectives on injuries, the factors that influence injuries, the lack of psychological

treatments, the contrast between professionals and amateurs, and the psychological interventions that were used were some of the topics that emerged from the study.

### **The Physiotherapists' Injury Perception**

After sustaining an injury, athletes often have negative psychological reactions because it gives them the impression that they have lost something significant in their lives. When it comes to injuries, Jake considers them to be multidimensional, including not just the physical but also the psychological aspects. An injury might have an effect on the return to play (RTP) and performance of a number of athletes, including Jake, Penny, and Roberta, to name just a few. By taking these factors into mind, the relevance of the mental fitness of athletes for each phase of recovery is brought to light [Kraemer W, Denegar C, Flanagan S (2009)]. Roberta is of the opinion that the severity of the injury is the most essential aspect, but Sam is of the opinion that the length of the harm is more important. According to [Haraldsdottir K, Watson AM (2021)], the longer the duration of the injury, the higher the possibility that the individual would have psychological troubles. Comparatively, Penny was required to Patients who have previously had surgeries that are comparable to the one they are now undergoing, such as a second ACL repair, are psychologically more prepared for the process. This is because they are aware of what to anticipate, that there will be setbacks, and that there will be oscillations from one degree of development to another. As a result, they suffer less anxiety, worry less, and apply more effort within the constraints that are permissible, which ultimately results in higher outcomes. The results of the RTP demonstrate that individuals who have a history of injuries have higher levels of functional attention and they have a higher degree of confidence. Jake, on the other hand, is of the opinion that mental health issues such as depression are the result of recurrent injuries, such as a second rupture of the anterior cruciate ligament (ACL). Researchers found that athletes who have had a second damage to their anterior cruciate ligament (ACL) are less psychologically prepared for the next injury. Therefore, they put themselves at danger of not healing completely because they attempt to return to full strength too soon or train too hard to do so. This puts them at risk of not recovering completely. Taking things easy and allowing their bodies to heal is something that athletes should do, as Daniel points out. It is possible for athletes to suffer impatience if they believe that they are being neglected, if another individual is taking over their place in the team, or if their sense of self is tightly related to the sport that they have chosen to participate in. According to Sam, another patient who was ready to return to play (RTP) was so enthusiastic that he harmed himself in his eagerness to get back on his feet. This patient was anxious to recover from his injury.

### **Factors that influence an Injury**

It is possible for athletes to go through a variety of feelings as they go through the rehabilitation process. In order to continue competing quickly after an injury has occurred, athletes may choose to conceal their ailments, as Roberta said. Penny is of the view that their vocal and nonverbal reactions demonstrate that they are enraged and that they refuse to accept the outcome of the event. It is possible that the athlete is attempting to cope with something by act in this manner. Roberta believes that an athlete may have feelings of uncertainty if they are unsure of the length of time it will take for them to recover from an injury or the potential influence that returning to full performance may have on their recovery. Because of this uncertainty, the athlete can choose to delay RTP or perhaps cease participating in the sport entirely. It is



[McPherson AL, Feller JA, Hewett TE, Webster KE (2019)]. An athlete may incur an injury as a result of external factors such as pressure from the club and the necessity to handle the pain while keeping a tough look. These are two examples of external factors. Roberta believes that when these sorts of expectations are present, it has the potential to have an emotional and psychological influence on the athlete, with the result being an increased probability of the athlete sustaining an injury. According to Penny's speculation, the player's teammates and coaches could be putting too much pressure on them to return to play too soon. It is the early drive towards RTP that has a negative impact on the feeling of freedom that athletes have. It is [Hsu C, Meierbachtol A, George SZ, Chmielewski TL (2017)]. An athlete's ability to cope with the aftermath of an injury is directly proportional to the degree to which they experience a loss of identity and psychological reactions to the injury. Another one of Jake's patients had a hard time re-establishing his identity once he returned to the hospital. There is a significant amount of concern when one's job is gone, another one is on the way, and you are getting older. Due to the fact that the athlete's career is relatively short, there are a lot of negative psychological factors. According to Sam, the athlete will need to increase the intensity of their training in order to be considered for a return to the team. There is a consensus among Jake and Sam that the fear of being replaced is a prevalent reason for athletes to return to play [Menta R, D'Angelo K (2016)].

### **Lack of Psychological Interventions**

It is consistent with what was mentioned in [Podlog L, Eklund RC (2007)] that all of the respondents said that they did not make extensive use of psychological treatments because they either lacked sufficient knowledge or failed to possess sufficient finances. Roberta asserts that physiotherapists, while possessing a Master's degree, do not possess the essential competence, which is an opinion that is held by [Driver C, Lovell G, Oprescu F (2019)]. Samantha was cautious and frightened to use interventions in which he is not well equipped, whilst Jake was terrified of taking a risk and making things worse. Jake was afraid of making things worse. It is proposed that a program that is specifically devoted to sports psychology be implemented at the graduate level. Additionally, it may be beneficial to identify one's obligations and be aware of the appropriate time to suggest that a client undergo additional treatment [Arvinen-Barrow M, Hemmings B, Weigand D, Becker C, Booth L (2007)]. Those who brought up arguments that ignored and undervalued the relevance of the subject matter were the ones who brought them up. Daniel believes that physiotherapists are aware of its significance; nonetheless, they fail to recognise the extent to which it may assist the athlete. Sam, on the other hand, said that they concentrate on other aspects.

### **Professional versus Amateur**

The findings of Roberta, Sam, and Penny indicate that athletes whose income is solely dependent on sports are more likely to have psychological issues after injuries. According to Penny, injuries are not the same for each and every person. The situation would be different if I were to play five-a-side with my friends after having a few beers. My job is not in jeopardy if it is the employment of another person. The severity of these diseases is something that we, as therapists, need to be aware of. The athlete's ambitions for the future are ultimately the deciding factor. When a person who has been wounded loses interest in completing their recuperation, they may choose to quit rather than confront the difficulties that they are now experiencing. As opposed to casual athletes, who usually do not have the drive to regularly adhere to

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## Psychological Interventions Employed

The use of psychological treatments may be beneficial to athletes in terms of their rehabilitation and in terms of reducing the likelihood of experiencing psychological trauma [Levy AR, Polman RCJ, Nicholls AR, Marchant DC (2009)]. Among the most frequent therapies, tactics for relaxation and visualisation, goal-setting, positive self-talk and efficient communication for coping are among the most prevalent. Imagery was the only intervention that was not mentioned in any of the interviews that were conducted on the subject of interventions. According to Daniel, physiotherapists often use these techniques, sometimes with the aim of doing so and other times without the intention of doing so. All three of them, Sam, Penny, and Luca, are of the opinion that it is very important to have open lines of communication with patients and to enlighten them about their ailments. Penny believes that it is essential to tell the patient that their symptoms are normal and acceptable in order to provide the athlete with emotional and mental support. In order for rehabilitation to proceed, it is vital, according to Luca, to get the athlete on the same page by outlining the injury process. This is required in order for the process to go ahead. Providing the patient with resources is something that Penny suggests doing in order to assist them in remembering certain items.

Roberta, Sam, and Daniel are all of the opinion that it is beneficial to the athlete's self-confidence to encourage them to talk favourably about themselves. There is a possibility that players who are exhibiting symptoms of uncertainty and who could use some encouragement might benefit greatly from engaging in positive thought. The athlete is able to continue and achieve success with the support of this approach, which can also be considered a coping mechanism. This method is one of the most successful psychological treatments for individuals to engage in. When athletes have established these coping strategies at an early stage, they are better able to focus on the active aspects of the rehabilitation process [Heaney C (2006)]. Sam is of the opinion that people who have sustained injuries for a longer period of time need more strong coping skills than those who have sustained injuries for a shorter period of time due to rehabilitation. Penny said, "Even if it is not functional, the placebo effect can sometimes be useful to have," as she used tape as a replacement approach. Thinking about them is a necessary component of my approach to dealing with them. Even if the effectiveness of the practice is up for debate, [Carson F, Polman RCJ (2008)] suggests that taping may have an effect on the players' sense of self-confidence. Jake use GPS data as a kind of intervention in order to assist athletes in regaining their confidence throughout the more advanced stages of recovery. You show the athlete his high-speed running and the number of kilometres he had completed before the injury. "Look, during the game that took place last week, you were very similar, and you were performing well on the pitch." It's possible that some people will gain something from the numbers, while others could only need some time; in any event, the data won't be harmful. On the other hand, if I were to use a "psychological intervention," it would look like that. In the case of mental therapies, Jake would "objectify" them in this way, while Sam would take the approach of using objective surveys. Reducing psychological distress and increasing confidence are two benefits that may be gained by achieving one's objectives [Sawkins K (2005)]. Setting goals is another method of coping that is used. Accepting injuries, understanding recovery, and effectively adhering to treatment regimens are all made easier as a result of this [Reese LMS, Pittsinger R, Yang J (2012)]. According to Daniel, the first step

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appropriate to transfer patients to the hospital. Daniel is of the view that local professionals have the presumption that they are able to handle things on their own. Because of financial restrictions, some individuals may not be able to consult a sports psychologist. Sam said, "I don't think enough participants have undergone psychological interventions for me to provide an accurate answer." [Christakou A, Lavalley D (2009)] Daniel claimed that it is "not ideal and is unethical" to compare physiotherapists who use interventions to those who do not use interventions. Sam also stated that he has not seen enough participants who have completed interventions. Daniel and Sam are both working towards the goal of incorporating appropriate psychological therapies. But I try to use it in a variety of different ways whenever I can. I'm not sure whether its objective enough, but I simply can't seem to justify comparing the two approaches. Therefore, Penny is unable to make a comparison since there is a dearth of professional psychiatric therapy that is freely available. She did, however, point out that the rehabilitation is ultimately determined by the patient's capacity to make the mental change from "denial and being upset" to a more accepting mindset, which is associated with less anxiety and less fear of RTP. This is true regardless of whether the intervention was the result of a natural growth mindset or a result of the intervention itself. There is evidence that after getting psychological help, athletes experience an improvement in their mental health, an increase in their feeling of safety, and a reduction in the likelihood that they would sustain another injury [Gledhill A, Ivarsson A, Johnson U, Tranaeus U, Hill D, Davidson CL (2021)]. While Roberta discovers that being in an environment that is supportive reduces the degree and frequency of pressures, she also discovers that learning to engage in psychological treatments helps in "organising ideas" (Daniel). According to Luca, as a consequence of this, the athlete is able to better manage their thoughts and make progress in their recovery. Penny claims that the treatments improve the athlete's rate of return to play (RTP) as well as their sense of self-worth. The discipline of sports psychology was one in which she had complete faith. I began by meeting with the sports psychologist, who had been carefully observing the athlete for a few months and was able to provide me with some helpful recommendations. Due to the fact that this is what psychologists are trained to accomplish, I believe that they may be of assistance... That particular area has earned my confidence because I feel the people who work in it are knowledgeable and helpful. Daniel emphasized the need of adopting a complete plan, stating that it is essential to manage the athlete's stress in order to optimise rehabilitation since stress has an impact on both performance and healing. Similar to the situation that occurs in more professional sports contexts, Luca believes that it is essential to have a multidisciplinary staff that is focused on the athlete's health and wellness. Roberta is of the opinion that psychological aid provides athletes with the ability to RTP with more confidence, even if the only thing that is done is to attempt to appreciate the athlete's problem and offer advice.[ Zakrajsek R, Blanton JE (2017)]

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