JOURNAL OF INTERNATIONAL CRISIS AND RISK COMMUNICATION RESEARCH
ISSN: 2576-0017
2024, VOL 7, NO S11

The Use of Physical Therapy in Managing Sports Injuries

Qassem Mohammad Alshabrami[1], Bader Ibrahim Almansour[2], Raja Awad Al Shammari[3], Amira Yahya Hameyd[4], Wadha Foad Alabdelqader[4], Nawaf Flah Alenizy[4], Maram Bandar Alanazi[5], Munirah Mohammad Alreshidi[6], Abdulrhman Saad Alzhrani[7]

1. Physiotherapist, Maternity and child hospital- Hail
2. Physiotherapist, Hail health cluster
3. Senoir specialist at physiotherapy and sport medicine, Branch of Minstery of health at hail region, Compliance department
4. Physiotherapist, MCH - Hafer al batin
5. Physiotherapist, Branch of Minstery of health at hail region
6. Physiotherapist, AJA long term hospital & medical rehabilitation Center
7. Aliman general hospital, Physiotherapist

ABSTRACT

The use of physical therapy in managing sports injuries has been shown to be effective in reducing pain and improving function. This paper aims to explore the various techniques and approaches used in physical therapy for sports injuries, as well as the benefits and challenges associated with this form of treatment. Physical therapy plays a crucial role in the rehabilitation of sports injuries, helping athletes recover faster and improve their overall performance. Physical therapy plays a crucial role in the rehabilitation of sports injuries, helping athletes recover faster and improve their overall performance. Through targeted exercises and modalities, physical therapists can help athletes regain strength, flexibility, and range of motion in the injured area. Physical therapy can also help prevent future injuries by improving overall strength and flexibility Physical therapy can also help athletes improve their balance and coordination, leading to better performance on the field. Physical therapy can also help prevent future injuries by improving overall strength and flexibility. In addition, physical therapy can aid in the rehabilitation process after a sports injury, helping athletes recover faster and return to their sport with reduced risk of re-injury. Physical therapists use a variety of techniques such as stretching, strengthening exercises, and manual therapy to help athletes regain strength and mobility. Physical therapists use a variety of techniques such as stretching, strengthening exercises, and manual therapy to help athletes regain strength and mobility. They play a crucial role in the rehabilitation process by designing individualized treatment plans tailored to each athlete's specific needs. Physical therapists use a variety of techniques such as manual therapy, exercise, and modalities to help athletes recover from sports injuries.

KEYWORDS: physical therapy, sport injuries.

1. Introduction

Sports injuries management has recently progressed to the point that "Sports Medicine" utilizes the armory of many specializations aside from the surgery departments. The conservative management ensures an earlier return to the field that might be long postponed within orthopedic and surgical treatments. Over the last few years, physical therapy has been an essential part of non-surgical treatment procedures. These benefits require clinical training that should be accumulated within a considerable period of practical work necessary for creating a flexible, skilled, and experienced therapist. Regarding physical therapy, sports injuries are treated on the same basis as musculoskeletal conditions, having the added arsenal of complementary methods, both of manipulation and of thermotherapy, hydrotherapy, electrotherapy, acupuncture, laser, and magnetotherapy. The use of massage and stretching should solve any remaining problems. Thus, the physical therapist associated with the physician may conduct medical cases to a successful outcome when working in the same premises. In some instances, the disciplines of the two may merge; however, the therapist must keep to the limit of their skills and ensure the association of only true medical conditions. The physical therapist should never give preferential treatment to athletes during the physical treatment because their biology and treatment are not different from those of anybody else, regardless of athletic capabilities. It is irrelevant that the patient is "all-league" in basketball, a marketing executive downtown, a Hollywood celebrity, or a grey-haired grandparent - all are human beings with their share of health problems while needing therapy. It should be recalled that patients should always demand a professional code of ethics from the therapists. (Amjad et al.2022)

2. An Overview of Sports Injuries

In all sorts of sporting or athletic pursuits, an athlete can hurt themselves. Most sports injuries occur as a consequence of trauma on the pitch, either as a result of a

one-time occurrence or recurrent microtraumas. They may be divided into two categories: accidental and overuse. The accidental classification comprises the majority of sports injuries; these occur as a consequence of a one-time injury, such as a hard or distorted muscle. The distinctions are little hemorrhages or muscular strains. Overuse injuries may appear to be more typical in a sports setting. The continual application of a mechanical load that exceeds the load-bearing capacity of biological tissue is to blame for overuse injuries. They happen mostly in various musculotendinous structures, like the ligaments, muscles, and bones. Overuse injuries are brought on by chronic physical changes that are most frequently the consequence of the athlete putting pressure on a healthy bodily system. Furthermore, catastrophes like trauma from a fall or getting trapped between opponents may lead to injuries. (Paul et al., 2021)

One of the first aspects needed to be examined is the role of physical therapy in treating such injuries, considering the injury management strategies. There are an increasing number of scientific papers addressing this topic, as well as a variety of established and emerging innovations intended to facilitate therapeutic treatment and prevent recurrent injuries. Furthermore, this paper presents an attempt to delineate the acknowledged therapeutic treatment approach and appropriate products for injury management based on a collective review of these techniques while making notes for future research directions. Given this, the goal of this paper is to summarize the contributions of various research studies on the injury treatment roles of physical therapists and newly evolving treatment methods and products. This paper's organization is as follows: in chapter two, an overview of sports injuries is provided. In the third section, the use of physical therapy in managing sports injuries is discussed in depth. According to the evidence, the final part is a summary of our opinions and conclusions. (Ishøi et al.2020)

2.1. Types of Sports Injuries

Athletes can incur a range of musculoskeletal complaints that may necessitate medical attention and often result in considerable financial expenses and interruption of activities: sports injuries. Sports injuries can be classified into two main groups: sports injuries and other exercise-related complaints. Different injury diagnoses, injury locations, and severity levels have been identified between these groups. The classification and categorization of sports injuries based on common injury diagnoses or anatomical locations of the problem were traditionally used until new classification models emerged. Anatomic and medical categories of the sports injury model include injuries to the anatomical components of the musculoskeletal system, and diagnoses of the sports injury model include specific patterns and causes of the injury. (Orchard et al.2020)

In the sports injury model, the use of such diagnoses is derived mostly from athletic cohorts by study of medical encounter records, specifically athletic or training loads, or actual medical examination information. As a result, sets of injury research are often based on musculoskeletal and other athletic communities that obtain medical care for injury issues, with or without reporting of symptoms. Some typical sports injuries according to the injury diagnosis classification system can be assigned to one of the following updated categories or subcategories: strain or sprain, contusion,

avulsion fracture, rupture, dislocation, and laceration.

2.2. Common Causes

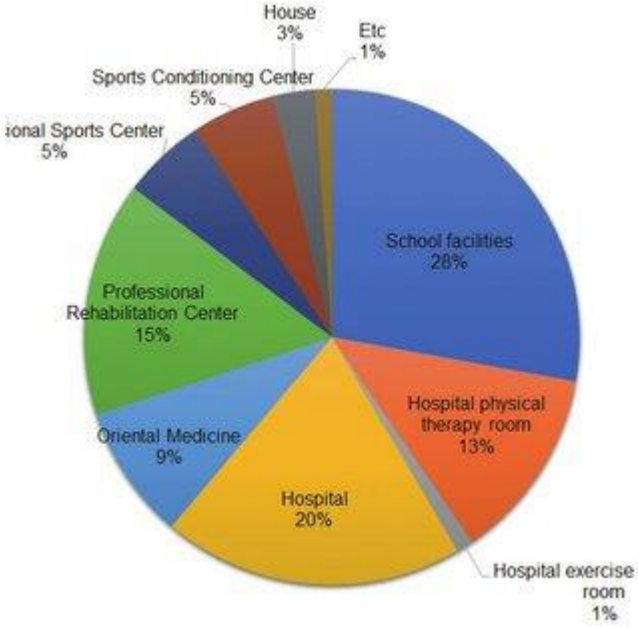
The following are the prime causes of sports injuries:

a. Overuse One of the leading causes of sports injuries, as well as overuse syndrome, involves recurrent tiny physiological damage that might result in inciting a drastic situation. Some people believe that it is "overtraining" instead of "overuse." It has been shown that athletes who train daily have a lower rate of overuse injuries than those who practice or exercise five or six times weekly. Nevertheless, one recent observation noted an analogous proportion of overuse injuries between daily and non-daily runners. Another reason that might lead to an overuse injury is the "big" mistake, which is rectified by the "good" movement. This often happens late in a practice or game and might elicit an unaccustomed dynamical shock to the body. Several studies reveal that most injuries happen at the end of a game or practice, while the participant is the most fatigued and least ready to adapt to a sudden quick movement, during the initial few sessions of a drill, or during the comeback to activity after an injury period or practice. (Elsayed, 2021)

b. Poor, ill-fitting, or worn-out equipment The next cause is inappropriate equipment, such as not only the sports equipment used by the athlete but also safety devices such as catching equipment, helmets, goggles, and mouth guards. Equipment often strengthens the interactions between the participant and the surrounding sports area. The surface of the field can be altered more quickly in an outdoor sport than in an indoor venue. Wet grass, frozen ice, or similar variable areas can each contribute to a unique mechanism of injury.

c. Lack of education about injury prevention Another reason an injury might occur is the participant’s lack of information about precautionary procedures, exercising consequences, and absentee instigating growth. For example, an athlete begins training before a set of conditioning exercises or stretching movements is finished, performs a unique bodily activity that might be beyond the individual’s talent level, or encounters fresh or unfertilized conditions that pose numerous risks.

d. Sports that require sudden starts, stops, and changes in direction Another method that may lead to injury is due to the surprising acceleration or deceleration experienced by athletes. Several quadriceps muscles that resist certain athletic phases might be less efficient during actions such as turning. Several studies revealed that adding specific training for athletes helps prevent sports injuries.



3. The Role of Physical Therapy in Sports Injury Management

Physical therapy is a vital part of the management of sport-related injuries. The assistance provided by physical therapists in every aspect of the injury management process can deliver immediate and long-lasting positive effects, ensuring that athletes stay healthy and ready to participate again. The cost-effectiveness of physical therapy as a health care provider and in terms of health care outcomes is clearly documented. A main goal in therapy is to return the athlete quickly to a non-injured status with the least amount of pain or residual functional deficit. Rehabilitation programs aim to regain motion, strengthen or stabilize the affected limb, joint, or body part, and improve the function of the body following illness, disease, surgery, or injury. Studies have shown that the same factors that result in initial injury are associated with an increased risk of re-injury. Physical therapists are skilled in designing plans that take into account the specific needs to prevent future injury. (Prentice, 2024)

There are eleven interdependent components of management: initial examination, diagnosis, prognosis, a plan of care, management of examination and evaluation findings, the inability of the diagnosis, management of coordination, consultation, prevention, education, contagion control, lifestyle adaptation, and direction for performance. The goals of initial injury management are governed by the severity of the injury and can become established as soon as the initial injury examination, diagnosis, and prognosis have been made. The fundamental aim of management is to ensure a safe, timely return to participation in sports or physical activities that a person is engaged in.

3.1. Benefits of Physical Therapy

Here are a few additional benefits of physical therapy. The first is the management of sports injuries. Physical therapists understand how different sports can increase your risk for specific types of injuries. They can design appropriate recovery or prevention exercise programs for you to ensure a safe return to your sport. Second, physical therapists can help you establish a safe and healthy exercise program for your unique needs, and they provide guidelines to prevent future injuries. Including physical therapy as part of your exercise routine can help you avoid injury to begin with and can prevent or treat a variety of conditions simultaneously. (Hickey et al.2022)

4. Assessment and Diagnosis in Physical Therapy

The AAP reports that a physical therapist should assess the patients' range of motion, pain, strength, movement biomechanics, balance, muscles, and physical performance. The treatment goal for an athlete is to have an individual program to regain full function in minimal time, composed of specific gains to the injured area, education for prevention of reinjury, and preventive suggestions for other structures. An underlying rule is that the physical therapy program should be a team effort between the patient, the physical therapist, and other team members throughout the patient's recovery. As the patient's condition improves, both obstructive healing and maladaptation issues must be recognized and used as progression markers for stage progression in physical therapy. (Fernandez et al.2021)

Due to the vast number of injuries a physical therapist may treat, there is a division of injury pages that cover most of the orthopedic and sports medicine contexts, as well as systematic remedy and instruction pages. These pages present available contemporary information regarding various constituent injury issues involved. Some injury pages contain videos, relevant biomechanics included in an injury, detailed exercise pages with rationale, and relevant stretching.

4.1. Initial Evaluation

Management of sports injuries is substantially due to the existence of competent individuals who are capable of recognizing and managing the activities. An important aspect of such management is the experience and knowledge of a clinician to recognize the nature of the injury and to be prompt in implementing appropriate therapeutic modalities. There are professional individuals who specialize in the initial evaluation of sports injuries, and they serve as an integral link in the chain of injuries. The acute care sports injury specialty is a division of allied medical care recognized over the years that follow injury recognition. This specialty represents the first and perhaps most critical level of health care dealing with a sports injury. (Haraldsdottir & Watson, 2021)

The field of acute care sports injury care developed rapidly during the last 30 years and is now providing a level of care that far exceeds the provision that was present a few decades ago. Complete physical therapy internship programs are developed for formal education. The experiences that result from these specializations provide the physician with clinical problems related to the evaluation, management, and referral

of acute injury clients. In other athletic settings, the experiences lead to the recognition and subsequent referral of acute injuries. As an example, certified athletic trainers may also have some readiness training that emphasizes the funneling of a sports injury client to the diverse network of health care professionals.

5. Treatment Modalities in Physical Therapy

Physical therapists employ various treatment modalities in the care of sports injuries; others use different treatments depending on the severity of the injury. For example, ice, heat, ultrasound, shortwave diathermy, interferential therapy, traction, massage, and electrical stimulation are treatment modalities used to control pain. Additional therapies like whirlpool baths also help in reducing pain and controlling heat. Heat causes blood vessels to expand, and thus more blood supply is directed to the painful region. This helps in transporting away the harmful products. It also prepares the tissues for medium penetration. It is used to treat conditions where there is a lot of tension in the muscles, like myositis, muscle spasm, tendinitis, synovitis, etc. The best time to apply a heat pack is for 20 to 30 minutes, three to four times a day. Ultrasound therapy uses the pressure waves of sound and provides deep heating to the areas treated. It is mainly used for inflammatory conditions and for inflamed joint conditions. The use of shortwave diathermy produces electromagnetic energy that generates heat under the surface of our skin. This energy is absorbed by the tissues and provides deep heating. In turn, it increases the tissue's mobility, metabolism, and elasticity. It's used to relax tight muscles, relieve spasms, alleviate pain, and increase the range of motion of the affected joint. Over 20 minutes is suitable for the hot pack. (Prentice, 2024)

5.1. Manual Therapy Techniques

Physical therapists are known to use a variety of manual therapy techniques as part of a suggested treatment regimen. Joint mobilizations and manipulations are two distinct categories of manual therapy. Each has unique mechanisms of action and clinical indications.

A joint manipulation is a passive, high-velocity, low-amplitude thrust applied to a joint that is performed at a point in the available range of motion of a joint. It is applied directly by the therapist or through the use of an assisting device with the goal of imparting a biomechanical and/or neurophysiological influence to adjacent tissue and the central nervous system. The ultimate goal is to increase the mechanical and physiological function of the joint in order to reduce pain, increase range of motion, and improve regional-aligned movement. The main benefits of manipulation are largely based on the unexpected large amplitude movement that can generate a cavitation, which is an event causing an audible popping sound. The cavitation is a supposed commotion of nitrogen gas bubbles inside the joint and is not needed for the force effect. (Lo et al.2024)

Joint mobilization procedures are passive movement techniques applied at varying speeds and amplitudes to joints and related soft tissues. These procedures are usually identified through regional distraction, roll, glide, and/or slide, as performed at varying amplitudes, speeds, and over varying amounts of time, to stretch and influence the mechanics and neurophysiology of articulating joints. Joint mobilization techniques frequently avoid the cavitation phenomenon related to manipulation; however, near the time it is just simply applied with less force. Oftentimes, pain and stiffness reduction as well as improvements in articular mobility can be achieved without a cavitation by the application of a low-amplitude, high-velocity force. (Pfluegler et al.2021)

5.2. Therapeutic Exercises

After surgery, patients may feel a sense of loss or disconnection from their body. They may lose confidence, fear re-injury, and may feel a loss of ability to control their body. It is important to help the patient overcome these issues. Establishing a strong mind-body connection is important. Patients need to feel that the operated and non-operated sides are balanced; they need to feel that the extremity is safe and able to take weight; and they need to feel that the operated limb can fulfill the expectations they had before their injury. General guidelines should be followed. In general, active exercises are better than passive ones. Open chain exercises are to be avoided initially. It is better for the patient to perform the movement rather than the therapist. Exercises should not be done to failure. Exercise should involve not only the extremity but the whole body and its kinetic chains. Pain is not a good guide, especially in protocols. Post-operative patients should move their body as naturally as possible. The best rehabilitation technique involves an accurate diagnosis, choice of specific outcomes, and quantitative tests. (Coyle et al.2023)

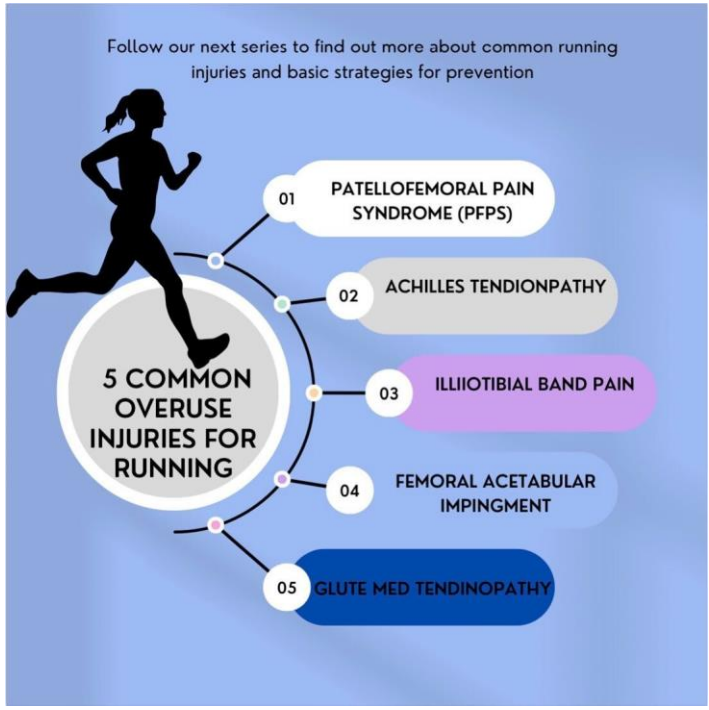
In general, therapeutic exercise mats for the initial post-injury period should be used for training, whether moving and bearing weight or when simply positioned and proceeding with rehabilitation exercises. In terms of general guidelines, the muscle

will recruit large motor units with intensities from 70% to 85% of 1RM. Tools must rely on the recruitment of these fiber types, meaning fast and ballistic movements with a high eccentric component. Coordination, balance, and proprioception should be addressed with unstable situations in open and closed kinetic chain rehabilitation exercises. Strength must be gained within the muscle-specific velocity. Closed kinetic chain exercises should be used initially after surgery, and open kinetic chain exercises should be used more than a few weeks post-op. Reduced activation in multi-joint exercises means less stress on the musculotendinous units. Exercises performed in the first days or weeks could be a regression of the more basic exercises. In conclusion, in a general rehabilitation context, each rehabilitation protocol should go through specific phases of treatment and should be prescribed according to the clinical findings. There is no evidence that every possible exercise improves strength and function following an injury. (Law & MacDermid, 2024)

6. Prevention Strategies for Sports Injuries

To further reduce the injury risk, stakeholders in sports must take a broader perspective wherein steps are taken from the primary prevention of sports injury and illness at the population level, to reduce the burden of sports injuries and disease, and to safeguard an effective and fair system for all. The need for effective and widely applicable injury prevention strategies is increasing as we meet an ever-louder community promoting sports activities that are vital for a child's development and also important in rehabilitation. Governments and other stakeholders responsible for organizing and promoting sports activities for the whole population are recognizing more and more that injury on the field is not only a direct medical and social cost but also implies an indirect cost for the economy and society as a whole, as it often requires the long-term care of invalid athletes. (Husereau et al.2022)

The definition and description of these prevention tools are the result of hard work and could be considered the first standard definition for sports injury prevention tools. However, these are all tools designed to prevent specific types of injuries in sports, which were characterized 4,000 years ago by intensive physical preparation and precocious specialization. The recent evolution of sports has made them increasingly attractive and lucrative, involving all children, adolescents, and adults, and has focused on the selection of those who can reach the highest levels in a particular sport. Once selected, it has highlighted the need and the opportunity to prevent something that will allow athletes and clubs to maintain a high profile over time. The prevention of accidents in sports has therefore a twofold and consistent purpose: to protect the health of all citizens from these risks and to protect, in the performance of sports activities, the sacred idol who makes his social role his profession. (Impellizzeri et al.2020)



An important aspect of managing sports injuries and preventing future injuries, particularly in female athletes, is the use of strength and conditioning programs that are designed specifically for the specific sport. It is crucial that the development of a strength and conditioning program is both safe and specific for that particular sport. Such a program will aim to develop the strength and conditioning necessary to meet the demands of the sport. These programs, particularly those aimed at injury management, need to address the areas of physical weakness that have been found to be more prevalent in female athletes, while maximizing a female athlete's natural athleticism, rather than turning her into a "mini-male" athlete. It is also important to recognize the different training requirements of female athletes, and these differences must be considered when developing strength and conditioning programs. In order for these programs to be successful, female athletes who are subject to them need to take ownership of their programs. Female athletes must not be too engrossed in their sport before any proper strength training or conditioning programs are implemented, with the knowledge that adherence to such programs will enhance performance, prevent injuries, extend the longevity of their sporting careers, and improve their overall health. (Jeffreys & Moody, 2021)(Ratamess, 2021)(Zatsiorsky et al., 2020)

7. Case Studies and Success Stories

Case Study 1: Rehabilitation of an Achilles Tendon Injury The athlete was a 29-year-old, active sports and training enthusiast. At the time of initial evaluation, the patient had suffered from an Achilles tendon injury for 18 months and had been treated with

a steroid injection and rest but unfortunately experienced a relapse of symptoms after restarting physical activity. At that time, the patient had Achilles tendon pain at the tendon attachment, bilateral foot pain, and limitations in activities of daily living and sports. The patient also showed muscle atrophy of the calf muscles and poor flexibility and strength in the toes and ankles, which led to decreased gait ability, as well as immobility. Therefore, the limitations and movement disorder of the patient were represented in the satisfaction of gait, decreased range of motion, and a reduction in strength and muscle mass in the Achilles tendon area. (Biz et al.2021)

Case Study 2: Changes in Muscular Strength and Explosive Power The patient was a 43-year-old amateur athlete. He is a personal trainer and had acute left shoulder pain diagnosed as a supraspinatus tendon partial tear in a shoulder MRI and treated by a doctor of osteopathy with PRP injection, rest, use of a brace, TENS, and scapulothoracic rehabilitation for the physical therapy he received between August 2011 and January 2012. The patient felt unable to return to previous physical activity before the injury and reported muscle imbalance, tightness, and sprain during overloading. His dominant hand's strength was asymmetrically reduced in the intrascapular, middle deltoid, and upper trapezius muscles. The most painful shoulder elevation and AFI tests of weak external rotation involved shoulder pain accompanied by decreased force, limiting physical activity. (Jo et al., 2020)

8. Ethical Considerations in Sports Injury Management

Physical therapy is not only used as an adjunct to the care of injured athletes but is also increasingly seen as the treatment of choice. In this section, standards for acceptable treatment are addressed. Although the original development of the guidelines began with health care providers, important insights were contributed by athletes themselves and coaches. We believe in the importance of team play among all involved in injured athlete rehabilitation. (Kongsted et al.2021)

The panel acknowledges the importance of complete medical information. Open exchange of information and freely offered advice are essential to the rehabilitation process. The panel concurs with the provision that the athlete should be given the fullest possible information about the nature of the injury, the course of rehabilitation, risks, and the amount of time required to regain fitness. Openness of communication not only facilitates treatment but also creates a climate of trust that is critical to the ultimate success of the rehabilitation process.

The spirit of the guidelines regarding financial and time constraints involves the recognition that a continuum of care must be assured to the injured athlete. Cost-effectiveness in professional and amateur sports may result from an awareness of where in the rehabilitation process physical therapy services can best be used. The guidelines' desire to keep the athlete as the central focus of sports medicine reflects the values of the health care provider.

9. Future Directions in Physical Therapy for Sports Injuries

Based on the findings and applied research in the area of sports medicine, as well as

improved collaborative efforts between sports medicine and sports physical therapy, we will begin to observe several exciting and positive changes within the field of physical therapy in particular and the sports medicine community in general. Most significantly, there will be a sharper focus on sports physical therapy intervention at the level of sports-specific practice and game activities. As the emphasis becomes more behaviorally directed and is developed within the work and practice activities, their responses and functional improvement more closely mirror the athlete's abilities and progress, enhancing the development of the work-performance continuum. Consequently, decreased time intervals until return to full competitive training will be one major indicator that improved intervention programs are being developed. (Stokes et al.2020)

Profiles of return-to-play performance and competitive capabilities will need to be developed to track the effects of reducing the gap between the end phases of physical therapy and performance skills. There is an even stronger need to fit exercise modalities within specific equipment and performance situations in team and individual sport settings so that the advantages of sport-specific conditioning have no trade-offs for the athlete. Other sports medicine disciplines will be challenged to explore modifications of coaching, protective, and conditioning measures, thus narrowing the blind spot that occurs after the athlete's return to competitive activity. Learning and leadership development are crucial issues that clients often report as secondary gains from their sports therapy programs. More specific information is needed on effective programs to maximize and enhance the athlete's return-to-competition skills, commencing with the initiation of physical therapy. (Moore et al.2023)

10. Results

All groups and sectors indicated the need for sports first aid response support from a range of significant stakeholders, including but not limited to event organizers, professional associations, regulating bodies, the Ministry of Education, school boards, and local government. Over one-third of participants made specific suggestions and recommendations in response to the study objective, including the need for formalized recognition and specific roles and accountabilities in event safety and first aid for significant stakeholders, as well as sports coverage or special local funding in support of more event medical services and equipment. Three distinct service level orientations were identified: general event, event medical staff, and athletic trainer and paramedic. Based on policy implications, a difficulty protocol is offered in the possibilities for improving safety and first aid support in sports events for the ratepayer's sports community. Most injury policy is formulated to address direct medical services for a specific population. Quality physical therapy is an important adjunctive service of a viable healthcare delivery system. When consumers have unhampered access to institutional, private practice, and implemented practice options, and caregivers have a full range of referral options, better healthcare may result. (Lin & Lai, 2024)

We specialized by age, site of injury, and treatment to describe the use of physical therapy and its perceived effectiveness. Community physical therapy was

experienced by 82% of respondents, with an overall satisfaction rate of 5.7/7. Descriptive differences were found in care patterns and effectiveness based on the age and site of injury of the respondents. A community physical therapist was seen by 88.1% of individuals who experienced a sports injury in the previous year. A smaller proportion of children aged 6–11 years (82.1%) used physical therapy compared to those aged 12–17 (30.2%) and those aged 18–30 (13.5%). Use was uniform by race, sex, and school type categories. Significantly more athletes sought physical therapy services for an upper extremity injury compared to a lower extremity injury or other medical issues. Home exercise programs were given 94.5 percent of the time, while 82.3 percent reported the use of a modality. Most respondents were 'very satisfied' with their PT care. Participants treated for lower extremity injuries perceived an improvement in their athletic performance that was less often seen in the groups treated for an upper extremity injury or other medical conditions. (Vincenzo et al.2024)

11. Discussion

Physical therapies may also be effective in preventing sports injuries since preparatory massage and stretching exercises increase the pliability of muscles, tendons, and ligaments, and help to diminish the effect of abrasion. Post-exercise massage and stretching exercises prevent delayed stiffness and soreness that are frequently encountered. It has been observed that a preventive program to decrease future injuries will include exercise programs to develop strength, flexibility, and endurance, along with periodic muscle-relaxing massage and stretching exercises. Furthermore, protective strapping and the use of properly designed orthoses that restrict the amount of motion through the body segments may also be important in preventing further injury until adequate strength and mobility are developed following healing. (Martin et al.2022)

It is critical that the physical therapy program be tailored to the specific needs of the injured individual, and proper evaluation and treatment during the rehabilitative phase are required. Proper progression is again critical to the development of strength, endurance, and flexibility. Progression must also meet the requirements of the individual whose goal in competition is to be more functional at an earlier time. Frequent mild stretching exercises conducted over prolonged periods are more painful than stretching exercises performed with greater intensity and at shortened intervals. These positive physical results do not occur if the patient is not motivated by the pain level reached. Furthermore, the patient must be repeatedly warned of the sequelae that could result because of missed exercises and decreased demand placed on the structures involved in sports activities. (Felten-Barentsz et al.2020)

12. Conclusion

The importance of physical therapy in managing sports injuries cannot be overemphasized. This is due to the fact that physical therapy is able to help a functionally limited individual regain complete function by helping the individual regain adequate strength, coordination as well as other functional abilities. As such,

physical therapy is able to help an individual return to full function faster after sports injuries. In a society where obesity has become a major problem, the importance of participating in sports and other physical exercises has been globally recognized. This is due to the fact that sports and physical exercises help people to stay fit by being able to burn a lot of energy. However, sports activities sometimes result in painful circumstances. This has the tendency to discourage inactive individuals from participating in sports activities. This can however be a thing of the past if emphasis is laid on the importance of physical therapy. This can help individuals who get hurt while participating in sports to return to full function earlier than normal. (Gennarelli et al.2020)

References

Amjad, F., Mohseni-Bandpei, M. A., Gilani, S. A., Ahmad, A., & Hanif, A. (2022). Effects of non-surgical decompression therapy in addition to routine physical therapy on pain, range of motion, endurance, functional disability and quality of life versus routine physical therapy alone in patients with lumbar radiculopathy; a randomized controlled trial. BMC Musculoskeletal Disorders, 23(1), 255. springer.com

Kolt, G., & Snyder-Mackler, L. (Eds.). (2007). Physical therapies in sport and exercise. Elsevier Health Sciences. https://goo.su/Fb7L

Bahr, R., & Mæhlum, S. (2004). Clinical guide to sports injuries. Human Kinetics. https://goo.su/lDng

Paul, J., Brown, S. M., & Mulcahey, M. K. (2021). Injury prevention programs for throwing injuries in softball players: a systematic review. Sports health. nih.gov

Ishøi, L., Krommes, K., Husted, R. S., Juhl, C. B., & Thorborg, K. (2020). Diagnosis, prevention and treatment of common lower extremity muscle injuries in sport–grading the evidence: a statement paper commissioned by the Danish Society of Sports Physical Therapy (DSSF). British journal of sports medicine, 54(9), 528-537. bmj.com

Orchard, J. W., Meeuwisse, W., Derman, W., Hägglund, M., Soligard, T., Schwellnus, M., & Bahr, R. (2020). Sport medicine diagnostic coding system (SMDCS) and the orchard sports injury and illness classification system (OSIICS): revised 2020 consensus versions. British journal of sports medicine, 54(7), 397-401. bmj.com

Elsayed, W. (2021). Covid-19 pandemic and its impact on increasing the risks of children's addiction to electronic games from a social work perspective. Heliyon. cell.com

Taylor, J., Stone, K. R., Mullin, M., Ellenbecker, T. S., & Walgenbach, A. (Eds.). (2003). Comprehensive sports injury management: From examination of injury to return to sport. Lippincott Williams & Wilkins. https://goo.su/i5XUCh

Prentice, W. (2024). Rehabilitation techniques for sports medicine and athletic training. [HTML]

Hickey, J. T., Opar, D. A., Weiss, L. J., & Heiderscheit, B. C. (2022). Hamstring strain injury rehabilitation. Journal of athletic training, 57(2), 125-135. allenpress.com

Fernandez, J., Lunkes, L. C., & Meziat-Filho, N. (2021). Biopsychosocial approaches to telerehabilitation for chronic primary musculoskeletal pain: a real possibility for physical therapists, that is here to stay. Brazilian Journal of Physical Therapy, 26(1), 100350. nih.gov

Hyde, T. E. (2007). Conservative management of Sports Injuries. Jones and Bartlett Publishers. https://goo.su/cTEn3

Haraldsdottir, K. & Watson, A. M. (2021). Psychosocial impacts of sports-related injuries in adolescent athletes. Current sports medicine reports. [HTML]

Prentice, W. (2024). Rehabilitation techniques for sports medicine and athletic training. [HTML]

Arvinen-Barrow, M., & Walker, N. (Eds.). (2013). The psychology of sport injury and rehabilitation (pp. 117-131). Abingdon: Routledge. https://goo.su/tSBgL

Lo, C. N., Tsang, E. W., & Ngai, S. P. C. (2024). The effectiveness of neuromuscular spinal manipulation-an updated systematic review and meta-analysis. International Journal of Osteopathic Medicine, 100731. [HTML]

Gledhill, A., & Forsdyke, D. (Eds.). (2021). The psychology of sports injury: from risk to retirement. Routledge. https://n9.cl/s2njd

Pfluegler, G., Borkovec, M., Kasper, J., & McLean, S. (2021). The immediate effects of passive hip joint mobilization on hip abductor/external rotator muscle strength in patients with anterior knee pain and impaired hip function. A randomized, placebo-controlled crossover trial. Journal of Manual & Manipulative Therapy, 29(1), 14-22. nih.gov

Tecklin, J. S. (Ed.). (2008). Pediatric physical therapy. Lippincott Williams & Wilkins. https://n9.cl/jj0qg

Coyle, M., Jaggi, A., Weatherburn, L., DanielI, H., & Chester, R. (2023). Post-operative rehabilitation following traumatic anterior shoulder dislocation: A systematic scoping review. Shoulder & Elbow, 15(5), 554-565. sagepub.com

Law, M. & MacDermid, J. (2024). Evidence-based rehabilitation: A guide to practice. [HTML]

Husereau, D., Drummond, M., Augustovski, F., de Bekker-Grob, E., Briggs, A. H., Carswell, C., ... & Staniszewska, S. (2022). Consolidated health economic evaluation reporting standards (CHEERS) 2022 explanation and elaboration: a report of the ISPOR CHEERS II good practices task force. Value in health, 25(1), 10-31. sciencedirect.com

Impellizzeri, F. M., Menaspà, P., Coutts, A. J., Kalkhoven, J., & Menaspà, M. J. (2020). Training load and its role in injury prevention, part I: back to the future. Journal of athletic training, 55(9), 885-892. allenpress.com

Jeffreys, I. & Moody, J. (2021). Strength and conditioning for sports performance. [HTML]

Ratamess, N. (2021). ACSM's foundations of strength training and conditioning. [HTML]

Zatsiorsky, V. M., Kraemer, W. J., & Fry, A. C. (2020). Science and practice of strength training. [HTML]

Taylor, J., & Taylor, S. (1997). Psychological approaches to sports injury rehabilitation. Lippincott Williams & Wilkins. https://n9.cl/10zcf

Biz, C., Cerchiaro, M., Belluzzi, E., Bragazzi, N. L., De Guttry, G., & Ruggieri, P. (2021). Long term clinical–functional and ultrasound outcomes in recreational athletes after achilles tendon rupture: ma and griffith versus tenolig. Medicina, 57(10), 1073. mdpi.com

Jo, Y., Kim, W. J., & Lee, H. (2020). Healing of partial tear of the supraspinatus tendon after atelocollagen injection confirmed by MRI: a case report. Medicine. lww.com

Kongsted, A., Ris, I., Kjaer, P., & Hartvigsen, J. (2021). Self-management at the core of back pain care: 10 key points for clinicians. Brazilian journal of physical therapy, 25(4), 396-406. sciencedirect.com

Stokes, K. A., Jones, B., Bennett, M., Close, G. L., Gill, N., Hull, J. H., ... & Cross, M. (2020). Returning to play after prolonged training restrictions in professional collision sports. International journal of sports medicine, 41(13), 895-911. thieme-connect.com

Moore, E., Fuller, J. T., Bellenger, C. R., Saunders, S., Halson, S. L., Broatch, J. R., & Buckley, J. D. (2023). Effects of cold-water immersion compared with other recovery modalities on athletic performance following acute strenuous exercise in physically active participants: a systematic review, meta-analysis, and meta-regression. Sports Medicine, 53(3), 687-705. fisiologiadelejercicio.com

Lin, S. K. & Lai, J. N. (2024). Enhancing Traditional Chinese Medicine healthcare system in Taiwan post-COVID-19 pandemic: A strategic focus on specialization. Journal of the Formosan Medical Association. sciencedirect.com

Vincenzo, J. L., Caulley, J., Scott, A. J., Wilson, B. S., Wingood, M., & Curran, G. M. (2024). Integrating STEADI for falls prevention in outpatient rehabilitation clinics: An outcomes evaluation using the RE-AIM framework. The Gerontologist, 64(4), gnad117.

[HTML]

Martin, R. L., Cibulka, M. T., Bolgla, L. A., Koc Jr, T. A., Loudon, J. K., Manske, R. C., ... & Dauber, J. A. (2022). Hamstring Strain Injury in Athletes: Clinical Practice Guidelines Linked to the International Classification of Functioning, Disability and Health From the Academy of Orthopaedic Physical Therapy and the American Academy of Sports Physical Therapy of the American Physical Therapy Association. Journal of Orthopaedic & Sports Physical Therapy, 52(3), CPG1-CPG44. jospt.org

Felten-Barentsz, K. M., van Oorsouw, R., Klooster, E., Koenders, N., Driehuis, F., Hulzebos, E. H., ... & van der Wees, P. J. (2020). Recommendations for hospital-based physical therapists managing patients with COVID-19. Physical therapy, 100(9), 1444-1457. oup.com

Gennarelli, S. M., Brown, S. M., & Mulcahey, M. K. (2020). Psychosocial interventions help facilitate recovery following musculoskeletal sports injuries: a systematic review. The Physician and Sportsmedicine, 48(4), 370-377. [HTML]