



## **Level of Knowledge of Sports Coaches and Physical Education Teachers in Physical Therapy in Jordan**

**Riziq Allah Gaowgzeh <sup>a#</sup>, Shenbaga Sundaram Subramanian <sup>b\*#</sup>,  
Mikhled Falah Maayah <sup>c</sup>, Saad S. Alfawaz <sup>a</sup>, Ziyad Neamatallah <sup>a</sup>  
and Thamer Ahmad Altam <sup>d†</sup>**

<sup>a</sup> Department of Physical Therapy, Faculty of Medical Rehabilitation Sciences, King Abdulaziz University, Jeddah, 21589, Saudi Arabia.

<sup>b</sup> Chettinad School of Physiotherapy, Chettinad Hospital and Research Institute, Chettinad Academy of Research and Education, Kelambakkam-603103, Tamil Nadu, India.

<sup>c</sup> Department of Rehabilitation Sciences, Faculty of Applied Medical Sciences, Jordan University of Science and Technology, P. O. Box: 3030, Irbid 22110, Jordan.

<sup>d</sup> Department of Physical Therapy, College of Applied Medical Sciences, Jouf University, KSA.

### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

### **Article Information**

DOI: 10.9734/JPRI/2021/v33i56A33891

### **Open Peer Review History:**

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/76669>

**Original Research Article**

**Received 06 October 2021**

**Accepted 13 December 2021**

**Published 13 December 2021**

## **ABSTRACT**

Physiotherapy is a profession that helps to restore movement and function following an injury or illness. This study sought to identify the physical therapy knowledge of physical education teachers and sports coaches in Jordan. This study is a cross-sectional study conducted on several sports coaches and physical education teachers in Jordan. Participants were given the questionnaire through google forms, and they were all advised to fill it up. A predetermined selection criterion was used to select the participants. Out of 250 volunteers chosen for the study, only 152 questionnaires were selected for the final analysis. A self-administer questionnaire consisting was developed, which includes two parts. Part I collects the demographical data, and part II contains the questionnaires, including physiotherapy. The consent form is attached with the questionnaire, and those who gave consent to use the data were included in the analysis. Collected data were

<sup>#</sup> Associate Professor;

<sup>†</sup> Assistant Professor;

analyzed using SPSS 20.0. with the alpha set for significance at <0.05. Overall, it identified that 84% of the sports coaches and physical education teachers know physiotherapy services well. This study concluded that a more significant proportion of the sports coaches and physical education teachers have a good understanding of physical therapy services provided to the sports personnel in Jordan. They have good knowledge of physical therapy techniques and services provided, and they also have a good understanding of their role in on-field and off-field management.

**Keywords:** *Physical therapist; sports coaches; physical education teachers; knowledge; physical therapy services; Jordan.*

## 1. INTRODUCTION

Physical therapy is one healthcare professionals who evaluate, treats, and prevents disabilities. Physical therapy helps restore movement and function following the injury or illness [1]. Physical therapy plays a significant role in preventing, restoring, and rehabilitating injuries occurred during sports [2]. Musculoskeletal injuries are inevitable in sports participants, and it is common for both recreational players and competitive athletes. The physical therapist plays a significant role in rehabilitating injured players to restore their normal fitness levels following injury [3]. Depending on the type of injury, the physical therapist structures a rehabilitation program that includes stretching, strengthening, mobilization, and preventive techniques [1].

Sports injuries occur while participating in sports, which may be due to overuse or direct impact or may be due to the application of the greater force that the body can't withstand [4]. Sports injuries are harmful to an athlete's health and can result in permanent impairment or even the end of their athletic career. Injuries also strain the healthcare system, as sports injury treatments are expensive and time-consuming [5]. Neglecting these injuries may be devastating and lead to a progressive damage increase [6]. Proper physical therapy helps in the rehabilitation and restoration of sports injuries [7].

Physical therapy services in sports on the field or off-field are not well known in Jordan. The physical therapist has a significant role in preventing injuries in athletes and professional sports players. Coaches and Physical education teachers underutilize the physical therapist's role and their services. Lack of professional expertise in the acute injury or the management of sports injuries and poor rehabilitation and improper training may lead to a deficit of the player's performances [8].

Sports-related injuries are frequent reasons people cease participating in sport or recreational

activities [9]. The study conducted by Mujalli [10] has concluded that the most common sports injuries were sprains in the muscles, ligament strains, rupture of the ligaments, and fracture of the bones [10]. About 55% of individuals suffer from various forms of sports injuries. The study also showed that shoulders and ankles were common injuries [11].

Many sports coaches and trainers aren't having much knowledge about the physical therapist's role in sports. Sports coaches and teachers have a lack of knowledge about the physical therapist's role in sports rehabilitation [7]. This study has raised the question of identifying the role of a physical therapist on sports coaches and physical education teachers involved in sporting and athletic events [12]. There are minimal studies that study the awareness of coaches and physical education teachers. A similar survey of Chiwaridzo [13] showed that about 66% of sports coaches have profound knowledge of physical therapy [13]. Studies have explored the awareness of medical personnel and high school students' awareness of physical therapy knowledge [14,15,16].

Similarly, various studies identified that poor knowledge about physiotherapy is highly seen in high school teachers, high school students, the general public, Anganwadi workers, and medical aspirants [12,15,16,17,18]. Improving the awareness about the physical therapy services is of the utmost importance for better handling of the sports injuries, prevention of injuries, rehabilitation of injuries, and making the players return to the play. This study is aimed to identify the knowledge of physical therapy among the sports coaches and the physical education teachers in Jordan.

## 2. METHODOLOGY

A cross-sectional study was conducted at various locations in Jordan. The study collects data from Jordan's sports coaches and physical education teachers. Participants in the study were recruited from multiple locations in Jordan, so this study

uses cluster sampling. They created selection criteria before the inclusion of the participants for the study. The blinded researcher included those who fell into the criteria in this study. The selection criteria include all sports coaches and physical education teachers, both genders, the age group from 25-70 years, sports coaching or physical education teachers, willingness to participate in the study, and who understands English. Directors of sports, Sports coordinators, team managers, and masseurs are excluded from the study.

Study Recruited 250 (Two hundred fifty) volunteers. A self-created questionnaire was distributed to the participants through google forms. The questionnaire was self-administered, adapted from Chiwaridzo [13]., 2015, consisting of part I, which collects the participants' demographic data. Part II contains the participants' experience, knowledge about physical therapy, their role in sports injuries, and so on... The participants provided an ample amount of time to send the questions back to the authors. A panel made this questionnaire of senior physical therapists, sports coaches, and statisticians. Two senior physical therapists who work in sports physical therapy centers and with the sports team reviewed this questionnaire. Upon approval from them, the questionnaire was used for the study. The study was conducted for six months of duration.

Once permission is obtained from the schools and sports centers, emailed the study questionnaire to the physical education teachers and the sports coaches. The consent form was also attached with the questionnaire. Those who consent to use the data were included in the data analysis. A questionnaire has information that details the validation of the study to participants. Collected questionnaires were kept secret so that no one could use them without proper permission. Once the questionnaires were received, Sent a small thank you note was sent to every participant of this study. A total of 250 questionnaires were dispatched and received 179 back. One hundred fifty-six questionnaires received were filled up, so others were ruled out due to incomplete submission, missing information, not mentioning appropriate data, and double-entry over the questions. Of 156 participants, four were not given consent, so this study uses 152 questionnaires and analyzed. Descriptive statistics were used to analyze the data.

### 3. RESULTS

The results were calculated using descriptive statistics with SPSS 20.0. Table I shows the demographic analysis, table II shows the specialist in sports, and Table III shows the knowledge about the physical therapist by the coaches and physical education teachers.

Table 2 shows the participants specialization in the sports events, the majority of this study participants are team sports, it was noted about 65% are training team sports and 35% training individual events. It was also noted that their participants have high knowledge on the physical therapy services in both the team events and the individual events.

Table 3 shows the knowledge about physical therapy in the study participants. It was identified that 87% have a piece of good knowledge on physiotherapy and its uses. 52% have selected physical therapy services are essential in first aid, and 42% answered as injury management. Most of the participants answered the types of equipment used by the physical therapist. 32% has supported exercises and ICE, whereas 10% support bandages & electrotherapy. A question was raised on warming up and cool down and its importance; most participants helped warm-up and cool down (99% & 95%). Question on the reinjury and disability was answered that 95% supports early participation cause reinjury and 84% supports long term injury cause disability. Many participants know the physiotherapy treatments well; about 64% select exercises as a treatment measure, and 31% select massage. Regarding physical therapy services, 94% support that physical therapist are essential during and after the match.

Table 4 shows that about 84% of the sports coaches and physical education teachers know physiotherapy services well. There was no significant found between the gender of the participants.

### 4. DISCUSSION

This study sought to identify the level of knowledge on physical therapy and its role in sports professionals among the physical education teachers and sports coaches in Jordan. Evaluating the knowledge about physical therapy on sports coaches and physical education teachers has produced a positive impact. However, the studies are minimal.

Table 1. Demographical analysis

S. N	Demographic Analysis	No of participants	Frequency
1	<b>Gender</b>		
	Male	79	52%
	Female	73	48%
2	<b>Age classification</b>		
	20—25	1	1%
	26—30	15	10%
	31—35	39	26%
	36—40	37	24%
	41—45	25	16%
	46—50	20	13%
	> 50	15	10%
3	<b>Educational</b>		
	Diploma	3	2%
	Bachelor	114	75%
	Master	26	17%
	Doctorate	9	6%
4	<b>Sports Training Certificate</b>		
	Yes	67	44%
	No	85	66%
5	<b>Number of years in Coaching</b>		
	1—5 yrs	47	31%
	6—10 yrs	31	20%
	11—15 yrs	44	29%
	16—20 yrs	18	12%
	21—25 yrs	5	3%
	> 25 yrs	7	5%

Table 2. Specialist in Sports

S. N	Sports Specialist	No of participants	Frequency
1	Athletics	28	18%
2	Badminton	14	9%
3	Basket ball	18	12%
4	Football	30	20%
5	Hand ball	20	13%
6	Ping pong	3	2%
7	Running	6	4%
8	Swimming	19	13%
9	Volley ball	14	9%

Table 3. Knowledge on Physiotherapy

S. N	Physiotherapy Knowledge	No of participants	Frequency
1	<b>Physiotherapy is about</b>		
	Identification and Management of Acute injury	1	1%
	Maximizing health	6	4%
	Optimizing movement efficiency	12	8%
	Treatment & Rehabilitation of Injury	133	87%
2	<b>Does physiotherapy have therapeutic benefits?</b>		
	Yes	149	98%
	No	3	2%
3	<b>Having personally benefited from physiotherapy</b>		
	Yes	108	71%

	No	44	29%
4	<b>Where does Physical therapist Work</b>		
	Government Hospital	34	22%
	Private Hospitals	58	38%
	Sports Centers	60	40%
5	<b>Physical therapist Gender</b>		
	Male/ Female	28	18%
	Both	124	82%
6	<b>Which of the following factors make a person more likely to be attended to by physical therapist?</b>		
	Back Pain	15	10%
	Broken Bones	26	17%
	Joint Pain	16	11%
	Ligament Injury	52	34%
	Muscle Pain	43	28%
7	<b>Sports physical therapist attends to the following areas.</b>		
	First Aid treatment	79	52%
	Injury Prevention	8	5%
	Injury Treatment	63	42%
	Surgery	2	1%
8	<b>The equipment used by the physical therapist includes the following.</b>		
	Bandages	16	10%
	Electrical Machines	16	10%
	Exercises	48	32%
	ICE	48	32%
	Training Beds	12	8%
	Walking Aids	12	8%
9	<b>Does warming up before the game and training reduce the risk of injury?</b>		
	Yes	151	99%
	No	1	1%
10	<b>Does Cool down before the game and training reduce the risk of injury?</b>		
	Yes	145	95%
	No	7	5%
11	<b>Does Strapping done before or after the game reduce the risk of injury?</b>		
	Yes	137	90%
	No	15	10%
12	<b>Does returning too early to play after the injury lead to re-injury?</b>		
	Yes	144	95%
	No	8	5%
13	<b>Does playing with injury lead to disability?</b>		
	Yes	127	84%
	No	25	16%
14	<b>Can the physical therapist conduct training sessions with the team?</b>		
	Yes	132	87%
	No	20	13%
15	<b>Physiotherapy treatment includes</b>		
	Education	7	5%
	Exercises	97	64%
	Massage	48	31%
16	<b>Physical therapist provide services</b>		
	During the game matches only	3	2%
	During the training & game matches	143	94%
	During training matches only	6	4%

**Table 4. Level of Knowledge**

Level of Knowledge	Frequency	Male	Female	P value
Inadequate	128 (84%)	65(82%)	63 (86%)	0.043
Adequate	24 (16%)	14 (18%)	10 (14%)	

This study highlights the importance of physical therapy in sports and athletics. Since there are few previous studies on assessing the knowledge, this study identifies various inputs. This study has exhibited that 98% of the sports coaches and physical educators have an adequate understanding of physical therapy. This is so important for the sports coaches and the physical education teachers to advise to employ the physical therapist as a full-time or part-time based on the resources available. However, few investigations have assessed physiotherapy awareness among specific sports coaches, although studies on others support this study [15,19,20].

This study is encouraging that about 98% of the participants have good knowledge of therapeutic approaches by the physical therapist. They are also aware of their role in the treatment and rehabilitation of sports injuries. These findings have suggested that the physical educators and sports coaches are aware of the physiotherapy services [21]. Although coaches and teachers have adequate conceptual knowledge about the importance of physical therapists, the service they receive is insufficient. This study shows that only 1% of the coaches have sports therapists, whereas 99% don't have. However, the reduction of the recruitment of the physical therapist may be due to financial constraints, administrative grounds, and fewer sponsorships. There is a need for a sports therapist who can prevent, restore, and rehabilitate injured sportspeople [22].

This study also exposed that the participants are well aware of the conditions used to treat by the physical therapist. A study done by Gbadamosi [23], 2015 has identified that managers of the soccer team have good knowledge of physiotherapy in preventing and treating soccer-related injuries [20]. The coaches and physical educators have to insist the management appoint physical therapists in their teams and the schools to prevent, treat, and rehabilitate the sports personnel.

Less number of physical therapy professionals in the country makes them more expensive. Moreover, the physical therapist prefers to work

more on the professional teams than the amateur clubs, which aids difficulty in using service [24]. So, it is always vital for the sports coaches and physical education teachers to know physiotherapy services well [25]. Based on the study findings, it was inferred which there was good knowledge on the role of physical therapy in sports coaches and physical education teachers. The physical therapist's role is significant in preventing and treating injuries. In addition, they also play an essential role in the rehabilitation of the damage.

The limitations of this study are that a limited number of studies aids difficulty in comparing the results with the previous ones. This study didn't analyze the influence of educational levels or the other few factors. Participants are voluntarily accepted, and many have not given concern, and the questionnaires are not returned. This study collects only the basic information about physiotherapy services. Previous knowledge about physical therapy services is not known. An open-ended questionnaire and Yes or no type is used in this study, and other study questionnaires need to be created to get more qualitative analysis. Future study needs to compare sports coaches with athletes to identify their views on this topic. Larger sample size is also required.

**5. CONCLUSION**

This study concluded that a more significant proportion of the sports coaches and physical education teachers have good knowledge of physical therapy services provided to the sports personnel in Jordan. They have a good understanding of physiotherapy methods and know various therapy services.

**CONSENT**

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

**ETHICAL APPROVAL**

The instructional ethical committee approved this study.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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