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A case study of sports injuries among tennis players in Babylon governorate

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Abstract

This study aims to analyze common sports injuries among tennis players in Babylon Governorate, identifying their types, locations, and causes, given the lack of previous studies specifically addressing this group. The researcher used a descriptive survey methodology, deemed most suitable for the nature of the problem. The sample consisted of 75 players who train and compete in clubs within the governorate. Data were collected through a questionnaire whose validity and reliability were verified, achieving a reliability coefficient of 96.7% using Pearson's correlation coefficient. The data were then statistically analyzed using SPSS software, employing frequencies and percentages. The results showed that injuries are common among tennis players, with muscular and skeletal contusions being the most prevalent, followed by sprains and strains. Nerve injuries were the least frequent. The study also indicated that the most commonly injured body parts were the head, shoulders, neck, and nose, while injuries to the upper arm and small joints were less frequent. Furthermore, the results showed that players experience injuries at similar rates during both offensive and defensive situations. The study attributed the injuries to inadequate warm-up, excessive physical exertion, insufficient use of protective equipment, and unsuitable playing surfaces. The study concluded that the lower body is the most susceptible to injury among Iraqi tennis players, and that these injuries negatively impact physical performance, training consistency, and the players' psychological well-being. The study recommended improving warm-up programs, using appropriate protective equipment, ensuring coaches adhere to scientific principles in training planning, minimizing contact and randomness during play, and educating players on preventative measures.

Keywords: Sports injuries, tennis players, injury causes, injury prevention

Introduction

The science of sports injuries focuses on studying athletic movement in various times, conditions, and situations, both static and dynamic, individually and collectively, to achieve the ability to predict injuries before they occur and to identify the types, forms, and patterns of injuries associated with the practiced sport. This aims to prevent injuries among athletes, as the rate of injury among athletes increases with the intensity of sports competitions, especially injuries to the neuromuscular system. Sports activities place pressure on joints, ligaments, synovial capsules, tendons, muscles, and vertebrae of the spine, which may cause chronic injuries.¹ It is well known that injuries are always associated with physical activity and sports, and that the injury rate in some types of sports is higher than others, especially in sports that require contact between players or collisions between them, such as tennis. The rate of injuries also increases if sports training is done in an unscientific way, or by using sports equipment that is not suitable for the age or physical fitness of the individual, and due to errors in preparing training plans and increasing training loads.² The extraordinary scientific advancements in recent years, particularly in the field of sports, coupled with increased attention to athletics, the rise of professionalism, and the breaking of records in international and world championships, along with the growing incentives offered to young people to participate in sports due to the rewards for champions and outstanding athletes, as well as the rigorous training loads, have led to a surge in youth participation in sports with great enthusiasm and vigor. This has sometimes resulted in intense competition in physical activity, leading to a high number of injuries of various kinds, affecting both competitors and athletes.

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Therefore, the most significant risk associated with the dark side of sports is injury, with its associated loss of ability, psychological impact, decline in performance, and the wasted efforts of both the individual athlete and the team. Injury is a major obstacle preventing athletes from continuing their training. Even after recovery, it can lead to diminished performance and incomplete skill development, reducing skill levels due to prolonged absence from the field and training. Early detection of sports injuries and the availability of preliminary information for predicting their occurrence are crucial for those working in the sports field. This allows them to continue implementing their training programs without disruption.³

Therefore, it has become essential for coaches, athletes, and all those involved in training to be familiar with the scientific principles of sports training, as well as the type of activity being practiced, including kinesthetic analysis and muscle function. These factors are vital in determining the type of injury and its relation to performance style. Athlete injuries require a specialized approach to diagnosis, treatment, and follow-up, especially given the increasing number and spread of teams.⁴ This highlights the importance of this study, given the lack of research and studies specifically on sports injuries in tennis, according to the researcher's findings.

Research Problem

Through his review of the studies and references mentioned in the theoretical framework and previous studies related to sports injuries, the researcher found that research and studies addressing individual sports did not include studies on sports injuries among tennis players. These studies lacked information on the types of injuries, their causes, and the areas most susceptible to them. The researcher became aware of this problem during his own experience playing tennis and his work as a coach. He observed that players, during training and competition, are exposed to numerous injuries that vary in severity and location. This negatively impacts many aspects of their lives: physical, psychological, and economic. The financial aspect is represented by the increased expenses and costs associated with treatments, whether surgical, medical, or physiotherapy sessions. Furthermore, it wastes valuable time that players desperately need to improve and develop their athletic performance.

Research Objectives

- To identify the types, locations, and causes of injuries in tennis.
- To identify the types of injuries among players.
- To identify injuries among players based on whether they affect the upper or lower body.

Research Hypotheses

- There are statistically significant differences in the types, locations, and causes of injuries in tennis.
- There are statistically significant differences in sports injuries based on the player's condition and the severity of the injury.
- There are statistically significant differences in sports injuries based on the body part involved (upper body, lower body).

Research Scope

- **Timeframe:** From January 1, 2025, to May 16, 2025.

- **Location:** Club halls in Babylon Governorate.
- **1-5-3 Human Field:** Players of tennis clubs in Babylon Governorate.

Research Methodology

The researcher used the descriptive (survey) method as it was suitable for the nature of this study.

Research Population and Sample

The study population consisted of all club players except for the youth category, including national team players and players from centers affiliated with the Iraqi Football Association. The total number of players in the study population was (90) according to the records of the Iraqi Football Association.

The sample was selected randomly and consisted of (75) and (10) players who were officially registered with the Iraqi Football Association.

Field Research Procedures

- The researcher selected a survey questionnaire to gather players' opinions on the nature and types of injuries. The researcher used this questionnaire.
- Determining the Validity of the Study Instrument: The researcher presented the measurement instrument to a group of experts to assess its suitability for the current work. After collecting the data, it was found that the calculated value was higher than the tabulated value, as confirmed by the experts' approval of the measurement instrument, as shown in the table.

Instrument Validity

To ensure the validity of the study instrument, content validity was established. The researcher presented the questionnaire to a group of expert reviewers with expertise in the field of the game. Some modifications and additions were made, as determined by the reviewers and the researcher, to help achieve the study's objectives.

Instrument Reliability

The researcher established the reliability of the questionnaire using the test-retest method. Pearson's correlation coefficient was used between the two administrations to determine the reliability coefficient for the entire questionnaire, which reached 96.7%. 3-4-3-3 Objectivity: The measurement tool is objective because it includes a scoring key.

Main Study: The researcher conducted the main study on a sample of (10) players outside the main research sample. This experiment ran from January 10, 2025, to February 10, 2025, after all suitable conditions for conducting the experiment were met.

Statistical Analysis

After data collection, the data was statistically analyzed using SPSS software, which specializes in statistical analysis. The following statistical operations were used:

- Frequencies.
- Percentages.

Study Experiment

The researcher conducted the main experiment on 1/15/2025 on the research sample of (75) players after all the

competing teams for the application were available, which were prepared in the pilot experiment. The pilot experiment continued on 2/15/2025. After this date, the researcher completed all the requirements for implementing the experiment and collecting the data for statistical analysis.

Results and discussions

Presentation and Discussion of Results

Presentation and Discussion of the First Hypothesis

The first hypothesis states: Are there statistically significant differences in the types, locations, and causes of injuries in tennis?

To answer this question, frequencies and percentages of injury types, locations, and causes were used. The following tables (1, 2, and 3) illustrate the results of this question.

Table 1: Frequencies and percentages of injury types among Iraqi tennis players

(Types of Injuries)	Number of players	Percentage (%)
Fractures	8	5.44
Tendon Tear	12	8.16
Muscle Tear	10	6.80
Ligament Tear	10	6.80
Dislocation	12	8.16
Sprain	1	0.68
Bone Contusion	14	9.52
Muscle Contusion	13	8.84
Nerve Contusion	1	0.68
Cuts and Abrasions	13	8.84
Sprains	11	7.48
Injuries	15	10.20
Other Injuries	14	9.52
(Total)	147	99.99

It is clear from Table 1 and reviewing the values shown in the table that the most common type of injury among tennis players was characterized by sprains (13 injuries) and a percentage (8.84%) followed by muscle injuries (13 injuries, also at 8.84%), then bone injuries (14 injuries, at 9.52%), and finally fractures (8 injuries, at 5.44%).

Table 2: Frequencies and percentages of injury locations among tennis players in Iraq

Tennis Ball Position	(Repetitions)	(%)
Head	16	10.88
Eyebrow	3	2.04
Eye	3	2.04
Nose	18	12.24
Lips	21	14.28
Neck	19	12.92
Shoulder	22	14.96
Shoulder Joint	13	8.84
Clavicle	13	8.84
Upper Arm	3	3.40
Elbow Joint	19	12.92
Total (90)	90	100% (Approximately)

The researcher believes this result is because playing tennis requires high concentration and physical exertion within a specific timeframe, leading to significant effort, pressure on the muscles, and increased fatigue, which in turn leads to cramps. Often, the cause is inadequate warm-up [5]. The researcher also believes that the cause of bone contusions and sprains is due to the forceful and aggressive handling of the tennis ball on unsuitable surfaces. Sprains also occur as

a result of repeated jumping during play, handling, and landing on one foot. As for the least common types of injuries, they are contusions, nerve contusions, and tendon tears. Researchers attribute this, based on their experience in tennis training, to the fact that tennis is performed with organized, deliberate, and standardized movements that generally do not lead to serious injuries such as brain injuries and nerve contusions. The findings regarding the lowest incidence of contusions and nerve contusion [6].

The table shows Number (2) Frequencies, percentages, and injury locations for tennis players in Iraq. Reviewing the values shown in the table, we find that the tennis category was characterized by thigh injuries (12) injuries, representing (16.8%), followed by back injuries (18) injuries, representing (24.12%), then leg injuries (6) injuries, representing (4.08%). As for the least common tennis injuries, they were represented by injuries to the phalanges, humerus, and thoracic vertebrae, each with a frequency of (1) injury, representing (0.68%), followed by the brow, metacarpals, lumbar vertebrae, and lateral collateral ligament of the knee with a frequency of (2) injuries, representing (1.36%), then the wrist, eye, and forearm joints with (3) injuries, representing (0.3%). The results showed that the most susceptible areas were characterized by thigh injuries, followed by the back, then the leg. This is attributed to the numerous positions used in transitioning from one movement to another, which rely primarily on the thigh muscles. The back was turned to explain the tennis ball, and players were exposed to dangerous throws from a colleague during the explanation [7]. The least common tennis ball injuries were those to the phalanges, humerus, and thoracic vertebrae. The researcher attributes this to the limited use of the ball or the minimal pressure exerted on these areas during tennis play or explanation [8].

Generally, thigh injuries were the most frequent, while injuries to the lumbar vertebrae and the lateral collateral ligament of the knee were the least common. Researchers attribute this to the frequent use of the ball in transitioning between movements, which primarily rely on the thigh muscles, as previously mentioned. Conversely, injuries to the lumbar vertebrae and the lateral collateral ligament of the knee were the least common [9]. The researchers believe this is due to the lack of direct pressure on these areas. This finding is who indicated that the injuries resulted from a direct external force or action [10].

Presentation and Discussion of the Second Hypothesis:

The second hypothesis states: Are there statistically significant differences in sports injuries according to the player's position (attack, defense) and the severity of the injury?

This is evident from Table 4.

Table 3: Frequencies and percentages of sports injuries distributed according to the injury position (attack or defense)

Possession-exposure to tennis ball	(Frequencies)	Percentage (%)
Attack	73	49.65
Defense	74	50.34
Total	147	99.99

Table 3 clearly shows the frequencies and percentages of sports injuries distributed according to the injury position (attack or defense)

Conclusions

- Sports injuries are prevalent among tennis players in Iraq.
- The most common injuries in this age group were muscle cramps and bone fractures.
- The most important preventative measure for injury prevention is to focus on a proper warm-up.
- There are differences in the types and locations of injuries depending on whether the player is attacking or defending, as well as the severity of the injury.
- Most injuries among tennis players in Iraq occur during training.
- The lower body is more susceptible to injuries in tennis players.

Recommendations

- Preventative measures must be taken to avoid injuries to players.
- The necessity of providing and ensuring the use of appropriate protective gear and equipment at training centers during training periods.
- Thorough training of athletes in defensive techniques, as this plays a significant role in reducing the incidence of injury.
- Efforts should be made to minimize contact, excessive roughness, and poor conduct by establishing guidelines and rules to reduce the occurrence of injuries.
- Similar studies should be conducted on other combat sports.
- The results of this study should be disseminated to the Iraqi Olympic Committee, the Iraqi Kyokushinkai Federation, and its affiliated centers.

References

1. Tawfiq FAH. The Chemistry of Muscle Injury and Physical Exertion in Athletes. Alexandria: Dar Al-Wafaa for Printing and Publishing; 2004.
2. Hamed AR. Identifying physical injuries and their causes in tennis players. Encyclopedia of Physical Education and Sports Research. 1995;4:243.
3. Habib M. Common injuries among junior gymnasts. Encyclopedia of Physical Education and Sports Research. 1993;2:295.
4. Hussein M. A comparative study of common injuries among athletes in some individual activities in the Kingdom of Saudi Arabia. Encyclopedia of Physical Education and Sports Research. 2001;1:202.
5. Al-Hashoush K. Sports and Field Injuries. Amman: Dar Yafa for Publishing and Distribution; 2003.
6. Rushdi MA. Encyclopedia of Sports Medicine and Sports Injuries. 2nd Ed. Qutaiba Publishing House; 1995.
7. Riyadh O. Physiotherapy and Rehabilitation of Athletes. 1st ed. Cairo: Arab Thought House; 1999.
8. Zaher AA. Encyclopedia of Sports Injuries and Their First Aid. 1st Ed. The Book Center for Publishing; 2004.
9. Salem M. Sports Injuries. 1st ed. Kingdom of Saudi Arabia: Al-Marikh Publishing House; 1987.
10. Al-Samarrai F, Hashem I. Sports Injuries and Physiotherapy. 1st ed. Amman; 1988.
11. Saadeh N. A comparative study of types of injuries among football players in different positions [master's thesis]. Amman: University of Jordan, College of Graduate Studies; 1991.
12. Shata M. Sports Injuries and Physical Therapy. Alexandria: Dar Al-Maaref; 1981.
13. Al-Shatnawi M. An analytical study of sports injuries among team sports players at Mu'tah University. Assiut Journal. 2002.
14. Al-Saleh M. An analytical study of the causes of sports injuries among national team players according to the periods of the sports season in Jordan [Master's Thesis]. Amman: University of Jordan, College of Graduate Studies; 2005.
15. Abdel-Gawad AB, Mar'i H. Identifying the most common injuries among hockey players on natural and artificial turf fields. Encyclopedia of Physical Education and Sports Research. 2001;2:59.
16. Abdel-Latif M. Shotokan Karate. 1st ed. Cairo: Dar Al-Fikr Al-Arabi; 2005.
17. Al-Aishith M. A study of some factors affecting the occurrence of injuries among first-class wrestlers. Encyclopedia of Physical Education and Sports Research. 2001;1:174.
18. Kamouna F. Encyclopedia of Sports Injuries and How to Deal with Them. 1st Ed. International Scientific Publishing House; 2002.
19. Majali M, Al-Wahidi A. An analytical study of sports injuries in team and individual sports (basketball, volleyball). J Phys Educ. 1995.
20. Majali M, Abu Halima F. An analytical study of sports injuries among combat athletes in Jordan. J Stud. 1995;1.
21. Majali M, Abu Khawila Q. An analytical study of the causes of common sports injuries among track and field athletes in Jordan. J Educ Stud Sci. 1997;24.
22. Majali M, Adeeb S. An analytical study of sports injuries among male and female swimmers in Jordan. J Stud. Conf Phys Educ Sports as a Model for Contemporary Life. 2004.
23. Majali M, Al-Atiyat. An analytical study of sports injuries among fencers in Jordan. J Sci Conf Res, Faculty of Physical Education, University of Jordan. 2004.
24. Majali M, Al-Atiyat. An analytical study of sports injuries among fencers in Jordan. J Sci Conf Res, Faculty of Physical Education, University of Jordan. 2006.
25. Al-Ma'ayta K. Common sports injuries among tennis players in Jordan [Master's Thesis]. Amman: University of Jordan, Faculty of Graduate Studies; 2006.
26. Al-Namas AF. Sports Injuries and Their Treatment. Cairo: Asmi Publishing and Distribution; 1996.