

The Common Sports Injuries among the Female Students in the Directorate of Education in Al-Karak Governorate in the South of Jordan

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Abstract: This study aimed at identifying the most common types of sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan and the most common sites exposed to sports injuries as well as the most common causes leading to sports injuries among the study sample individuals. The study used the descriptive approach with its survey image to collect data, and the questionnaire was used as the study instrument for data collection. The study sample consisted of (201) female students, who were chosen using the intentional method. The researcher used (SPSS) for data analysis. The results revealed that the most common types of sports injuries among the female students were muscle bruises and the most common causes leading to sports injuries are the insuitability of the pitch ground and the most common anatomical sites exposed to sports injuries are the groin area. The results revealed that there are differences between the female students in the public and private schools in favor of the public schools.

Based on the results, the study recommended the necessity of providing sufficient area of pitches and other sports facilities inside schools to introduce the lesson of physical education in the appropriate way.

Key words: sports injuries, female school students, directorate of education, Al-Karak, Jordan.

Introduction:

Sports injuries are considered amongst the most important factors leading to preventing athletes from participating in sports training and competitions. Also, sports injuries are the most prominent problems facing those working in the sports domain; therefore, it was necessary to identify the factors that contribute to the occurrence of sports injuries and identify the causes and sites of their occurrence (Mojalli, et al, 2010). Sports injuries are considered as the most prominent risks facing athletes, and the developed sciences relating to the health and sports domain aimed at reducing sports injuries due to their negative effects on athletes and matches final results, in addition to the cost of injury treatment that exceed the financial capability of most athletes and reduce their sports achievement (Al-Shatnawi, 2016).

The occurrence of sports injuries in any part of the body, either during training or competitions, is considered as the most obstacles facing athletes and disturb their sporting and practical life. Indeed, this leads to suffering and loosing fitness which, in turn, reduces their level of physical fitness and increases the probability of more injury even after treatment (AbdulKhaliq and Atiya, 2014).

Sports injuries represent an important domain of sports medicine. The science of sports injuries is a basic one in developing the capability of athletes and protecting them against sports injuries. The coach's knowledge about the science of sports injuries by determining the causes of injury and the site of its occurrence provides him with more methods to avoid them, enhances the factors of safety during the sports activity and provides the necessary protection for that (AbdulHamid and Al-Araji, 2015).

Despite the noticeable development in the technological level and the rehabilitative sports programs as well as the various domains of medical treatment, sports injuries still represent a phenomenon that should gain more attention by both coaches, athletes and all those concerned about sports domain due to their negative morbid or psychological consequences (Mahmoud, 2016).

The study problem:

School sport is considered as the basic foundation of all the sports activities that are practiced by individuals over their lifetime. Physical activity includes all the types of sports, either competitive, recreational, medical or healthy. This context confirms the importance of practicing school sports and activating it in the most appropriate way, especially in the health domain, where overlooking this domain threatens the health future of students in the short and long term. Therefore, it is important to pay attention to this category, particularly in terms of taking the necessary preventive measures to reduce being exposed to any sports injury during the lesson of physical education or competitions. Based on the researcher's experience and work as a teacher of Physical Education in the directorate of education in Al-Karak governorate, she noticed the frequent occurrence of sports injuries in the lesson of Physical Education among the female students with their various types and anatomical sites. Accordingly, the researcher conducted this study to identify the most common causes of sports injuries and their anatomical sites among female students in order to reduce the occurrence of those injuries during the lesson of physical education at schools.

The study importance:

The importance of this study lies in:

- 1- Identifying the most important common sports injuries among the female students in Al-Karak.
- 2- Being one of the few studies that addressed common sports injuries among the female students.
- 3- Attempting to identify the causes of sports injuries in schools.
- 4- Being a reference to the teachers of Physical Education and those specialized in the domain of sports medicine and rehabilitation in the Southern governorates to deal with sports injuries in case they occurred.

The study objectives:

This study aimed at:

- 1- Identifying the most common types of sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan.
- 2- Identifying the sites of sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan.
- 3- Identifying the causes of sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan.
- 4- Identifying the statistical differences in the number of sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan according to the variable of (school).

The study questions:

The study aimed to answer the following questions:

- 1- What are the most common types of sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan?
- 2- What are the most common sites of sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan?
- 3- What are the most common causes of sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan?
- 4- Are there statistically significant differences in the number of sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan according to the variable of (school)?

The study limits:

The study was limited to the following:

- 1- The temporal limits: the study was conducted during (20/2/2022 –15/3/2022).
- 2- The spatial limits: the study was conducted in the schools of the directorate of education in Al-Karak governorate in Jordan.

- 3- The human limits: the study was conducted on the female students in schools of the directorate of education in Al-Karak governorate in Jordan.

The study terms:

The study included the following terms:

Injury: it is a Latin word that means damage or hindrance, either accompanied or not accompanied by a damage to tissues (Osama, 2010). It refers to the exposure of body's tissues to internal or external effects that cause physiological or anatomical changes in the injured site and disrupt its functional work (Mohammad, 2004).

The School female students: they are the female students registered in the records of the directorate of education in the lower and upper basic stage as well as the secondary stage. (a procedural definition).

The directorates of education: they are public departments that belong to the ministry of education that are concerned with educational affairs.

The procedures and methodology:

The study approach:

The researcher used the descriptive approach with its survey image due to its compatibility to the study nature and objectives.

The study population:

The study population consisted of the female students in the schools of Al-Karak directorate of education with a total of (400) female students of those who were exposed to injuries during the lesson of Physical Education.

The study sample:

The study sample was chosen intentionally and consisted of (201) female students from the schools of the directorate of education in Al-Karak governorate. Table (1) shows the distribution of the sample individuals according to the demographic variables.

Table (1)

The distribution of the sample individuals according to the demographic variables

Variable	Category	Number	Percentage
Grade	Basic	64	31.8
	Upper basic	42	20.9
	Secondary	95	47.3
	Total	201	100.0
School	Public	149	74.1
	Private	52	25.9
	Total	201	100.0

The study instrument:

1- The questionnaire:

The researcher prepared the questionnaire for this study after reviewing several previous studies, including (Al-Tweisi, 2016), where I made advantage of those questionnaires inciting a questionnaire that is compatible for the current study and its objectives. Appendix (1) shows a model for this questionnaire, which consisted of three parts:

- The first part: it included an introduction that demonstrates the general goal of the questionnaire.

- The second part: assigned to collect data related to the personal characteristics of the study sample individuals.
- The third part: assigned to collect data related to the study questions.

The scientific coefficients:

1- The validity of the study instrument:

In order to verify the validity of the study instrument, the researcher introduced it to a number of specialists, where the researcher modified some items that were agreed upon by most arbitrators in accordance with the study nature and objectives.

2- The reliability of the study instrument:

The researcher applied the questionnaire to a number of female students outside the study sample with a total of (30) female students and was reapplied after two weeks, where Pearson correlation coefficient was calculated between the two applications and was (0.92), which is a high value that confirms the reliability of the questionnaire and its ability to measure.

The study variables:

The independent variables: injury type, injury site, injury cause.

The dependent variables: the female students response on the study scale.

The study procedures:

The researcher performed several administrative and organizational procedures in order to facilitate the implementation of the study, as follows:

- 1- The researcher communicated with the directorate of education in Al-Karak governorate.
- 2- The researcher determined the number of female students and the size of the sample.
- 3- The researcher distributed the questionnaires to the female students at schools.
- 4- The researcher collected the data and analyzed them.

The used statistical methods:

The researcher used (SPSS) in order to answer the study questions based on a number of statistical methods, as follows:

- 1- The descriptive statistical methods represented by means, standard deviations to answer the first question.
- 2- The descriptive statistical methods represented by frequencies and percentages in order to answer the second and third questions.

Displaying and discussing the results:

The researcher used frequencies and percentages for processing data, as a measure for the sample individuals' responses.

Data were analyzed in order to respond to the study variables, where their responses were analyzed as follows:

Answering the first question stating: "What are the most common types of sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan?"

Table (2)

The type of sports injuries, their frequency and the percentage of their occurrence among the study sample individuals

Number	Injury type	Frequency	Percentage	Chi square	Sig. level
1	Muscle bruises	134	26.64	314.264	0.000
2	Muscle damage	71	14.12		
3	Ligament damage	37	7.36		
4	Spasms	39	7.75		
5	Tendon damage	14	2.78		
6	Sprains	29	5.77		
7	Rupture	52	10.34		
8	Dislocation	55	10.93		
9	Lesions	25	4.97		
10	Twist	15	2.98		
11	Inflammation (skin bubbles)	27	5.37		
12	Abrasions	5	0.99		
	Total	503	100		

Table (2) shows the values of frequencies and percentages for the most common types of sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan, where the values of the percentages revealed that muscle bruises were the most common injuries with a percentage of (26.64%), followed by muscle rupture with a percentage of (14.12%), then dislocation with a percentage of (10.93%), while the least sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan were abrasions with a percentage of (0.99%), followed by twisting with a percentage of (2.78%). Chi square value of (314.264) and its accompanying significance level have significant differences in the percentage of injuries according to the injury type.

The researcher attributed this finding to the pitch ground that is inappropriate to implement the lesson of physical education adequately, where there are too many students, but a small area for sports practice, in addition to the cement nature of the used pitches and the low level of practicing sports activities due to the circumstances witnessed throughout the world.

(Nouri, 2004) revealed that the most common causes for muscle injuries are related to the inadequate performance of the skill. Also, the low level of physical fitness and the early reaching to fatigue and the accumulation of lactic acid inside muscles result in a mechanical disruption in muscle's contraction and relaxation. This finding was supported by the findings of (Qadadha, 2005; Shatnawi, 2004; Tweisi, 2015; Ghaloum, 2013) which revealed that the most common sports injuries are muscle bruises and sprains.

Answering the second question stating "What are the most common sites of sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan?"

In order to answer the questions, frequencies and percentages were calculated for the most common sites of injuries.

Table (3)

The frequencies and percentages for the sites of injuries among the female students

Number	Anatomical site	Frequency	Percentage	Chi square	Sig. level
1	Head	9	1.79	301.358	0.000
2	Neck	54	10.74		

3	Palm phalangeal	17	3.38		
4	Wrist joint	17	3.38		
5	Arm	16	3.18		
6	Elbow joint	18	3.58		
7	Upper arm	14	2.78		
8	Thigh	83	16.50		
9	Leg	16	3.18		
10	Metacarpus	5	0.99		
11	Shoulder joint	58	11.53		
12	Ankle joint	56	11.13		
13	Trunk	9	1.79		
14	Knee joint	67	13.32		
15	Metatarsus	14	2.78		
16	Hip joint	50	9.94		
	Total	503	100		

Table (3) shows the values of the most common sites of injuries to which the female students are exposed. The results revealed that the percentages of thigh joint were the most exposed sites to injury with a percentage of (16.50%), followed by knee joint with a percentage of (13.32%), and then the shoulder joint with a percentage of (11.53%). However, the least exposed sites were the metacarpus with a percentage of (0.99%), followed by head and trunk with a percentage of (1.79%) for each. The percentage of the other anatomical sites are illustrated in the previous table. The value of Chi square with (301.358) and the accompanying significance level revealed the significant differences in the percentages for the anatomical sites of sports injuries.

The researcher attributed this finding to the function of the thigh muscle, where (Mohammad, 2004) revealed that thigh is the most exposed site to injury, since it includes more than a muscular group in its muscular structure; the wrong rotation and direct kicks are the most important thigh causes. This study agreed with (Asad, 2014), (Al-Mosawi and Ghaloum, 2012) who suggested that the lower limbs are more exposed to injuries, while this finding disagreed with (Al-Tweisi, 2015) and (Qadadha, 2005), who found that the ankle and knee joints are the most exposed sites to injury.

Answering the third question stating "What are the most common causes of sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan "?

In order to answer the questions, frequencies and percentages were calculated for the most common causes of injuries.

Table (4)
 The frequencies and percentages for the causes of injuries among the female students

Number	Causes of injury	Frequency	Percentage	Chi square	Sig. level
1	Inadequate pitch grounds	70	13.92	356.40	0.000
2	The increased number of practical exercises for the female students	4	0.80		
3	Low physical preparation	47	9.34		
4	the increased number of students in the classroom	60	11.93		
5	The insufficient area for students	48	9.54		
6	Low skilled preparation	38	7.55		
7	Insufficient rest during the lesson	5	0.99		
8	Bad choice of suitable exercises for the different muscular groups	30	5.96		
9	Overweight	13	2.58		
10	Non-sporting acts and behaviors	35	6.96		
11	Lack of safety factors	27	5.37		
12	Bad nutrition	6	1.19		
13	Inadequacy between the game and students' abilities	13	2.58		
14	Insufficient warm up	5	0.99		
15	Not considering individual differences between the female students	20	3.98		
16	Low psychological preparation for the female students	10	1.99		
17	Overperformance	5	0.99		
18	Not performing the periodical medical examinations	7	1.39		
19	Inadequate time of exercises	5	0.99		
20	Excessive enthusiasm during the Physical Education period	31	6.16		
21	Inadequate sports clothes	17	3.38		
22	Lack of teacher's supervision over students	7	1.39		
23	The compulsory participation in the period of Physical Education	0	0.00		
24	Total	503	100		

Table (4) shows the values of the most common causes of injuries to which the female students are exposed. The results revealed that the percentages of the most important causes to injury are related to "the inadequacy of pitch ground" with a percentage of (16.50%), followed by knee joint with a percentage of (13.92%), followed by "the increased number of students in the classroom" with a percentage of (11.93%), then the insufficient area for the number of students with a percentage of (9.54%). However, the least cause of injury was "the compulsory participation in the period of Physical Education".

The researcher attributed this finding to the inadequate nature of playgrounds to the practice of sports activities in the lessons of Physical Education, in addition to the increased number of female students in the lesson which, in turn, increases the contact between the female students during the lesson of Physical Education. This finding agreed with (Ahmad, 2007) which suggested that contact between students represented the most prominent cause of injury among the sample individuals. This finding also agreed with

(Kakavelakis, et al, 2003) and (Bonza, JA, 2009) which suggested that strong contact with the opponent or the bad pitch ground or inadequate equipment are the most common causes of sports injuries.

Answering the fourth question:

Are there statistically significant differences in the number of sports injuries among the female students in the directorate of education in Al-Karak governorate in the South of Jordan according to the variable of (school)?

Table (5)

T-test for the differences between the mean of sports injuries to which the female students are exposed in the schools of the directorate of education in Al-Karak governorate according to the variable of school

School	Number	Number of injuries	Percentage	Mean	SD	t-value	Sig. level
Public	149	354	70.38	2.38	0.74	3.37	0.001
Private	52	149	29.62	2.87	1.25		

*The percentage is calculated according to the total injuries (503), while the means are calculated according to the number of the individuals in a certain category.

The results showed the numbers and percentages of injuries to which the students are exposed according to the variable of school. Also, the table reveals the mean values for the number of sports injuries in public and private schools. The calculated percentages revealed that the female students at public schools are exposed to more injuries with a percentage of (70.38%) as compared to (29.62%) among the female students in private schools

The results showed that there are statistically significant differences between the mean scores sports injuries based on t-calculated value with (3.37) at a significance level of (0.001); this value is statistically significant, since it is less than (0.05), where the differences were in favor of the public schools.

The researcher attributed this finding to the low interest in the lesson of Physical Education in public schools, the lack of sufficient areas to practice sports activities and the increased number of students in classrooms. However, private schools view the sport activity as an attraction element; therefore, they are more concerned with sports facilities, where we can see specific pitches for each game and low levels of injuries.

Conclusions:

In the light of the study's objectives and questions, the researcher concluded the following:

1. The most common types of sports injuries in the directorate of education in Al-Karak governorate are muscle bruises.
2. The most exposed site to injury among the female students at schools is the thigh.
3. The most common causes of sports injuries are related to the inadequacy of pitch ground.
4. There are differences in sports injuries in the directorate of education in Al-Karak governorate between public and private schools.

Recommendations:

Based on the results, the study recommended the following:

1. The necessity of providing sufficient areas of playgrounds and sport facilities to introduce the lessons of Physical Education appropriately.

2. The necessity of paying more attention to the number of teachers theoretically by giving them lectures about sports injuries, the mechanisms of their occurrence, their causes and prevention methods.
3. Conducting further studies about the female students and the problems facing them during the lessons of Physical Education.

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