# An Analytic Study of Recurrent Sport Injuries and their Causes

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**ABSTRACT**

The aim of this study was an analytic study of recurrent sport injuries and their causes, aged 15-30 years. A sample of 130 injured players from the Babylon province population such as Babylon, Madhatiya, Hilla, AL – Hashimiya, ALuashru, Al shumalie , Al kifl , Al baladie, Al mssayab, Assedda and Huttien of football , hand ball weight lifting , Body building activities participated in this recurrent sport injuries investigation study. Doctors and researcher managements completed reports detailing the number of recurrent sport injuries and provided specific information about each patient. During the period of the study, 130 recurrent sport injury reports were completed. The frequency of sports injuries was highest in the muscular tears then the ligatures tears. The leading causes of sports injuries in players were: falls, crushed by object, wrong worm up, high effort, lake of feed, collision with other person and slips. Muscular tear injuries were the most common diagnoses (27.65%). Football, handball and weightlifting were the most frequent sport activities for injuries. Bodybuilding shows high frequency in ligatures tears with slighter difference than muscular tears. Reports based surveillance systems can be successfully used to conducts sport injury surveillance among players. Data collected through such systems can be used to calculate sports injury rates, to describe patterns of sport injury and to identify risk factors for players related sport injuries. In conclusion, the results provide necessary information to improve prevention interventions to decrease the number of sport injuries which are common, for example, (muscle tear, ligature tear, spasm,, disjoint, fracture, cartilage) respectively, and most common causes for air injuries are hitting another player and or lack of qualifications. In addition to most common causes of anaerobic activities are absence of warming- up and bad apparatus and tools.

*Keywords:* **Analytic study, recurrent sport injuries, causes, warming-up, sport injuries**

## 1. Introduction

Sport injuries are considered important for medicine of sport where the central part is sport injuries and this can be achieved by studying such injuries regarding their types, prevention, the ways of aid and treatment, diagnosis, symptoms and signs an addition to avoid their occurrence. Thus, it is essential for a coach to know these injuries for prevention and if they happen he can prevent their being serious by first aids or by supporting the steps or stages of their treatment as it is dangerous for a player to let himself be injured again. Because this leads to make the tissues so weak as well as affecting the psychological state of the player and being away from practice something that make his history of playing short (Bienefeld et al., 1997; Burt, and Overpeck., 2001; Castiglia., 1995).

It is well mentioning that there are certain kinds of injuries related to every activity or skill this is because of specifications of every activity and the main or assistant muscles that perform it. Muscle that mainly performs normally injured because of the effort. As a result for incomplete treatment or re-practicing, these injures may occur again and again (Christoforidis, and Kambas., 2006). Thus, studying the types of such injuries, the causes behind their occurrence or being repeated as well as the tissues and the periods of ocurnce is of great importance of gaining knowledge about them in addition to prevention. For these reasons the researcher tries to study these injuries to gain knowledge about them and for prevention by studying the same muscles.

Sport injuries whether (simple or dangerous ) occurrence is a serious problem that researchers and specialists try to face and to prevent its bad consequences .What seems more serious is the recurrence of such injuries specially on already injured tissues something that causes troubles such as quitting training and weak tissues in addition to psychological effects on the players. Thus, the problem of the study arises because of the recurrence of such injures appears (while observing Babylon district team players (footballers, handball players, and weightlifters) As the researcher is a specialist in treating such cases, he noticed that recurrence of the same sport injuries on the same body organs or tissues and this is a serious problem that led the researcher to handle and treat. No study has investigated about recurrence injuries so the present study aims at Knowing the types, recurrence, comes and periods of recurred injuries.

### 1.2 Theory studies

1.2.1 Injuries

Injuries are destruction or obstacle or tissues facing external effects which leads to physiological defect in the injured part which hinders the work of such organ temporarily or permanently (Samiea'a., 2008).

1.2.2 General Causes for Injuries:

1-Bad or wrong practice for sport exercises (make the player do things exceed his ability.
2- Neglecting good healthy acts for the players (neglecting checking their body up).
3- Practice without taking into considerations the weather changes
4- Players may be in a bad psychological state.

5- Bad exercises requirements (bad fields floors , shoes or clothes .
6- Law breaking (aggressive play,).
7- No harmony among the players regarding their age, sex or physical abilities.

2.3 Complications

When neglecting first aid or using wrong treatment of injuries, the complications occur:

1- Repeated recurrence of injuries.
2- Bad treatment leads to persistent deformity.
3- Deformity in shape.
4- Low level of acting on the part of the player because of quitting practice.

2.4 Recurrent Injuries

Recurrent injuries, according to the researcher are those injuries that occur more than once on the same tissues in muscle, bone, cartridge, ligatures, etc.). They occur for some reasons such as lack of good treatment of already existing injuries or bad employment of treatment, or coming back to practice without finishing the treatment stages.

## 2. Methodology

The study follows the descriptive ways in studying the current states as it is suitable for handling the problem and "the descriptive method studies the current state and relationships among phenomenon and directions.

3.1 Subjects

The subjects of the study include injured players who belong to Babylon province teams of football, handball, weightlifting and bodybuilding. 130 injured players are randomly chosen during 2013 which means 130 injuries. The subjects of the study includes players of Babylon district teams ( young Adults class), Babylon, Madhatiya, Hilla, AL – Hashimiya, ALuashru, Al shumalie , Al kifl , Al baladie, Al mssayab, Assedda and Huttien of football , hand ball weight lifting , Body building activities.

3.2 Procedures

The study follows the following procedures:

1- Surveying the sport teams clubs including outdoors and indoors to discover the players' recurred injuries during 2013.
2- Doing medical examination for the injured players with the help of some doctors and specialists in treating fractures and injuries so as to diagnose, and identify the type of injury accurately.
3- Checking the form questionnaire according to the scientific procedures in addition to knowing the best ways for diagnosing.
4- Doing many surveys during 2013 to Babylon district clubs.
5- Analyzing the results statistically, presenting and discussing them according to scientific research procedures

6- Analyzing data statistically presenting them and concluding the results following the conventional ways of research.
3.3 Statistical analysis:
The study employs SPSS in present study.

## 3. Results and discussion

Table (1) shows that the majority of injuries were muscular tears with frequency of 47, then ligature tears with the frequency 36, after that Disjoint (6), and finally, fractures and cartilage injuries (both have the frequency 3). As for the frequency of activities injuries, they were as follows:

Football: Most of injuries were muscular tears (12), while the least were with fractures tears (1).
Handball: Majority of injuries were muscular tears (13) the least with fractures (zero).
Weightlifting: most of injuries were muscular tears and the least were with cartilage.
Bodybuilding: most of their injuries were ligatures injuries and the least ones were fractures, disjoints and cartilage.

**Table (1)**
**Shows types of Sport Injuries, their frequencies, and Percentages**

| Frequency Injury | football | | handball | | weightlifting | | Body building | | total |
|---|---|---|---|---|---|---|---|---|---|
| | fr | % | fr | % | fr | % | fr | % | % |
| Muscular tear | 12 | 27.65 | 3 | 21.23 | 12 | 25.53 | 10 | 21.23 | 47 |
| fracture | 1 | 0 | 0 | 0 | 2 | 66.67 | 0 | 0 | 3 |
| Spasm | 7 | 17.39 | 4 | 26.08 | 6 | 26.8 | 6 | 26.08 | 23 |
| Disjoint | 2 | 50 | 3 | 0 | 1 | 16.67 | 0 | 0 | 6 |
| Cartilage | 2 | 33.33 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| Ligature tear | 6 | 19.44 | 7 | 38.89 | 9 | 25 | 14 | 38.89 | 36 |
| total | 38 | | 32 | | | | 30 | | |

As for the total frequencies of injuries, the muscular tears show highest frequency, then the ligatures tears which depend in their performance, practices and skills on high levels of energy something that impose (on muscles and ligatures) higher effort to form the energy to be suitable for the activities such as football, handball, and weightlifting). As opposed to this, bodybuilding shows high frequency in ligatures tears with slighter difference than muscular tears (10-14).

The reason is the employment of different levels of energy with frequencies higher than those used in weightlifting with wider ranges of movements which imposes high pressure on ligatures to resist these weights and their high frequencies . and this may lead such ligatures or muscles to tear. The least frequency of football injuries were fractures and disjoint because there is no movements for stretching arms while performing the skills as well as absence of the arms contributions and this leads to their disjoint. Similarly, in handball, the least of injuries were in fractures and cartilage because of skillful performance of handball is far from causing the injuries of cartilage that result from shins stability where weight of the body is centered upon.

In weightlifting the clean and jerk the shin is stable and upstanding and thigh does not rotate in any direction. Players do not raise feet and this leads to the absence of mechanical injuries. And the same occurs in bodybuilding. Table (2) shows the reasons of sport injuries indicating that most of reasons are lack of warm-up (37),then hitting another player,(26)club floor(17), no employment of qualification (16),lack of graduation in practice,(12),lack of qualification(9) lack of apparatus and tools (8)and individual technical mistakes(7).

As for football, most of the reasons were hitting another player and no employment of qualification and the least is the apparatus and tools. While in handball, majority of causes were hitting another player and apparatus and tools .Concerning weightlifting, most of reasons were lack of warm-up and club floors, whereas the least were hitting another player lack of qualifications, and the apparatus and tools. As for body building majority of causes was lack of warm-up and club floors.

**Table (2)**

**Shows causes of sport injuries, frequency, and percentages**

| **Parts of body** | **football** | | **handball** | | **weightlifting** | | **bodybuilding** | | **total** |
|---|---|---|---|---|---|---|---|---|---|
| | **%** | **fr** | **%** | | **fr** | **%** | **fr** | **%** | |
| Feet | 6 | .5731 | 2 | .5210 | 10 | 52.63 | 1 | 5.26 | 27 |
| shin | 6 | 50 | 1 | 8.33 | 1 | 8.33 | 4 | 33.33 | 33.33 |
| knee | 18 | 66.66 | 2 | 40.7 | 5 | 18. 5 | 2 | 40.7 | 27 |
| thigh | 3 | 25 | 1 | .338 | 2 | 16.6 | 6 | 509 | 12 |
| Abdomen | 5 | .5555 | 4 | .4444 | 0 | 0 | 0 | 0 | 9 |
| body | 2 | 11.76 | .2 | 11.76 | 4 | 23.5 | 9 | .952 | 17 |
| shoulders | 0 | 0 | 12 | 50 | 6 | 25 | 6 | 25 | 24 |
| arms | 0 | 0 | 8 | .6666 | 2 | 66.16 | 2. | .6.16 | 12 |

As for the activities, most of causes of sport injuries recurrence were because of lack of qualification since there are no more centers for treatment or health centers. Low standard of the players living is another reason. In addition, absence of medical cultivation about the importance of such qualification and its importance .Players do not gain special salaries and if there are any, they are insufficient income. Sometimes the cost of cure is another reason for lack of treatment. Another cause for injuries is hitting another player or even hitting fouls and attempts to get the ball which is accompanied by preventing a player from having the ball or hindering him by blocking his way with the body (Wajeeh, 2002).

The least of causes is lack of tools and apparatus or instruments because of rare tackling of such things. There is another cause which is club floors, their lack of maintain or even being not suitable for playing and absence of good preparation of these floors such as lack of grassy cover. Similarly, handball player's injuries occur for the same reasons but with slight difference. They result from hitting another player. And the reason is that handball is characterized by performing powerful energetic movements by using arms or body or blocking or shooting and or hindering a player something leads to injuries.

In weightlifting or bodybuilding, most of causes were lack of warm-up because of the small halls or rings for practicing weightlifting. There are no enough spaces for jogging .They lack bikes or aids for warm up from one aspect. And most of coaches or players focus upon personal rather than general warm-up.

Table (3) shows periods of recurrence of sport injuries, states that the highest frequency for such injuries during three months as it reaches (58) injuries most of them were concerned with football, as it was (23) then handball injuries (16), weightlifting (10), and bodybuilding (9). After a period two months (of 31 up to 90 days ). The total of the injuries was (45) they are (weightlifting 15, bodybuilding 19, and both football and handball show the same frequency of 8) respectively.

**Table (3)**
**Shows periods of recurrence of the sport injuries and their percentages**

| **Activities** / **Periods** | **football** | | **handball** | | **weightlifting** | | **bodybuilding** | | **total** |
|---|---|---|---|---|---|---|---|---|---|
| | **fr** | **%** | **fr** | **%** | **fr** | **%** | **fr** | **%** | |
| For a month | 7 | 25. 92 | 8 | .62.29 | 6 | 22.22 | 6 | 22.22 | 27 |
| For two months | 8 | .8717 | 8 | . 78.17 | 15 | 11 31. | 14 | 31.11 | 45 |
| For three months | 23 | 39.65 | 16 | . 27.59 | 9 | 15.51 | 10 | 17.24. | 58 |

The reason behind the occurrence of injuries during a period of three months on is that most of the injuries need nearly two months to recover so that the athlete can practice sport again .In addition most of injured athletes do not recover before at least two months .Some of them re-practice better after three months since most of cases of tear of footballers are in need for such a period to recover (whether the treatment is preprogrammed or arbitrarily done). This explains most of the injuries happened during three months or more Likewise, handball injuries show the same types and percentages.

Table (4) shows that most of the injuries affected knees (27), then in shoulders (24), feet (19), body (17) the frequency of shins, arms and thigh are the same (12) and finally, the least frequency in abdomen (9).

Regarding every activity, in football, knee injuries were of highest frequency of (18) with no arm or shoulder injuries. As for handball, the highest frequency occurs in shoulders (12), then arms (8). The least were in thigh and shin (1). While in weightlifting, the highest frequencies were in feet and no injuries in abdomen. As for bodybuilding, the highest were body injuries and the least were the abdomen ones.

**Table (4)**
**Show frequencies of recurrent injuries affecting parts of body and their percentages**

| Parts of body | football | | handball | | weightlifting | | bodybuilding | | total |
|---|---|---|---|---|---|---|---|---|---|
| | % | fr | % | | fr | % | fr | % | |
| Feet | 6 | .5731 | 2 | .5210 | 10 | 52.63 | 1 | 5.26 | 27 |
| shin | 6 | 50 | 1 | 8.33 | 1 | 8.33 | 4 | 33.33 | 33.33 |
| knee | 18 | 66.66 | 2 | 40.7 | 5 | 18. 5 | 2 | 40.7 | 27 |
| thigh | 3 | 25 | 1 | .338 | 2 | 16.6 | 6 | 509 | 12 |
| Abdomen | 5 | .5555 | 4 | .4444 | 0 | 0 | 0 | 0 | 9 |
| body | 2 | 11.76 | .2 | 11.76 | 4 | 23.5 | 9 | .952 | 17 |
| shoulders | 0 | 0 | 12 | 50 | 6 | 25 | 6 | 25 | 24 |
| arms | 0 | 0 | 8 | .6666 | 2 | 66.16 | 2. | .6.16 | 12 |

## 4. Conclusions

The results provide necessary information to improve prevention interventions to decrease the number of sport injuries which are common, for example, (muscle tear, ligature tear, spasm,, disjoint, fracture, cartilage) respectively, and most common causes for air injuries are hitting another player and or lack of qualifications. In addition to most common causes of anaerobic activities are absence of warming- up and bad apparatus and tools.

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