AN ANALYTICAL STUDY FOR THE MOST COMMON INJURIES DURING THE PERIOD OF PHYSICAL PREPARATION AMONG THE NEW MILITARY PERSONNEL ATTENDING THE TRAINING SCHOOL OF GENDARMERIE

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ABSTRACT

This study aimed at identifying the most common injuries among the new military personnel attending the training school during the period of physical preparation, in terms of the type, site and cause of injury. The researcher used the descriptive approach in its survey image. The study sample consisted of (30) trainees of those visiting the clinic of gendarmerie training school or consulted one of the medical staff in the school clinic. Means and percentages were used for the statistical analysis of the results. The results revealed that the most common types of injuries among the new military personnel were related to skin, the most common sites of injuries were ligaments and joints, and the most common causes for injuries were the insufficient warming up. The researcher recommended the necessity of paying more attention for the appropriate warming up regarding the required skills, dedicating the main time of training for the main activity (military training) and the training related to the techniques of performing the new skills.

Keywords: Injuries, New Military Personnel, Gendarmerie.

I. INTRODUCTION

Army and security authorities in almost all countries around the world are viewed as the first sports team in any country, given their work nature within a close cycle that is characterized by activity and training, in addition to constant attendance and readiness. It is well-known that practicing physical activity is always accompanied by the occurrence of sports injuries, where the rate of those injuries varies based on the type of physical activity and the practiced sport.

Sports injuries are considered amongst the most common negative phenomena that don't correspond with the desired objectives of practicing the sports activities due to their impact on athletes and their performance. Sports injuries could happen in most sports activities with different ratios; i.e. Each sports activity has a certain degree of risk, even though the injury could be different in type and nature.

Sports injuries constitute an important domain of sports medicine, and the science of sports injuries is considered as a basic one with regard to 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 sites of its occurrence gives him more ability to avoid it and enables him to provide the necessary safety and security factors during the practiced sports activity, and thus protect athletes from injury (AbdulHamid and Al-Aaraji, 2015).

Despite the noticeable development in the technological level in preparing physical and rehabilitation programs as well as using the various types of therapy, injuries are still obvious and need more attention by athletes, coaches and those interested in the sports domain due to the consequences that could result either at the physical or psychological side (Mahmoud, 2016).

Sports injuries differ according to the type of practiced activity, the nature of performance, competition level, the psychological and skilled preparation, the athlete's awareness about the risk of the practiced movement and the possibility of injury as well as knowing the way of avoiding and reducing injury (Mahmoud, 2015).

In this vein, most injuries are said to be resulting from fatigue. These injuries could be internal resulting from the physical activities practiced by the athlete, such as excessive muscular strain or slow way of practicing...
movements, which could be a result of low physical fitness, insufficient skill, rough play or re-practicing sport before complete recovery. Injuries could also be attributed to external reasons, due to falling and being exposed to rough play, where such injuries are typically severe and painful (Al-Shatnawi, 2016).

1. The Study Problem

Injury is considered as a major problem facing progress in sports levels and moving from one level to another. The lack of knowledge by coaches and trainees concerning the causes of those injuries and their causes results in errors in performing the physical, tactical or training practices which lead to injuries. This case applies to all types of injuries at all times. Based on the researcher's pursuit for the situation of trainee soldiers, it has been noticed that the new military personnel suggested that they sometimes find it difficult to complete training, matches or even competitions due to being exposed to injuries that could be dangerous and negatively affect their technical performance. Therefore, physical preparation is a process of continuous improvement and development for the level of trainees in the various sports domains. Furthermore, military composition is a constant and renewable process which is not only practiced at the time of attending armed forces. Based on the researcher's interest and pursuit for a number of injuries that face the new military personnel in gendarmerie, especially during the period of preparation, the author found that it is important to conduct an analytical study for the injuries that may occur during the period of physical preparation of the new military personnel during their training period in the school of training gendarmerie from the perspective of the medical staff working in the clinic of gendarmerie training school.

2. The Study Importance

The importance of the current study is derived from the topic that it addressed, which is analyzing injuries during the period of physical preparation of the new military personnel in the school of training gendarmerie from the perspective of the medical staff working in the clinic of gendarmerie training school.

Also, the importance of the current study is derived from the following:

- It addresses an important category in the community, which has an effect on the performance of security authorities and armed forces, represented by the new military personnel.
- It contributes to enriching the literature and adds a new information source for the Jordanian and Arabic library and motivates conducting further studies in this domain.

3. The Study Objectives

The Current Study Aimed At

1. Identifying the most common types of injuries among the new military personnel attending the training school of gendarmerie due the period of physical preparation.
2. Determining the most common body sites that are exposed to injury among the new military personnel attending the training school of gendarmerie during the period of physical preparation.
3. Identifying the most common causes of injuries among the new military personnel attending the training school of gendarmerie during the period of physical preparation.

The Study Questions

The current study aimed at answering the following questions:

1. What are the most common types of injuries during the period of physical preparation among the new military personnel attending the training school of gendarmerie?
2. What are the most common anatomical body sites exposing to injuries during the period of physical preparation among the new military personnel attending the training school of gendarmerie?
3. What are the most common causes of injuries during the period of physical preparation among the new military personnel attending the training school of gendarmerie?

The Study Domains
1. The human domain: the study was limited to the new military personnel attending the training school of gendarmerie.

2. The spatial domain: the study was conducted in the training school of gendarmerie /Al-Kafrin/ the Hashemite Kingdom of Jordan.

3. The temporal domain: the study instrument was distributed during (13/2/2020) – (16/2/2020).

**The Study Terminology**

Sports injuries: they refer to the exposure of the various body's tissues to internal or external effects that could result in anatomical and physiological changes in the injury site; therefore, hinder the function of the affected tissue (Al-Shatnawi, 2016).

Physical preparation: it is a type of motor activity that provides the individual with the elements of physical fitness which enable him to perform the physical activity by depending on the body systems (Mahmoud, 2016).

The new military personnel: they are the new soldiers who receive training in the training schools that are specified for security devices and armed forces and are given the basic military sciences. During the training period, there is more focus on the professionalism in using weapons and raising the level of physical fitness. It also refers to the transfer from the civil domain to the military one and as well as receiving the required rehabilitation by following the military conduct (a procedural definition).

**The Study Procedures**

**The Study Methodology**

According to the study nature and as an achievement to its objectives, the researcher used the descriptive approach in its survey image due to its compatibility to the study nature.

**The Study Population**

The study population consisted of all the new military personnel attending the training school of gendarmerie, who received training during (12/1/2020) – (14/6/2020), with a total of (650) individuals, distributed to five groups.

**The Study Sample**

The study sample was selected purposively by reviewing the records of the medical staff in the training school of gendarmerie, including (3) doctors, (25) nurses and (2) emergency medics, working in the training school of gendarmerie.

**The Study Instrument**

The research used the questionnaire as a pre-developed instrument for sports injuries; the scale developed by (Shatnawi, 2016) was used and modified to be compatible with the nature and characteristics of the study sample. The questionnaire consisted of two parts; one is dedicated to general information, while the other is related to the types, sites and causes of injuries.

**The Study Variables**

**The Independent Variables**

Injury type, injury site, injury cause.

**The dependent variables**: the responses of the study sample individuals.

**The Statistical Processing**

(SPSS) was used in order to analyze the study data and answer the study questions, where a number of statistical methods were used, including percentages, frequencies, means and standard deviations.

**Displaying and Discussing the Results**
The results relating to the first question: What are the most common types of injuries during the period of physical preparation among the new military personnel attending the training school of gendarmerie?

In order to answer this question, the researcher obtained the number of injured individuals according to the medical records of the new military personnel. Table (1) shows the number of injured individuals according to the injury type and the percentage of each type of injuries.

<table>
<thead>
<tr>
<th>Injury type</th>
<th>Number of injuries</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin injuries</td>
<td>86</td>
<td>33.08%</td>
</tr>
<tr>
<td>Muscle injuries</td>
<td>66</td>
<td>25.38%</td>
</tr>
<tr>
<td>Joint injuries</td>
<td>15</td>
<td>5.77%</td>
</tr>
<tr>
<td>Bone injuries</td>
<td>36</td>
<td>13.85%</td>
</tr>
</tbody>
</table>

Table (1) showed that skin injuries (bruises, blisters, abrasions, wounds) were in the first place with (33.08%), followed by muscular injuries, such as rupture, cramp and contraction with a percentage of (25.38%), then bones injuries with a percentage of (13.85%), and finally joints injuries with a percentage of (5.77%). The following diagram shows the type of injury according to its prevalence.

The researcher attributes this finding to the fact that skin is the most common area exposing to injuries, from which the injury is transmitted to the internal parts, muscles and bones. Furthermore, skin is considered as the protecting guard of the body, which protects all the internal organs. The author suggested that skin injuries are different from any other injury in the other parts of the body, since it is considered as one of the strongest pillars of the body that prevent the bacterial infection and inflammations; when skin is injured, the body becomes in direct contact with the contaminated surrounding, and thus healthy procedures should be followed in the treatment of skin injuries. However, this finding contradicted with (Al-Awedian, Al-Ottom and Al-Khatatbeh, 2019) which revealed that the ankle joints are the most exposed site to injuries.

The results relating to the second question: What are the most common anatomical sites exposing injuries during the period of physical preparation among the new military personnel attending the training school of gendarmerie?

In order to answer this question, the researcher obtained the number of injured individuals according to the medical records of the new military personnel. The following diagram shows the site of injury and the frequency number of each injury site.
The diagram showed that the most common anatomical sites exposing injuries during the period of physical preparation among the new military personnel attending the training school of gendarmerie, were joint and ligament rupture. In this context, the joints of shoulder and elbow were exposed to injury, followed by cramp and contraction in the muscles of the thigh, then bruises, abrasions and wounds in hands. The other anatomical body sites were approximate in the percentage of exposure to injury.

The researcher attributes this finding to the nature of joints functions and their location in the body. If joints were not there, it would be difficult to move bones; therefore, joints injuries were in the first place. Also, the shape and site of the joint determine the workload on it since each joint has its own flexibility characteristics. The researcher suggested the shoulder joint with its surrounding muscles makes it under constant threat of injury. This finding disagreed with (Al-Awedian, Al-Ottom and Al-Khatatbeh, 2019) which revealed that wrist joints are the most exposed anatomical sites to injury and (Al-Thiabat, 2016) which showed that thighs are the most exposed anatomical sites to injury.

The results relating to the third question: What are the most common causes of injuries during the period of physical preparation among the new military personnel attending the training school of gendarmerie?

In order to answer this question, means and standard deviations were calculated for the causes of injuries among the new military personnel attending the training school of gendarmerie. Table (2) shows the most important causes.

Table 2. Means and Standard Deviations for the Causes of Injuries among the New Military Personnel Attending the Training School of Gendarmerie Ordered in a Descending Order

<table>
<thead>
<tr>
<th>Number</th>
<th>Cause of injury</th>
<th>Mean</th>
<th>Percentage</th>
<th>SD</th>
<th>Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Insufficient warm up</td>
<td>2.90</td>
<td>96.67%</td>
<td>0.31</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Wearing inappropriate shoes</td>
<td>2.77</td>
<td>92.22%</td>
<td>0.43</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Training overload during training</td>
<td>2.60</td>
<td>86.67%</td>
<td>0.62</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>Low skilled and physical level</td>
<td>2.53</td>
<td>84.44%</td>
<td>0.57</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Unsuitable field ground</td>
<td>2.43</td>
<td>81.11%</td>
<td>0.63</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Overlooking general fitness</td>
<td>2.40</td>
<td>80.00%</td>
<td>0.67</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>Low trainee capability in doing the desired tasks</td>
<td>2.13</td>
<td>71.11%</td>
<td>0.73</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>Deliberate rough contact of the trainee</td>
<td>2.07</td>
<td>68.89%</td>
<td>0.78</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>Inappropriate lighting during night training</td>
<td>1.97</td>
<td>65.56%</td>
<td>0.61</td>
<td>9</td>
</tr>
<tr>
<td>7</td>
<td>Lack of comprehensive medical investigations at the start of training</td>
<td>1.77</td>
<td>58.89%</td>
<td>0.68</td>
<td>10</td>
</tr>
</tbody>
</table>

Table (2) showed that the most common causes of injury among the new military personnel in the training school of gendarmerie were the insufficient warming up with a percentage of (96.67%), followed by wearing inappropriate shoes with a percentage of (92.22%), training overload during training with a percentage of (86.67%), low skilled and physical level with a percentage of (84.44%), inappropriate lighting during night training with a percentage of (65.56%), and finally the lack of comprehensive medical investigations at the start of training with a percentage of (58.89%).

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The researcher attributes this finding to the fact that trainees don't give sufficient time for warming up and coaches don't pay attention to the right bases of warming up. Coaches also don't give obvious regulations and explanations for the right way of warming up, and trainees don't comply with the coaches instructions about warming up which, in turn, increases the possibility of injuries. This finding agrees with (Ayyoub, 2011) which also revealed that the insufficient warming up is the main cause of injury.

II. CONCLUSIONS

According to the theoretical and applied data and based on the results analysis and discussion, the study concluded:

1. Skin injuries are the most common sports injuries among the new military personnel.
2. Ruptures of joints and ligaments are the most common anatomical sites exposing to sports injuries among the new military personnel.
3. Insufficient warming up is the most common cause for injuries among the new military personnel.

III. RECOMMENDATIONS

In the light of the results, the study recommended the following:

1. Conducting comprehensive physical and medical investigations to trainees before starting the training and focusing on the pursuit of injured individuals in particular.
2. Paying attention to the sufficient warming up in relation to the required skills and dedicating the main part of training for the basic training (military training) and the techniques of performing the new skills.
3. Not overlooking injuries, regardless their degree, as well diagnosing them well before starting the training once again.
4. The necessity of giving regular preventive advice about injuries in order to give the trainee an opportunity to avoid injury, while avoiding fatigue and overload training.

REFERENCES