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The comparison of spread of athletic injuries among male and female students of Zahedan Azad University majoring physical education

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ABSTRACT

The main goal of current research is to compare the spread of athletic injuries among male and female students of Zahedan Azad university majoring physical education. The statistic society included 200 male and female students majoring physical education who are studying in the first semester of 2012-2013. Forty five female and 47 male students were chosen as sample statistics. At the beginning of first semester of 2012-2013 along with arrangement of Azad university authorities, demographic data of all students who has enrolled in physical education and were studying including age, height, weight, major, athletic background and the number of practice sessions were taken. Then, a questionnaire including two sections was designed. The first section is for determining the kind and amount of injury spread and it has 4 rows as well as 4 columns in which rows are different body parts (head and face, spine, upper limb, lower limb) and columns are number of injury incidents, the reason of injury, time of injury and kind of injury. Also, the second section of the questionnaire is for determining the causes of injuries and it contains 14 questions which has been designed in order to collect complementary and additional information related to the research targets and knowing the athlete. The questions in this section are multiple choice and they were asked to note their features of their injuries and the level of their injuries. Komologroph- Smirnov test was used for research assumption test in order to determine the normalization and ManVitni test was used to answer the assumptions. Results showed that more than 70 percent of students were damaged in practical classes. Among different types of injuries among students, the highest level of injury is for muscle injury with 46 percent and then joint injury with 41 percent. The lowest amount if for bone injury with 30 percent. The most important reasons of these injuries are not proper equipments, not suitable warm up before the practice and not proper usage of educational equipment respectively. Furthermore, among injuries to different parts of the bodies of male and female, lower limbs have received the highest level of injury. So, considering the above results, it is necessary for managers, lecturers and students to pay more attention to causes of injuries in order to implementation the principle of prevention from injuries.

Key words: physical education, students athletic, injuries, educational activities, practical classes.

INTRODUCTION

By a simple glance at the discussion of injury and its consequences, it can be found that the related injury not only makes an athlete's physical health exposed to the risky conditions, but also it makes the athlete to be away from the sport fields reducing his or her fitness in this regard. Among this, there have been many different reasons making

sport injuries so that some of these may be related to the same athlete; in addition, hard exercises and practices also provide the background of these injuries [15]. The carried out researches by many domestic researchers agreed with this conclusion that the highest degree of these injuries have been subjected to the hamstring-muscles injuries and the bone injuries are the lowest degree of these problems in this regard. A research conducted in 2007 showed that the college athletes during the completion season may get more than 50% of physical injuries [9], Saheb Al Zamani in a research on the physical training students concluded that Handball is full of these injuries and one of them is subjected to the bruise [12]. another research in relation to the sport injuries is related to the stroke as the most common injury in this case [2,14]. Shahidi and Fooladi in their research concluded that most injuries happen when the coach has been into the stream of the competitions [4,13]. In relation to the reasons of these injuries, there have been also carried out studies. Rezvani (2008) has pointed to the role of equipments; Shahidi and Elyasi (1996-1998) talked about the lack of using protective instruments and Zakani discussed on the process of lack of Warm-up and tiredness of the body in relation to the sport injuries in this regard.

Elyasi in his research found a significant relationship between the background of the sport and the degree of total injury of the body [1]. Green et al (2007) in a research on Judo athletes concluded that the number of happened injuries in different weights and athletes with right and left-hand guards does not have a significant difference (2007). They stated the highest area of the injury is subjected to the upper-part of the body (79%) due to the throwing techniques; also, the hamstring-muscular injuries (57%) and the joint injuries (6% and 24%) were the most important parts of the injury, respectively. The aware of the degree of the injury and the occurrence of the sport injury seems to be necessary when the students participate in the related competitions because the necessary information about the different sport injuries and their occurrences can predict or reduce the degree of these injuries. Also the managers can explicitly fulfill their class plans for the future sport experts of the country [1].

Due to the participation of physical training students in different sport majors at the college time, they have to pass different environments experiencing special exercises and try to participate in different sport tournaments. By recognizing the type of the injury in every sport field and finding the discriminations and similarities of working limbs in different sport fields can suggest effective approaches to the coaches and athletes to prevent the related sport injuries among the physical training students.

MATERIALS AND METHODS

The statistical community of the study includes 200 girl and boy students of physical training field studying at the half semester of 2012-2013. Among this number, 45 girls' students and 47 boy students were selected as the sample of the study. At the beginning of the term during 2012-2013 and the arrangement of Zahedan Azad University officials, the demographical information of the whole students were registered including name, age, gender, weight, sport field and sport antecedent and their degree of sport injury. In order to get the required information, a questionnaire was used including multiple questions, table of gender and the degree of the injury. In order to determine the type of the injury and the occurrence of these disorders, a questionnaire including four-lines and four column table regarding to the different limbs of the body was applied in this case. These limbs include the head and face, body and spinal cord, upper and lower parts of the body; and the columns include the number of injuries, reason of injury, time of injury and type of injury. In order to determine the reasons of the injury, a questionnaire including 14 questions was used. A questionnaire was adjusted for gathering more information in relation to the targets of the study. The questions of this section were selected as multiple choices. In order to analyze the information of the study, the descriptive and inferential statistics was applied. The descriptive statistical method was applied to describe, rank and adjust the raw scores through measuring the mean, minimum and maximum of the degree, standard deviation, tables and diagrams. The inferential statistical method was applied for the research hypotheses test. Due to the lack of variables' normality, Smirnov-Kolmogoroff test was used to determine the normality of the data and response to the main questions, raw information by applying SPSS-16; the obtained information from the participants was specified as simple distribution and percent form of the study.

RESULTS

In relation to the whole injuries, as it mentioned in table 1, about 72.3% of boys and 71.1% of the girls had sport injury but about 27.7% of boys and 28.9% of the girls had no any sport injury; totally, about 71.7% of the whole participants had sport injury and 28.3% had no these injuries in the research.

Table 1: comparison of the whole injuries' occurrence among boys and girls students

Rank	Boys	Girls	General
Injured	72.3	71.1	71.7
Health	27.7	28.9	28.3

According to these findings and as it mentioned in table 2, it is observed that the degree of muscular injuries is 45.7% and the joint injuries 41.3% and the minimum degree is 35% subjecting to the bone injuries in relation to the boys and girls of different sport fields.

Table 2: percent of total injuries in educational activities

Rank	Muscular injury	Joint injury	Bone injury
Percent of injury at sport activities	45.7	41.3	35

In relation to the occurrence of the different parts of the body among the girls and boys shown in table 3, the highest degree of the injuries is subjected to the upper limbs 53 and 47 percents, respectively and then the lowest degree is subjected to lower limbs of the body as 8 and 10 percents happened in this cases.

Table 3: percent of injuries' occurrence in different parts of the body

Rank	Lower limbs injury	Upper limbs injury	Body injury	Head injury
Boy	53	27	8	12
Girl	47	30	10	13

Among the parts of the body, the ankle (23.3%) as the highest and fingers (19.7%); Wrist (15.5%) and wrist of the feet (13%) were considered as the lowest degree of the related injuries.

Table 4: percent of occurrence of different injuries in different parts of the body

Rank	Ankle	Wrist	Foot wrist	Fingers
Percent of injury	23.3	15.5	13	19.7

According to the obtained results, the main priorities making the occurrence of the injury between the students are as following:

- 1-The lack of instruments and equipments
- 2-The lack of warm-up before the exercise
- 3-Unsuitable sport facilities
- 4-The lack of considering safety issues
- 5-The lack of familiarity with warm-up techniques
- 6-The lack of coach

Table 5: reasons of occurrence the injury among girls

Rank	Lack of equipments	Lack of warm-up	Unsuitable sport equipments	Lack of considering safety	Lack of familiarity with warm-up	Lack of coach
Percent of injury at girls	9.38	9.16	8.86	8.19	7.96	7.41

According to the obtained results, the main priorities making the occurrence of the injury between the students are as following:

- 1-The lack of warm-up
- 2-The lack of instruments
- 3-Unsuitable sport facilities
- 4-The lack of coach
- 5-The lack of familiarity with body-building techniques
- 6-High exercises

Table 6: reasons of occurrence the injury among boys

Rank	Lack of equipments	Lack of warm-up	Unsuitable sport equipments	Lack of considering safety	Lack of familiarity with warm-up	Lack of coach
Percent of injury at boys	9.56	8.01	7.96	7.91	7.81	7.69

DISCUSSION AND CONCLUSION

In the present study the injury of the ankle was the highest degree of the injury by 23.3% and following the fingers (19.7%), wrist (15.5%) and wrist of feet (13%) establish at the next ranking of the injury. In one hand, the lower limbs and then the upper limbs as well as the muscular injuries and joint dysfunctions had the highest degree of these injuries. Huglound (2009), Kanovakova (2007), Jenny et al (2009), Rajabi (1992) in their studies reported the highest occurrence of the injury subjecting to the muscle stretching among the students due to the practical working pressure of the college and the lack of fitness of their body. As it mentioned in the results of the present research, the degree of the injuries is very high among the students so that from every 100 people, more than 70 ones have these injuries. The results of the research in relation to the foreign researches have not been coincident together. In a research led in Colorado State during 1998-1999, this degree is reached and reported to 22 people from every 100 ones. The findings of the research show that the most important reasons of the related injuries are subjected to the lack of suitable instruments and equipments as well as the lack of warm-up. In addition, it may be subjected to the seasonal examinations day of the students reducing their potentials at their own sport activities. Also, among these injuries the muscular injuries and then the bone injuries have been devoted to the degrees of maximum and minimum injuries, respectively. In relation to the increase of the muscular injuries, it should be stated that the nature of most physical activities have been come along with physical clashes and sudden jump or abrupt stops happening between the athletes of different sport fields, these kinds of the injuries may happen at any time during the tournaments. Hence, it can be expected that the degree of the muscular injuries have been devoted to high number of these issues. The results of the research are coincident with foreign studies in this case [11]. also, among these injuries happening in different parts of the body, the lower limbs is exposed to high risky injuries that the most common injuries are as following:

Stretching and bruise and the most susceptible area of the body is subjected to the wrist of foot and ankle of the foot. The fingers are the most susceptible part of the injury among the boys and girls and the lowest degree is subjected to the skull. The reason is related to those sport activities having or consisting of the parts of the body such as volleyball, handball, and basketball activities; in the whole mentioned sport activities there are too much challenging and clashing activities between the players and athletes causing to the direct strike on their fingers and finally going towards the muscular injuries in this case. As a result, high pressure on the muscles, ligaments and tendons may take place bringing risky conditions over these limbs potentially. This also damages on the muscular capsule harshly. In relation to the fingers, as we know the whole fingers have three-joints but the thumb composing short and thin bones in terms of the bone structures. In one hand, there have been supplementary muscles across these fingers; so, the joints of these fingers get weakly supported according to their muscular structure. In the other hand, this situation is considered for keeping the exclusive feature of the personal fingers making a special benefit for people; that is, fulfilling sophisticated and skillful actions such as writing, painting and playing can make these injuries due to the explanations of this limb for turning actions. The results of the research are to some extent coincident with foreign studies in this case. There have been various factors intervening with the occurrence of these injuries; the highest degree of these injuries among girls is subjected to the deficiency of the suitable equipments and the lack of warm-up is related to boys' problems in this case. The lowest degree of the injury in girls is subjected to the stress and panic issues and in boys it is related to the motivational and internal interest in this regard. The lack of enough experience in the completion of the skills is another reason for making the high pressure on the joints and non-natural movement of the joints motor function. In relation to the lack of safety issues such as the lack of wearing suitable sport equipments and the use of sport protective coverings may also be effective in making these injuries as well. Sometimes a sport injury may be regarded to its nature in this case. For example, the nature of the soccer is being achieved and affected in lower limbs and the upper limbs are little being affected in this case. So, the observation of any injuries in lower limbs is highly tangible in compare to upper limbs. In volleyball the strike of the ball with hands and the completion of the service of the ball cause to the occurrence of various injuries in the lower limbs. Also, it sometimes is subjected to the inflation of the muscles due to the stiffness of the muscular actions leading to the bruise of the athletes in this regard. The most considerable issue regarding to the people's physical

status is subjected to the low physical fitness of the athletes; in one hand, every sport field requires special indices of the physical fitness and the lack of this process causes to the occurrence of various injuries among athletes.

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