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SPORTS INJURIES IN STUDENTS – ATHLETES

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ABSTRACT
An inquiry with students from Trakia University, Stara Zagora is carried out. The aim of the study is to determine the current state of sports injuries in student sports. To realize the goal are placed the following tasks: to conduct a survey with students athletes on sports injuries; to process and analyze the results of the survey; to draw concrete conclusions from the survey; to make recommendations for practice. In order to achieve the above research purposes are applied theoretical analysis, questionnaire method, alternative analysis and graphic analysis. The survey is conducted in 2017. The questionnaire includes nineteen basic questions, some of them are open. The students-athletes have the opportunity to indicate more than one answer for some questions. Results: registered are existing injuries related to sports and it is found that some of the methods and means of treatment and prevention are not well-known to students-athletes. The survey results make it necessary to seek and implement academic practice methods and tools to facilitate the recognition of sports injuries and upgrading of skills for the protection of their own health.

Key words: student sport, treatment of sports injuries

INTRODUCTION

The sport traumatism (4) is the combination of sports injuries received by the participants in a sporting society for a certain period of time. Chronic overload of the musculoskeletal system in athletes is often a cause of pain in the extremities and spine. This, in turn, is an obstacle to active training, worsening sports outcomes and adversely affecting long-lasting sports careers. The prophylaxis and treatment of sports injuries are an important medical and social problem for sports and rehabilitation medicine (10). As a number of casualties were found in sporting and recreational activities, the "Safety in Sport" Network was established in the EU. It aims to share knowledge on the prevention of acute and sportive surgeons and to improve exchanges between European experts in science and practice. It also develops pilot safety management programs for a wide range of sporting activities, such as winter sports and ball sports, and supports the wider application of good practices by local, national and international sports organizations. In our view, in order to assess the state of sporting traumatism in an academic environment, an adequate risk assessment of athletic students and their health status is required by recording existing injuries and traumas.

PURPOSE

The **aim** of this study is to establish the current state of sport traumatism in student sport. The following **tasks** were set to achieve the goal: to conduct a survey of students - athletes about sports injuries; process and analyze the survey results; make specific conclusions from the survey; make recommendations for practice.

METHODS

In order to achieve the purpose and the realization of the tasks in the study are applied: theoretical analysis, questionnaire method, alternative analysis and graphic analysis. The subject of the study is 29 men and 24 women, 17 of them are soccer, volleyball 11, grass hockey 10, rugby 9, badminton 7 and table tennis 2. The survey was conducted in 2017. The questionnaire contains nineteen key questions, some of which are open. Athletic students have the opportunity to point out more than one answer to some questions, which implies results with a total score of more than 100%.

RESULTS AND DISCUSSION

Tables 1 and 2 provide the answers to questions about sports attendance, internship and workload of the athletes participating in the survey. Among the students there are participants in competitions at national level. The largest is the relative share of the students participating in the State championships - 57%. The relative share of participants in the Universiade is 19%, the Bulgarian Cup competed 14%, and in the Republican Championship 10%. The relative share of respondents training 1 to 5 years is 49%, and the share (21%) of those with the longest experience of 11-16 years is not small. From 6 to 10 years is the internship for students with a relative share of 30%. Regarding the number of hours of training duration, the highest share is - (64%) of those who spend 2 to 5 hours per week. Satisfactory is the duration of 6 to 10 training hours in 22% of the sports students. The smallest is (14%) of those who are physically loaded from 11 to 18 hours a week. All these facts allow us to assume that the students interviewed would have sports injuries to register.

Table 1. *Answer to the question "What are your sports successes?"*

Achieved success in the form of sporting participation	Relative share (%)
Universiade	**19%**
Republican Championship	**10%**
Bulgarian Cup	**14%**
State Championship	**57%**

Table 2. *Answers to the questions "How many years of sporting experience do you have?" and "How many hours a week do you train?"*

Years of sports training	Relative share (%)	Number of hours per week workouts (hours)	Relative share (%)
1 to 5	**49**	**2 to 5**	**64**
6 to 10	**30**	**6 to 10**	**22**
11 to 16	**21**	**11 to 18**	**14**

When asked whether they had a trauma related to sports, the majority of students responded negatively - (62%). It is not to downplay the number of confirmed trauma to sport (38%).(**Figure 1**)

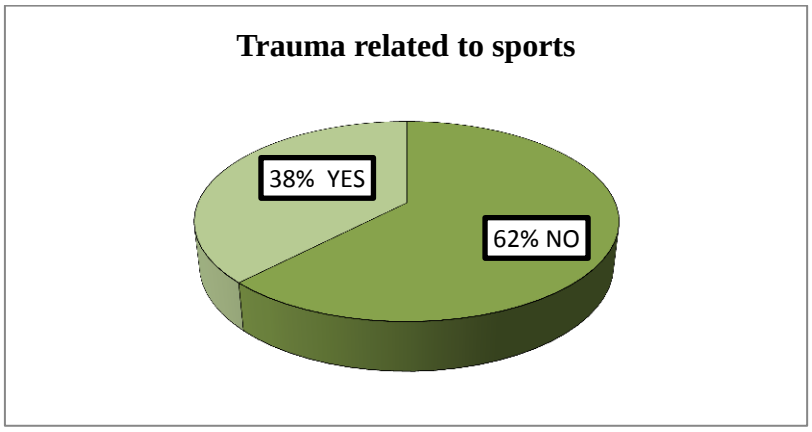

Figure 1. Answer the question "Do you have a trauma related to practicing sport?"

The question of warming as an important element of the right workout is included in the survey in order to look for the preconditions for traumatism in the missed warming or insufficient duration (**Figure 2**). More than half of the surveyed persons - a relative share (65%) assure that warming reaches the most commonly used duration - twenty minutes. Probably the motivation of the other part (35%) is greater, as they spend more time and attention on warming - over 25 minutes.

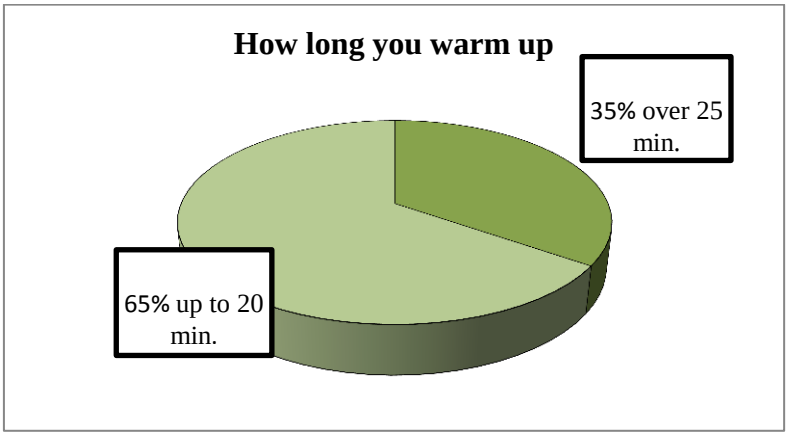

Figure 2. Answer the question "How much time do you spend on warming up?"

In a survey of climbers, Belomageva-Dimitrova and Vidinovski (1) found that a high percentage of men and women did not carry out a break or stretching after a workout and competition. In **Figure 3** illustrates the attitude of athletes-students towards dissolution and stretching. Satisfactory is the relative share of positive responses - 70%, and 30% of those who ignore this important part of sports training.

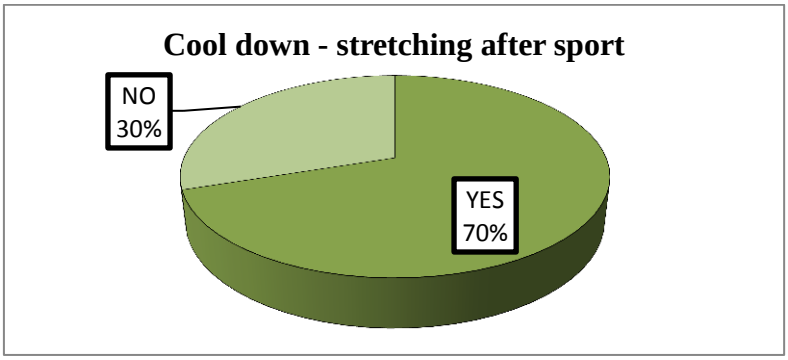

Figure 3. Answer the question "Do you run a cool down - stretching after practicing a sport?"

From **Figure 4** the answer to the connection between the sport activity and the injuries becomes clear. Disturbing is the fact that almost half of respondents - a relative share (45%) - already have traumas provoked by sports. This necessitates a better understanding of the methods of prophylaxis and treatment of sports injuries. The relative share of student athletes who did not have a negative relationship between sport and injuries was 55%.

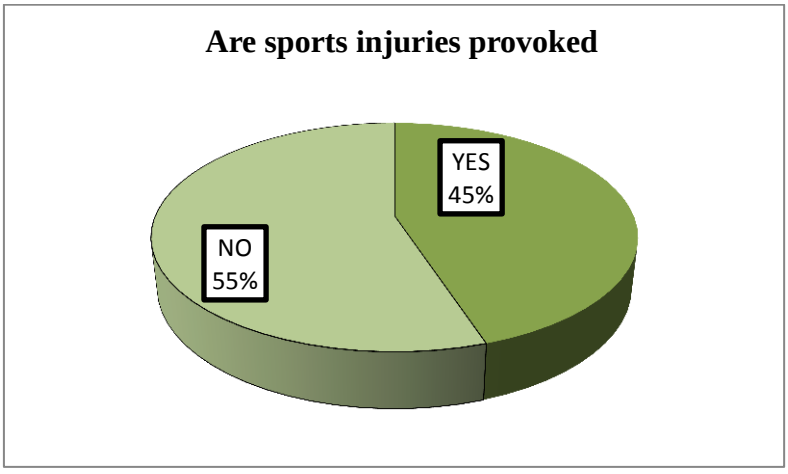

Figure 4 Answer the question "Are your sports injuries provoked?"

In **Figure 5** shows the answer to the crucial question of whether the athletes students already have already existing chronic traumas. The relative share of negative responses - 71% indicates that sports training in an academic environment is being conducted correctly. However, we should also pay attention to the relative share of student athletes with already

established chronic trauma - 29%. Surveys from volunteer students from non-specialized higher education institutions (Doncheva, M., O. Kachev, 2014; Bojkova, A., 2007) (5, 2) show that both acute and chronic traumas caused by microtraumatic injuries occur gradually and as a result of repeated loading in the body-specific parts of the volleyball. Acute traumas are mostly recorded for fingers and ankles, and chronic - for knees and shoulder belts.

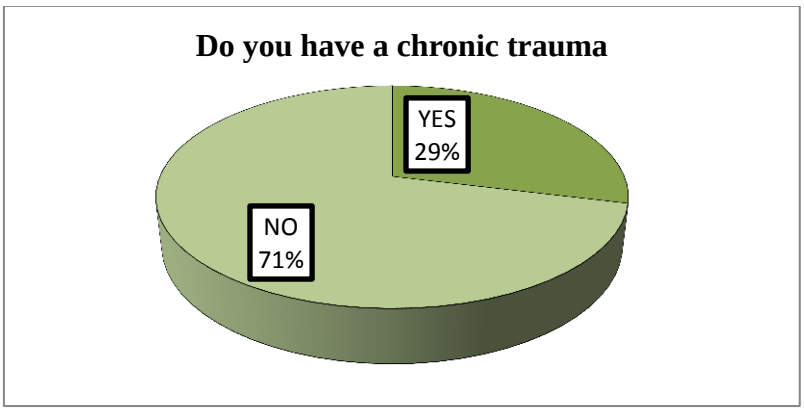

Figure 5. Answer the question "Do you have a chronic trauma?"

From **Figure 6** shows the particular trauma of a lower limb. The highest is the relative share of knee joint injuries - 40%. This is probably because of the type of sport that most respondents exercise, namely football, grass hockey, rugby and volleyball. These collective sports are likely to have an impact on other athletic students with lower limb problems. The relative share for ankle joint trauma is 33%, for fingers 11% and 16% for muscle-tendon injuries of a lower limb.

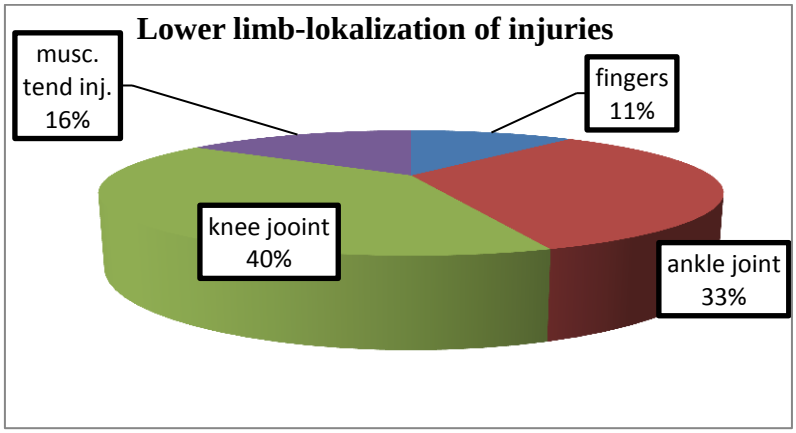

Figure 6. Answer the question "Specify which part of the lower limb is the trauma?"

In **Figure 7** the relative portions of the location of the various upper limb trauma are elucidated. The largest share of injuries in fingers, wrist and shoulder joint - 23%. Less and almost equal is the proportion of injuries of elbow joint-16% and muscle-tendon to upper limb - 15%.

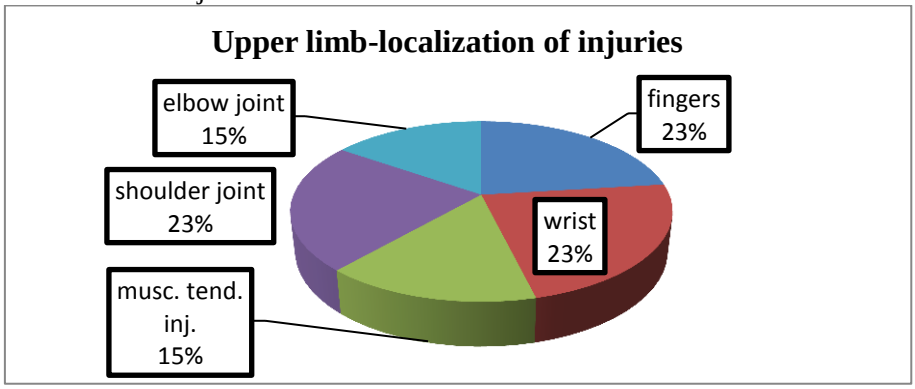

Figure 7. Answer the question "Specify which part of the upper limb is the trauma?"

In **Figure 8** is the answer to the question "If you have received a sports injury, indicate which part of the body - head, neck, back?". Highest is the proportion of students who have suffered injuries in the back (88%). Calming is the fact that there are no injuries to the head and the relative share (12%) of trauma in the neck is extremely small.

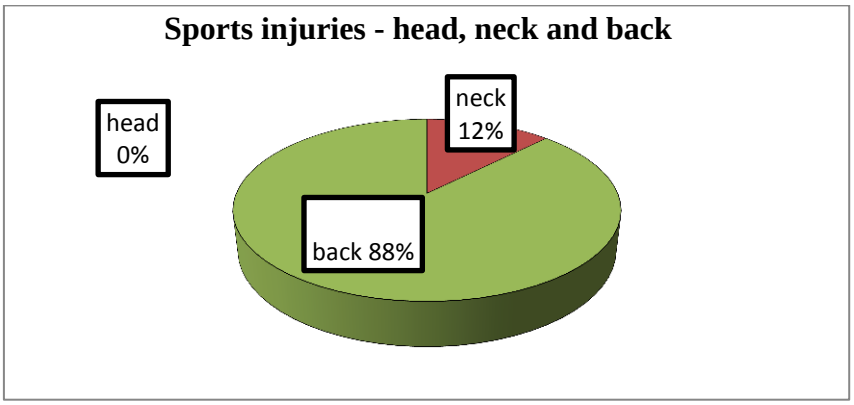

Figure 8. Answer the question "If you have a sports injury, indicate which part of the body - head, neck, back?"

In the studies with student athletes M. Rohleva (9) found that combining physical overload of thelocomotory system and mental overload in an academic environment forced the athletes to pay little attention to the traumas to a slight extent. Popova, N., A. Gotchkov, P. Doganov (8) establish the distribution, type and localization of traumas in students who are engaged in orientation as a sports activity of choice in their higher school. The contingent of the study is 33 students (average age 21.2), practicing sport orientation at four higher schools in Bulgaria. The results show that 47.6% of men and 66.7% of women reported trauma related to guidance. The ankle (38.7%) and the knee (41.7%) were the most common in men. In 33.3% of men there is a more frequent trauma of over-tension, and in women there are sharp injuries (41.7%). The highest percentage is the musculoskeletal trauma in males - 47.6%, while there is no predominant type of trauma in women. The authors conclude that light and moderate injuries predominate in sport orientation students. Sports traumatism violates the training process - personal effectiveness drops, and this also affects the overall work with the team, disturbing the overall activity in the learning process. L. Hangying (11) explains that muscle stretches and ligaments are the most common injuries in students practicing volleyball, basketball and track and field athletics. As the main cause of trauma, this author points out the insufficient warming and weakness of student athletes. I. Miteva (7) points out that in Europe more boys than girls (15-24 years old) practice sports (71% compared to 50%). Other authors offer the use of nutritional supplements for athletes, including students and athletes, both in their complex preparation and as a means of restoration and prevention of injuries (Draganov, G., A. Bozhkova, 2009; Bozhkova, A. Draganov, 2009) (6, 3).

CONCLUSIONS

There are traumas related to the practice of sport at the university. Sports also plays a provocative role in chronic injuries. The trauma of the lower limbs prevails - knee and ankle joints in the students surveyed. Warm-up, dissolution and stretching are performed as part of the training process of the students interviewed but probably insufficient as a duration or poor performance technique.

RECOMMENDATIONS

• To improve coordination between physical education and sport educators, medical specialists, coaches and athletes. To improve awareness and knowledge of sports traumatism for prevention and adequate treatment. This will contribute to creating lasting attitudes and habits to prevent risky actions.

• To seek and apply in academic practice methods and tools to facilitate the recognition of sports injuries and to enhance the skills for protecting their own health. This will ensure the enjoyment of sporting activities.

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