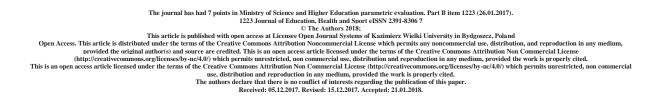
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## Comparison of knowledge non-medical and medical students about the sport of people with disabilities

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## **Summary**

Introduction and aim: Physical activity is a very important part of everyone's life. It has positive effect on the functioning of the body of both healthy people and people with disabilities. Many disabled people take competitive sports with very good results. These individuals can find support in a number of organizations cooperating with disabled athletes. The main aim of this article is to compare the knowledge of students of medical and non-medical universities about sport of disabled people.

Material and methods: Research was carried out among students of medical and nonmedical universities. Tested 152 people - 93 women and 59 men. Diagnostic survey questionnaire method was used during the test. The questionnaire consisted of 17 questions and specifications relating to sport for the disabled.

Results: The definition of a disabled person were able to identify by 70% of the surveyed students. 42% of respondents could not indicate the names of the disabled athlete. The majority of respondents (medical and non-medical professions) have seen competition of disabled people on television or the Internet. Rehabilitation and improvement of mental health, were indicated by respondents as the most important benefits of doing sport for disabled.

Conclusions: The level of knowledge of students about sport for the disabled can be considered as satisfying.

Keywords: disability, disabled sports, knowledge, rehabilitation.

## Introduction

The World Health Organization (WHO) defines a disabled person as "a person who cannot independently, partially or completely, to secure the possibility of a normal individual and social life as a result of congenital or acquired impairment of physical or mental fitness"

#### [1].

There are three degrees of disability [2]:

- Significant a person having compromised the efficiency of the body unable to take up employment; capable of carrying out work in a sheltered workshop or factory professional activation; requiring permanent or long-term care or assistance from another person in connection with a much reduced possibility of independent existence. It is necessary to perform social roles by disabled people.
- 2. Moderate a person with disturbed the efficiency of the body, capable of carrying out work at the workplace properly adapted to the needs and possibilities arising from disability; this people requires partial or temporary assistance from another person in connection with the limited possibility of independent existence. It is necessary to perform social roles by disabled people.
- 3. Lightweight people with disturbed the efficiency of the body, capable of carrying out work which does not require the help of another person to perform social roles.

According to data from the Central Statistical Office for the year 2011 in Poland was 4697.5 thousand persons with disabilities. 2167.1 thousand of them were male, while

2530.4 thousand. are women. People with disabilities were at that time 12.2% of the population [3].

Over the centuries, the attitude of the society to people with disabilities has changed. Image of disabled people as "another person", dependent, needing help in every situation and not able to work had functioned for a long time. Today, the ratio of people with disabilities is changing for the better compared to the old times. Research conducted by Opinion Research Center in 2007, shows that 45% of Poles believe that our society has a good attitude to people with disabilities, and 48% that it is bad [4]. Many workplaces offer employment for people with disabilities. As a result, they have the opportunity to develop and integrate with healthy people, and become financially independent.

Physical activity plays an important role in the life of every person. That affects on the physical fitness and health of the whole body. Movement plays an important role in the existence of a disabled person. It is a form of rehabilitation and the opportunity to make new interpersonal contacts. It also allows to reduce or even completely remove mental barriers of people affected by disability.

A large part of people with disabilities has taken various forms of physical activity. Some of them treat it as a recreation or rehabilitation. Many disabled people take the activity associated with competitive sports. They achieve very good results in numerous sports competitions, including a performance at the Paralympics. According to the Polish Sports Association for the Disabled "Start", in 2014 the senior athletes participating in Paralympic disciplines consisted of 231 people.

The first Summer Paralympic Games took place in Rome in 1960 under the name Olympiad Paraplegics. In turn, the Winter Paralympic Games was first organized in 1976 in Ornskoldsvik in Sweden [5]. Paralympic Games are organized every four years, within 2-3 weeks after the Olympic Games. Polish representatives for the first time participated in the Paralympics in Heidelberg in 1972. Polish Paralympics take part in 25 disciplines - 20 summer and winter 5 [6]. In the world there are many disabled people's organizations who want to play sports, for example. International Wheelchair and Amputee Sports Federation and amputated (Iwase), the International Sports Federation of the Blind (IBSA) and the International Sports Federation of Persons with Intellectual Disability (INAS-FID). In Poland, the important role have: Polish Sports Association for the Disabled "Start" (Polish Sports Association "Start"), the Association of Physical Culture Sport and Tourism of the

Blind and Visually Impaired - CROSS, Foundation for Active Rehabilitation - FAR [7,8].

#### **Objective of the work**

Comparison of knowledge of students of medical and non-medical faculties about sports of persons with disabilities. Based on the social conviction it is possible to introduce the hypothesis that students of medical faculties are more knowledgeable about the sport of disabled persons in comparison with their colleagues from other faculties.

## Material and methods

The study involved 152 students (93 women and 59 men) aged 19 to 30 years. Among them 69 were medical universities students and 83 non-medical universities students. 29 % of respondents were students living in rural areas, while 71% live in the cities.

Proprietary research tool was a questionnaire consisting of 9 single-choice test questions, and 8 multiple-choice questions with the possibility of adding your own answers (for the purposes of this reports selected only a few of them).

## Results

Below are the results obtained after the author's survey.

The first question concerned the WHO-definition of a disabled person. The correct answer was given by 74% of students from medical faculties and 67% of non-medical (Fig. 1).

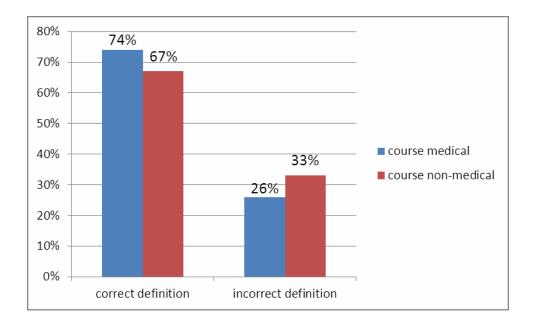


Fig. 1. Knowledge of the definition of a disabled person.

99% of all students, which 100% of medical 98% of non-medical, declared that they have heard about sport of disabled people. When it comes to discipline practiced by people with disabilities, respondents could choose multiple among several propositions. There was the possibility of adding other disciplines. The most common answer among students of medical universities was swimming (93%), next: table tennis (81%) and basketball (74%). Their colleagues from other universities pointed to basketball – (78%), table tennis (77%) - swimming (66%).

Among medical students 51% were able to identify the names of two athletes with disabilities, 16% one athlete, 33% could not identify any athlete with a disability. Among students from other faculties, these responses were: 25%, 25%, 50%. In total, 42% of all students could replace an athlete with a disability (Fig. 2).

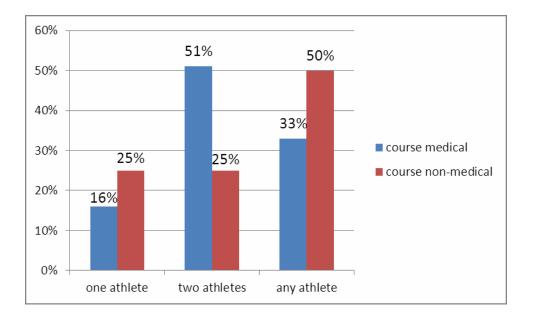


Fig. 2. Knowledge of the names of athletes with disabilities.

88% of the respondents (93% medical and 83% non-medical) watched the competition of persons with disabilities, of which: 22% - in medical and 5% - other faculties of live, 71% (medical) 78% (non-medical) on TV or the Internet, the rest not seen at all.

87% of students of medical schools and 73% of people from other universities answered that disabled sport is not sufficiently popularized, 4% (medical) and 17% (non-medical) have no opinion on the subject. The others believe that it is well known (Fig. 3).

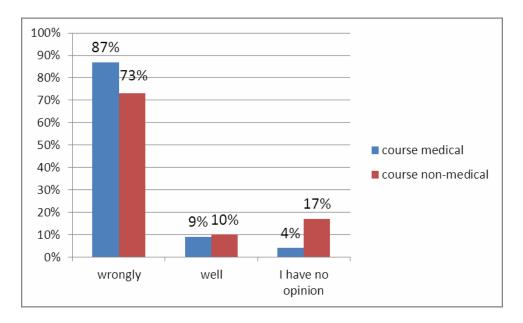


Fig. 3. The prevalence of disability sport.

Respondents had to identify the barriers that in their opinion the most limited with disabled persons in sporting activities. They had the ability to choose from list of limitations. And so, as the most important obstacles indicated by students of medical universities were "the lack of qualified people engaged in sports activities with handicapped / trainers" - 71%, "the lack of suitably adapted sports" - 67%, "Financial - too expensive equipment" - 61%. Their colleagues from non-medical universities responded as follows: "the lack of suitably adapted sports" - 71%, "Financial - too expensive equipment" - 63%, and "lack of qualified people engaged in sports activities with handicapped / trainers" - 52%.

On the question about institutions bringing together athletes with disabilities 77% of respondents (61% medical universities students and 90% other universities students) answered that they did not know. 39% of medical and 10% of nonmedical students declared that they had heard about them. Most often mentioned was the Polish Sports Association for the Disabled "Start" and the Foundation for Active Rehabilitation. Among the people who have heard of these institutions were also responses indicating that respondents do not remember their names.

Medical students decided that the best sports of disabilities is the best promoted by television (49%). Group of respondents from other universities indicated the Internet as a main source of promoting a sport of disabled people (46%) (Fig. 4).

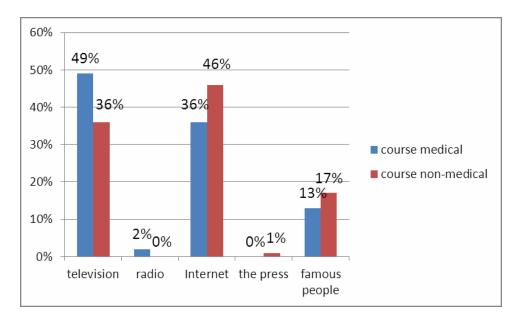
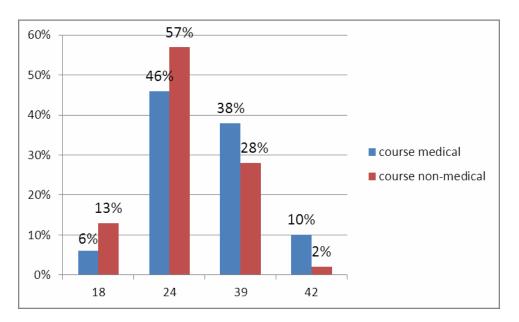
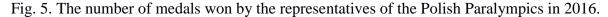


Fig. 4. Forms of media to promote disabled sports.

Rehabilitation was indicated by 32% students of medical universities as the most important benefit of doing sport by people with disabilities. 46% of non-medical universities students indicated the improvement of mental condition as the main benefit. When it comes to sports of mentally disabled people 86% of the medical faculties and 69% from other fields of study thinks that these people play sports, and as a discipline frequently pointed swimming and running. In determining the sport of people with disabilities within the locomotor system, 96% of medical and 89% of non-medical students know about the possibility of practicing sport by this group of people and shows mainly: table tennis, football and basketball amp wheelchair.

Respondents were asked to indicate, among these, the number of medals won by the representatives of the Polish Paralympic Games in Rio de Janeiro in 2016. The correct answer (39) was given by 38% of students of medical and 28% of non-medical college (Fig. 5).





13% of the respondents of medical schools and 27% from other universities believes that people with physically and intellectually disabilities take part in the same sports events. Then the students were asked whether they thought the blind and visually impaired people practice running. Affirmatively answered 81% of the medical faculties and 65% of nonmedical. Next question was about the skiing of people with amputated limb. 78% of medical students, and 71% from other universities gave the correct answer. The last question was about playing Goalball. 58% of medical students and 48% of other faculties students, correctly pointed that this discipline is done by the blind and visually impaired.

### Discussion

Disabled sport had significantly developed in last several dozen years. We can indicate rising public interest in the competitions of disabled sports. According to Sahaj "number of people tracking struggles sports arenas in London during the Olympic Games in 2012 exceeded 5 billion people" when it comes to Paralympic Games "the opening ceremony (...) watched more than 11 million Britons, and more than 2 million tickets for the competition were sold," [9].

From the above study conducted by the authors shows that 74% of students from medical universities and 67% of non-medical can indicate the definition of a disabled person.

Test results of Dywejko research et al. indicate that 73.3% of respondents, nonmedical college students, cannot indicate a name of disabled athlete. A group of students surveyed considered that disabled sport is treated generally as a form of rehabilitation. The respondents indicated the television as the main source of information about the sport of disabled [10]. According to research their own up to 50% non-medical students and 33% of medical students is not able to provide the names of a disabled athlete. About the impact of sport on people with disabilities, a non-medical college students indicated that the most important is to improve the mental state (46%) and medical students recognize that rehabilitation (32%). They also indicated television and the Internet as the main sources of promoting disability sport. In turn, another study by Dywejko et al. shows that 98.2% of medical college students and 93.2% of students of other universities, declared that they had heard about disabled sport. About knowledge of the names of the athlete with a disability 92% of medical and 84.1% of non-medical students could not indicate that person. As a source of knowledge about disabled sports activity all the respondents give the Internet. Students of medical schools indicated satisfaction as the main benefit flowing from the sport for people with disabilities. The non-medical students indicated a rehabilitation [11]. In our study we show that 100% of students of the medical degrees and 98% from other fields of study have heard about sport of disabled people. It is also shown that 33% of students in medical schools and 50% from other universities could not indicate the names of the disabled athlete. With regard to the promotion of the sport, respondents indicated television (medics) and the Internet (not doctors). Medical students indicated

rehabilitation as a major benefit of sport for people with disabilities, while the rest of the respondents indicate improvement of mental status. Lewandowski et al. report that they studied a group of students of physiotherapy as institutions associating with disabilities pointed Polish Sports Association for the Disabled "Start" and the Foundation for Active Rehabilitation. Whereas the main barriers to people with disabilities for doing sports, indicate the architectural and financial restrictions [12]. In discussion of the results of their research can be seen that the students also pointed to the Polish Sports Association for the Disabled "Start" and the Foundation for Active Rehabilitation as support athletes with disabilities. As for the restrictions on the practice of sport asked group, apart from those mentioned above, also pointed to "the lack of qualified people engaged in sports activities with handicapped / trainers." As indicated Bolach et al. the main motivator for people with disabilities to play sports are competitive and the desire to achieve success and health factors, which points to the need and desire for this sport in the this group of society [13]. Frydlewicz-Bartman and Rykała in their studies show that people with spinal cord injury your motivation to define sport as a continuation of the rehabilitation and maintenance of contact with the public [14].

#### Conclusions

Students' knowledge about the sport for the disabled can be considered as gratifying. More knowledge on this subject have students of at medical degrees which may be a result of the curriculum in medical schools.

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