

The level of swimming ability of students at FCHPT STU for the last 30 years

Authors' Contribution:

A - Study Design
B - Data Collection
C - Statistical Analysis
D - Manuscript Preparation
E - Funds Collection

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Abstract

Introduction: Purpose of swimming lessons is to teach non swimmers how to swim and remove their fear from water, with swimmers we are improving individual swimming styles. The aim of the study is to monitor the level of the swimming abilities at FCHPT and compare it with the swimming standards. **Methods.** The experimental sample consisted of 1160 respondents (494 boys and 666 girls) from the Faculty of Chemical and Food Technology, Slovak University of Technology in Bratislava.. Measurement was carried out in the 25 meter indoorpools in Bratislava. We have tested the swimming ability by 100 meters free style. This kind of test is normally used in educational practice. The choice of swimming style is not critical in terms of the achieved time as in competitive swimming, because many times students have achieved better times when they were swimming breaststroke than free style with many technical mistakes. Men and women of competence we compared with standards from the year 2000. **The results:** Based on our results, we found that the number of non-swimmers decreased compare to the year 1985. Since 1995 it is basically at the same level. In 1995 it was around 27%, in recent years, the number of non-swimmers have already dropped to a level of around 10%. In 1985 females non swimmers were almost 38%, in the following years the value stabilized between 15-20%. When comparing the changes in the level of competence in a range of 30 years we basically have not found out any abnormalities besides years 1995-1996. In all years the average measured time has been almost at the same level. Comparing to standards, men on level 136.7 s, women on level 172,4, (Macejková, 2008), our students swam around these levels. Only years 1995-1996 differs significantly because our students swam better than listed standards.. **Summary:** Since 1979, it is the duty of the school to provide a swimming course for its students. We assume that the main cause of the high number of non-swimmers in 1985 was that university students did not have the opportunity to learn how to swim when they were younger. In 1995 on the other hand started to study at the university students who had already completed this training and it is reflected in the number of non- swimmers. Nowadays, these swimming courses depend on the financial situation of schools and parents, because they support it. As these days swimming is not a mandatory course at primary and secondary schools, we are trying to remove illiteracy by including swimming as a compulsory subject in the first year at our faculty.

Keywords: swimming ability, the higher the population, swimmers, non- swimmers, students

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Received: 11.07.2016; Accepted: 5.09.2016; Published online: 7.11.2016

INTRODUCTION

Physical activities in water environment are essential for man's health. The level of swimming abilities is conditioned by level of swimming technique. Improving of swimming technique is not time conditioned and therefore it makes a very important part of swimming lessons. The time needed for mastering swimming skills is dependent on adaptation to the water environment and the quality of coordination abilities [1]. Physical education at universities is part of preparing students for their future professional lives and at the same time contributes to maintain and improve the health during the study.

Swimming is the healthiest among all physical activities and it several times surpass options of physical education at school. Importance of swimming has a very wide range. When do you swim, your body is in horizontal position, which has positive impact on the cardiovascular system. In water, organism cannot be overheated, water lightens your body therefore it does not strain your joints. All of the muscle parties are involved, with hardening you provide your immunity stronger and it has positive impact on people who suffer from asthma.

Swimming illiteracy directly threatens safety of youth, and also adults. To know how to swim means to create permanent conditions, which later can play an important role of effective source of active moving development. Testing the level of swimming ability discovers non-swimmers or swimmers-beginners. Swimming and swimming sports at universities are included in the program of physical education and they are based on free choice. Students of the first year can choose the content of lesson in accordance with their own interests (sport games, tourism, aerobic, swimming,...). Department of Physical Education of FCHPT has included swimming as an obligatory subject within physical education into curriculum. By accepting this, they are trying to eliminate swimming illiteracy and improve swimming styles, which students already know. It leads to immediate, spontaneous and safety movement in water environment and they acquire abilities such as jumping into the water, basics of water polo and exercises in water.

Purpose of swimming lessons is to teach non-swimmers how to swim and remove their fear from water. With swimmers we are improving individual swimming styles. Most popular among all of the swimming styles is breaststroke, then crawl and than backstroke. The major difference between optional and obligatory is the interest in exact physical activity. Students at FCHTP STU mostly consider this subject as a duty and large part of them do not have a real interest to learn or improve their swimming skills.

With these we are trying to eliminate swimming illiteracy and improve swimming strokes which they already know. It leads to spontaneous and safety movement in water environment and students acquire abilities such as jumping into water, basics of water polo and exercises in water. In the past years swimming was an obligatory subject for children between 8 to 10 years according to the rules of Ministry of School Affairs. It was a course which had 21 lessons of swimming for elementary schools [2]. Nowadays swimming courses depend mostly on the financial situation of school. According to the faculty and their departments swimming has range and content which depend on the curriculum of department [3]. The aim of physical activity in water is realized in certain content and form. For example, an adult needs to attend a swimming course of 20 lessons with the frequency more than twice a week. When we consider who is a swimmer and who is a non-swimmer, we use a basic definition: swimmer is a person, which swims safely 200m without exhaustion, dives into deep water and swims under water [4]. To get results of swimming ability in Slovakia is mostly used the test of 100 metres free style, but according to researches we should also use tests such as 5 minutes swimming [5]. Test of Cooper [6]. is a test when we consider the amount of meters and not the time. The disadvantage of 100 metre test is its distance, which is not adequate movement assumption, the main measure

to survive crisis in water environment. In our faculty we also measure 12 minutes of swimming to get better information about the swimming ability of our students.

The aim of the study is to monitor the level of the swimming abilities at FCHPT and compare it with the swimming standards. The following research questions arise:

1. To find out the level of swimming ability among students at FCHPT STU by testing their skills on 100m free style.
2. Compare the level of swimming ability in followed samples with performance standards for university population

MATERIAL AND METHODS

The experimental collection consisted of 1160 respondents (494 boys and 666 girls) from the Faculty of Chemical and Food Technology, Slovak University of Technology in Bratislava. Measurement was implemented in the 25 meter indoorpools in Bratislava. We have tested the swimming ability by 100 meters free style. This kind of test is normally used in educational practice. The choice of swimming style is not critical in terms of the achieved time as in competitive swimming, because many times students have achieved better times when they were swimming breaststroke than crawl with many technical mistakes.

RESULTS

In our research we monitor swimming ability on FCHPT of students of first year of study in years 1985/1986, 1995/1996, 2005/2006 and 2015/2016. The main characteristics of swimming ability we show in table 1 and 2.

As you can see in our results we can state that the number of non swimmers has decreased comparing to year 1985. Since 1995 it is on the same level. In 1995 it was around 27%. Later the number of non swimmers decreased and it has stabilize on the level around 10% (fig. 1).

Table 1. The basic statistic characteristics of swimming ability, 100 m free style (seconds) men.

year	85/86	95/96	05/06	15/16
min	70.0	60.0	66.0	68.0
mix	222.0	223.0	260.0	249.0
x	135.0	120.0	134.9	140.0
med	132.0	118.0	128.0	139.0
n	155.0	95.0	133.0	111.0

Table 2. The basic statistic characteristics of swimming ability, 100 m free style (seconds) women.

year	85/86	95/96	05/06	15/16
min	68.0	76.0	83.0	80.0
mix	250.0	230.0	340.0	265.0
x	161.9	149.7	168.4	170.0
med	159.0	149.0	163.0	168.0
n	156.0	150.0	137.0	223.0

Women non swimmers were in 1985 around 38% which is an alarming number. But then the number has stabilizes between 15-20% (fig. 2). In our faculty we manage to preserve swimming as an obligatory subject and eliminate the number of non swimmers, who start to study at our university.

Since 1979 it is a duty of school to organize a swimming course for their students. We assume, that the main reason of the high number of non swimmers in 1985 was the reason that students who started to study at university did not have an opportunity to learn how to swim when they were younger. In 1995 on the other hand started to study at university students who had already completed this training and it is reflected in the number of non swimmers. Nowadays, these swimming courses depend on financial situation of schools and parents, because they support it. The impact on the situation has also the area of city or village. Smaller cities and villages, which did not have their own swimming pool, have bigger problems with organizing swimming courses. We assume that this situation will be seen in the increasing number of non swimmers in the next years.

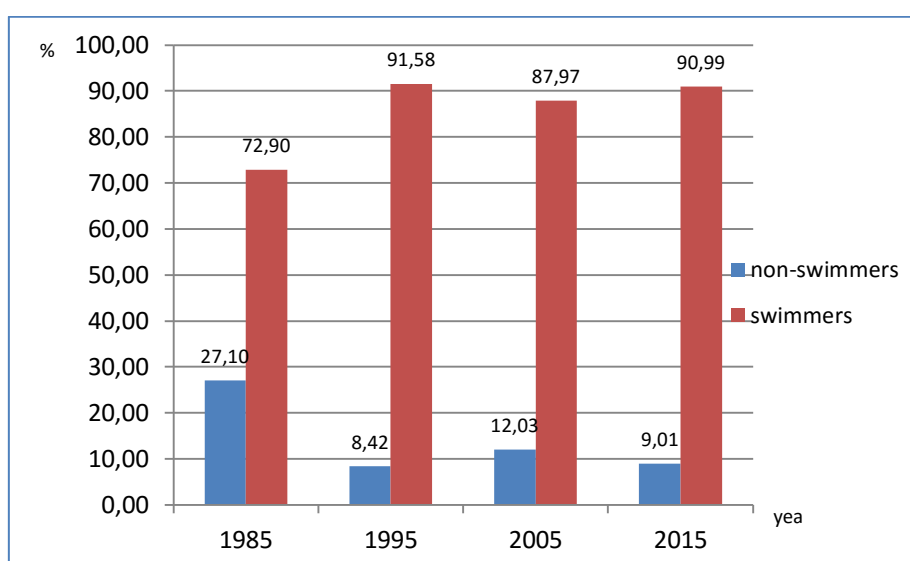


Fig. 1. The percentage of men swimmers and men non swimmers in individual years

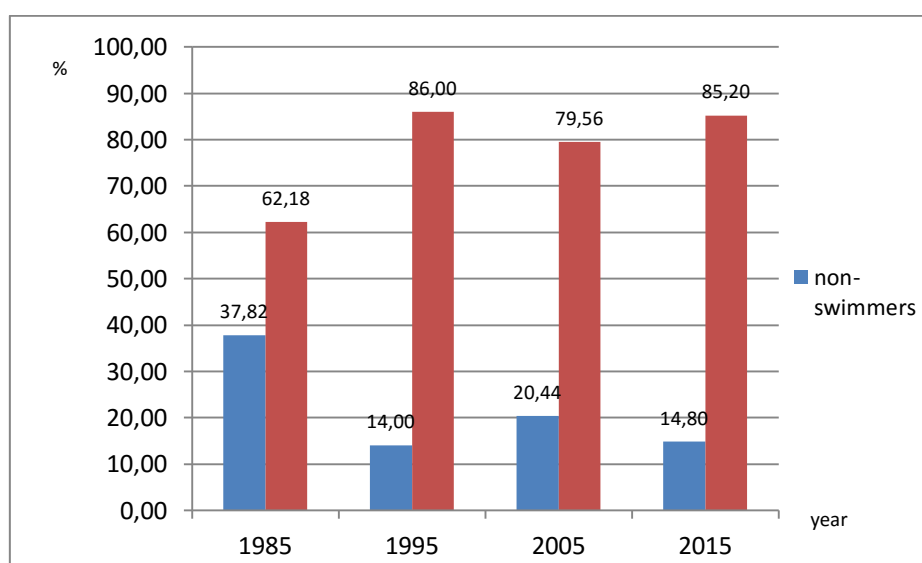


Fig. 2. The percentage of women swimmers and women non swimmers in individual years

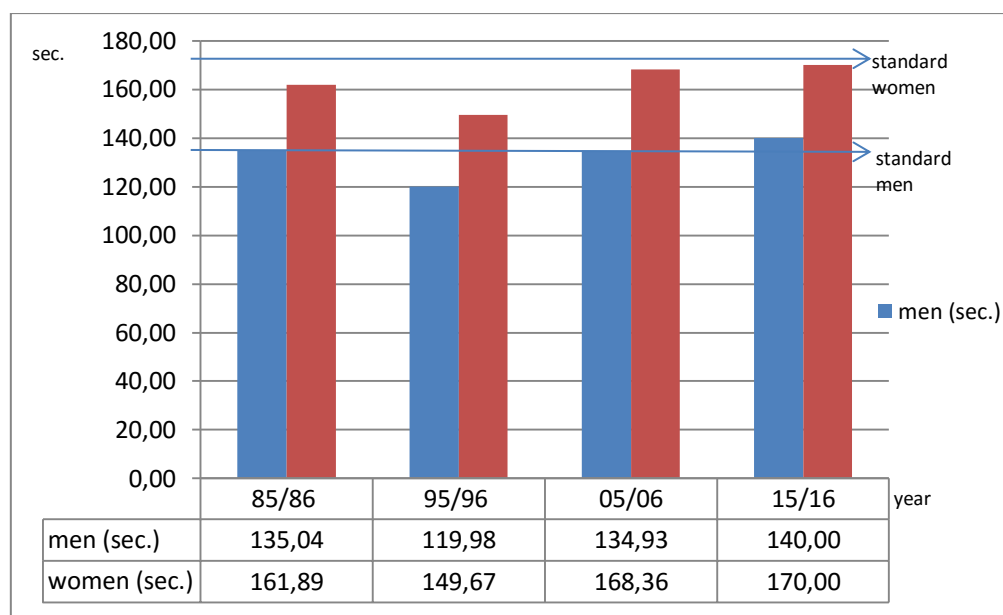


Fig. 3. Comparing of the level of swimming abilities of student within each year

Standard from year 2000 for 100 free style is calculated with time 136.7 seconds for men and 173.4 seconds for women [7]. We assume, that swimming skills have lowering tendency, but from our ascertaining swimming literacy on our faculty is not degrading. Major part of non-swimmers consists of students, which were drowning in childhood and have fear of water, didn't learn how to swim, were not taught how to swim by parents or had no possibilities to learn. On our swimming lessons usually non-swimmers become swimmers. These results appear already during second semester. The time of acquirement of swimming techniques depends on psychical problem, which lot of non-swimmers have and on physical condition. Only very small amount of students are not able to learn how to swim.

When comparing the changes of swimming abilities within 30 years (fig. 3) we haven't found out any abnormalities besides years 1995-1996. In all years the average measured time has been almost at the same level. We were assuming the decreasing tendency of swimming abilities, but results in our faculty shows that nowadays most of the population know how to swim. Better information about the swimming abilities we could get from the test of 12 minutes of swimming, which serve to the verification of aerobic ability and specific swimming endurance. Comparing to swimming standards, which are on level 136.7 seconds for men and 172.4 for women [7], our students swam around these levels. Only school year 1995/1996 is quite different when our students were swimming better than given standards. Also these results confirm average swimming level of college students.

DISCUSSION

Contribution presents actual level of swimming ability of students of Faculty of Chemical and Food Technology STU. Testing the level of swimming ability has a practical meaning from the point of overall fitness. These results allow us to compare and follow physical level and swimming ability of university students. Firstly it may look like the swimming literacy is on good level and it is not decreasing. Standard includes just population, who can swim, it does not include students - non-swimmers, who can create a large part of university population and based on this we suppose that results of swimming ability can be distorted. Part of the sample does not include students, who does not have to attend classes of physical education and swimming because they have the medical certificate.

The basic role of teaching swimming and swimming sports in the school is to teach how to swim. Improve your swimming means acquiring, swimming makes to an immediate and safe movement in the aquatic environment, learning the basics of swimming sports, jumps into the water and swim to health. Whereas, in this day and age is not a mandatory course swimming at primary and secondary schools, we are trying to remove illiteracy by including swimming as a compulsory subject in the first year at our faculty. For a great deal of popularity is getting more water parks, swimming pools and wellness centres opens, that extend the capabilities to learn how to swim, but in non-swimmers they also increases the possibility of drowning. Drowning is a leading cause of injury related death in many countries. Strategies to prevent these deaths depend upon characteristics of the victim and the specific circumstances surrounding the event. One preventive strategy that may be beneficial for persons of all ages and under nearly all circumstances is increased swimming ability, through some form of swimming instruction [8]. Today's generation of university students have still a relatively good results of swimming abilities but according to statistics is among the young children more non-swimmers as swimmers. Those results may shown in our measurrment in couple of years.

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