

Porównanie sprawności fizycznej fizjoterapeutów z 20-letnim stażem pracy ze sprawnością fizyczną studentów fizjoterapii

Comparison of physical fitness physiotherapists 20 years of service with physical fitness physiotherapist's students

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Streszczenie

Cel pracy: Celem pracy było porównanie sprawności fizycznej fizjoterapeutów z 20-letnim stażem pracy ze sprawnością fizyczną studentów fizjoterapii. Poddano także analizie wydolność badanych.

Materiał i metodyka: Badania zostały przeprowadzone w terminie od kwietnia 2015 do marca 2016 na grupie 48 zdrowych osób. Badanych podzielono na 2 grupy: 24 studentów fizjoterapii, wśród których było 13 kobiet i 11 mężczyzn i 24 fizjoterapeutów (14 kobiet i 10 mężczyzn). Do analizy materiału badawczego posłużył kwestionariusz ankiety, który zawierał 15 pytań odnośnie aktywności fizycznej i nawyków badanych, a także wybrane próby z Indeksu sprawności fizycznej Zuchory (gibkość, skoczność, szybkość, siła mm. brzucha).

Wyniki: W badanych próbach sprawnościowych nie odnotowano istotnej statystycznie zależności pomiędzy wiekiem badanych a poziomem wykonania poszczególnych prób sprawnościowych. Jednak średnie wyniki badanych uzyskane w każdej z prób podają, iż fizjoterapeuci uzyskali wyższe wyniki w próbie gibkości i siły mm. brzucha natomiast studenci w szybkości i skoczności. Istotna statystycznie okazała się zależność pomiędzy częstością podejmowanej aktywności fizycznej a poziomem wydolności.

Wnioski: Studenci wyższe wyniki uzyskali w próbie szybkości i skoczności, natomiast fizjoterapeuci w próbie siły mm. brzucha i gibkości. Nie ma istotnej statystycznie zależności pomiędzy wiekiem badanych a poziomem sprawności fizycznej. Częstość podejmowania aktywności fizycznej wpływa na poziom wydolności w badanych grupach.

Słowa kluczowe:

ruch, sprawność fizyczna, aktywność fizyczna, wydolność, fizjoterapeuci

Abstract

Aim. The aim of this study was to compare the physical fitness of physiotherapists from the 20 years of work experience with the physical fitness of physiotherapy's students. They were also subjected to analysis of the performance of the respondents.

Material and Methods. The study was conducted in the period from April 2015 to March 2016 in a group of 48 healthy people. Patients were divided into 2 groups: 24 physiotherapy students (13 women and 11 men) and 24 physiotherapists (14 women and 10 men). For the analysis of the research material was used a questionnaire, which contained 15 questions about physical activity and habits studied and selected samples from the Zuchora's Index of physical fitness (agility, jumping, speed, strength of abdomen muscles).

Results. The tested samples of fitness, there were no statistically significant correlation between the subjects' age and level of implementation of individual skill tests. However, the average results of the respondents obtained in each of the tests say that the physiotherapists scored higher in an attempt flexibility and strength mm. belly while students in speed and jump try. It turned out to be statistically significant correlation between the frequency of physical activity undertaken and the level of efficiency.

Conclusions. The students obtained higher scores in an attempt to speed and jumping, while physiotherapists in an attempt to strength of abdomen muscles and flexibility. There is no statistically significant correlation between the subjects' age and level of physical fitness. The frequency of physical activity influences the level of efficiency in the study groups.

Key words:

movement, physical fitness, physical activity, endurance, physiotherapists

Introduction

In physiotherapy's job the indispensable element is movement, as well as physical fitness, which is accompanied by physiotherapist throughout his life, both private and professional. Physical fitness has many definitions. Przewęda defines it as behavioral, as achieved in ontogenesis level of resourcefulness and self-reliance motor checking in different situations. In other words, the author of physical fitness is a physical adaptation of man to the socio cultural and biogeographical [2]. Osinski while the present physical fitness as "property through which characterize the level of current capabilities, motor behavior while taking into account the structural substrate and the purpose of daily physical activity of the individual." Following this logic conclusion is that our physical fitness to a large extent depends on the purpose [3]. To keep it at an appropriate level for the entire career needs a regular workout. Physical fitness therapist as well as his commitment and attitude will cause different attitude of the patient to cooperate. Certainly better therapeutic effects obtains therapist physically fit than that because of ailments of the musculoskeletal system will not be able to perform their work one hundred percent. That is why it is so important to maintain physical fitness at an appropriate level for a lifetime. Studies show that half of the loss of efficiency aging is associated with lack of exercise, while the second half is concerned with the influence of the environment, nutrition and aging process occurring in the human body [6]. For their patients therapist should be an example of correct posture, and through its efficiency mobilize them to work on the shaping of his performance. About physical fitness he was already repeatedly addressed in numerous publications and research papers. The study compared the performance and physical performance of two generations - physiotherapy students and physiotherapists from approx. 20 years of service. Twenty-first century and tied with the technological progress on the one hand easier and more makes life easier, through an easy and quick access to information, but on the other leads to more rapid aging of the population by limiting physical fitness. Long-term exposure of forced positions immobilization in turn affects the deterioration of the nutritional status of the articular cartilage. By the processes of cartilage nutrition proceeds smoothly, it is necessary to move, which causes a change in pressure of the fluid pressure to the intra-articular and articular surface [4]. It is worth recalling that the human body since the age of 25 is gradually aging. One of the consequences of this process is the loss of efficiency. over the next 10 years, we lose it about 10%, and 5 decade of life is reduced by approx. 25%, and therefore how we fit in the future depends on how we develop the efficiency of up to 25 years of age [1].

Aim

The aim of the study is compare the level of performance of individual skill tests by physiotherapists with 20 years of service with the level of their performance by the students of physiotherapy Jan Kochanowski's University in Kielce. Examined also physical performance studied.

Material and methods

The study was conducted in the period from April 2015 to March 2016 in a group of 48 people. The research took place at the Faculty of Medicine and Health Sciences Jan Kochanowski University in Kielce. In studies took part 48 healthy person. Respondents were divided into two groups: 24 students of physiotherapy (13 women and 11 men); average age 23.3 years, Min 21 Max 26, range 5; mean BMI: 22.14, 18.02 Min, Max, 26.22; the average weight of 74.55, 50.4 Min, Max 98.7; average growth 178cm, 156cm Min, Max 200cm and 24 physiotherapists (14 women and 10 men) whose average age was 50 years old Min 42, Max 58, range 16; mean BMI: 23.73; 19:28 Min, Max 29.3; average weight: 69,3 kg 50,9 kg Min, Max 87,7 kg; Average height: 170cm, 160 cm Min, Max 180 cm.

For the realization of the research material was used a questionnaire and research card. The questionnaire contained 20 questions about physical activity and habits of the respondents. Research card consisted of selected samples Zuchora's test of physical fitness (strength, flexibility, jumping, speed). The study used the test Ruffier - which was used to measure the efficiency fitness of the respondents.

Results

Result of the test the speed of a group of students is as follows. 42% were the result of a high, 33% of the outstanding 21% very good, a good 4%. There were a result of less than 4 points. In the group of physiotherapists in turn speed test results were: very good achieved 38%, 33% high, 25% good, outstanding 4%. As in the previous result, there were no less than four points.

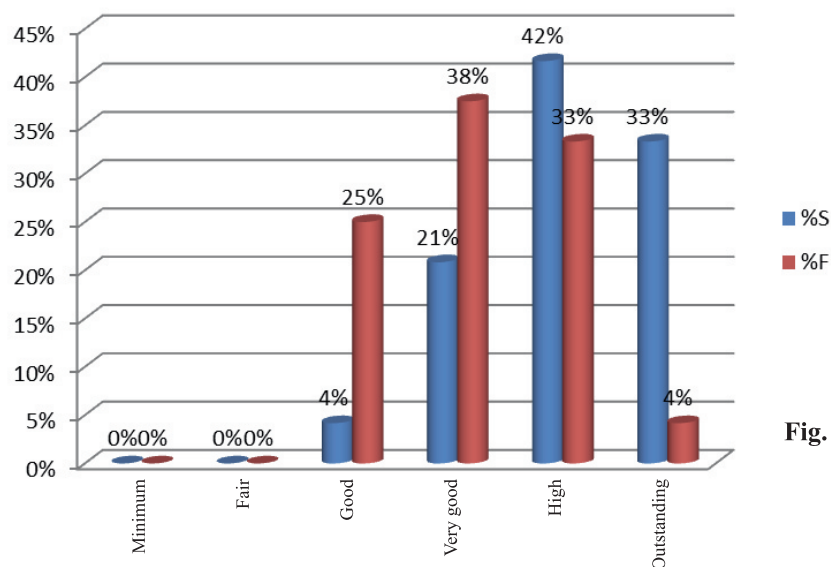


Fig. 1. Results of speed test

In an attempt to jumping results are as follows: 42% of physiotherapists obtained a good result, 21% high and 21% satisfactory. A very good result, in turn, received 17% of physiotherapists. There were no results > 5 points and < 2 points. In the group of students test result jumping 38% it was high, 8% good, 38% very good, 13% fair, 4% minimum. a group of students in an attempt to jumping not recorded an outstanding result.

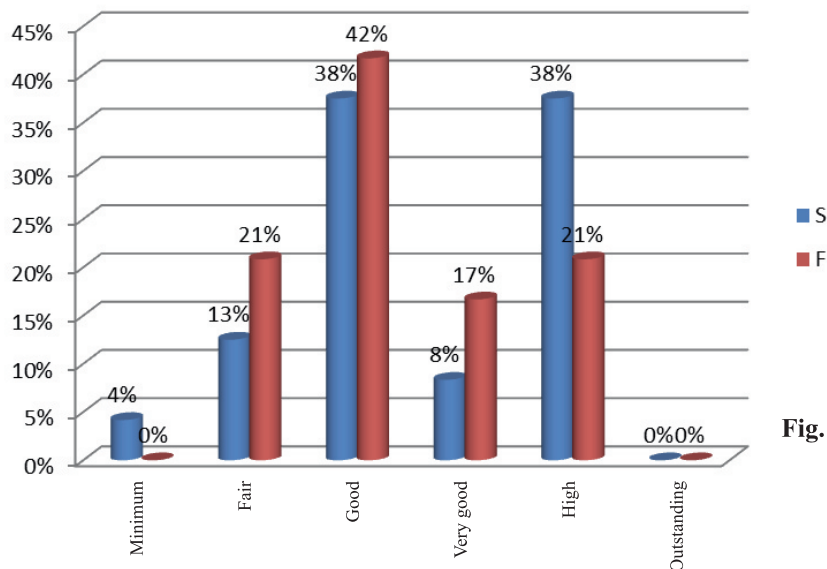


Fig. 2. Results of jump test

The test results of the force physiotherapists group are as follows. The largest group - 33% were persons who received a high, 29% achieved a good result, a good 25%, satisfactory 13%, the outstanding 4%. Students in an attempt to force achieved the following results: 42% were the result very good, 29% good, 17% fair, and 13% high.

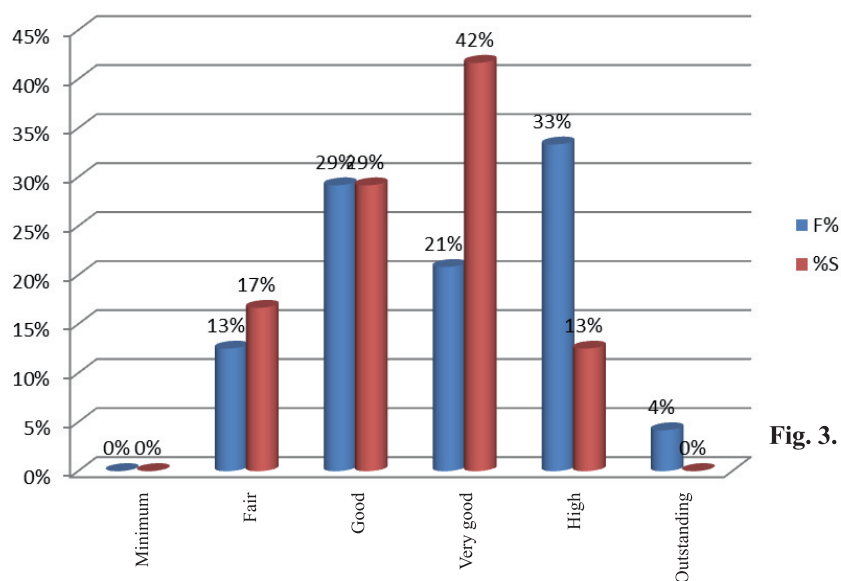


Fig. 3. Result of strength of abdomen muscles

The results of a group of students flexibility are as follows. The largest percentage of respondents (33%) achieved a very good result, a prominent (21%), the same percentage of students achieved a good result and high - 17%, while the least numerous group of students who achieved satisfactory results. In the group of physiotherapists while the largest percentage of respondents physiotherapists obtained a good result (54%), high (21%), very good (17%), satisfactory (8%).

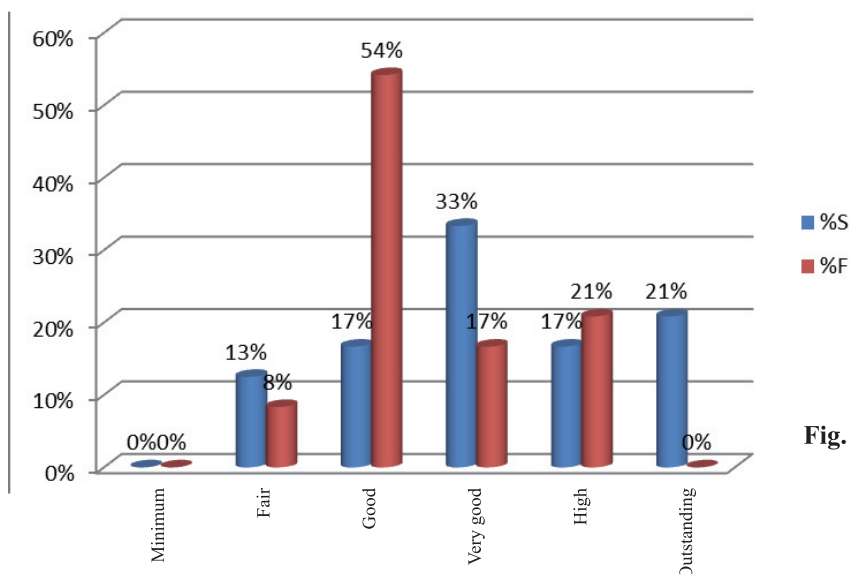


Fig. 4. Result flexibility in study groups

As the figure below shows the test results in such cardiovascular treatment groups were as follows: The closer to 0, 1 points received 13% of students and 8% of physiotherapists, 2 points received 58% of students and 42% of physiotherapists, 3 points 25% of students and 8% physiotherapists, 4 points 21% of students and 25% of physiotherapists.

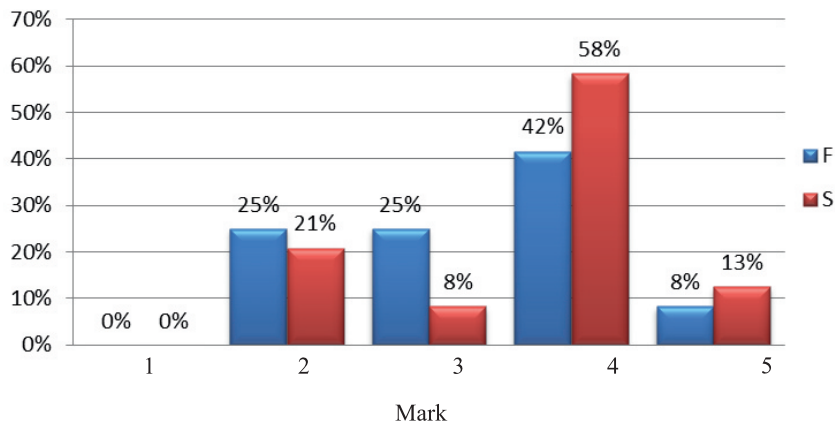


Fig. 5. Ruffuer test in study groups

Static analysis is as follows. In the group of students of average performance is 10 points, while in the group of physiotherapists 9.28. The results in both groups deviate from the average by 0.51. Therefore, the results in both groups were similar. The middle value of a group of students to 10.8, while patients Physiotherapy 9.8. The lowest result obtained in both groups is 0.1, and the highest S 17.22, F-17.4. For the level of $p \leq 0.05$ variables are not statistically significant.

Tab. 1. Static analysis of the Ruffier test

professional activity	Mean	SD	Me	Min	Max	significance
Student (S)	10.00	0.51	10.80	0.1	17.20	NS
Physiotherapist (F)	9.28	0.51	9.80	0.1	17.40	

$X^2 = 2,95758$; $df=2$

The chart above shows the relationship between the taking of physical activity by the subjects and its impact on performance. People with good functional capacity whose number was 4 rehearsed every day, 4 people 3-5 times a week, while 3 persons were trained 3-5 times a month. Among the średnią wydolnością 3 people were trained 3-5 times a week, and 3 3-5 times a month. People with poor exercise capacity were trained every day - 4 persons, 3-5 times a week. - 15 people 3-5 times a miesiącu- 5 people. Among people with functional capacity off the scale one person trained every day, while 4 - 3-5 times a week.

$X^2 = 18.30566$ $df = 8$

H_0 - independent variables

H_1 - dependent variables

For the level of $p \leq 0.05$ X^2 takes the value of 15.507. Statistical analysis shows that the named variables $X^2 = 18.3$, this value is in the critical area, should therefore reject the null hypothesis and conclude that the variables are statistically dependent.

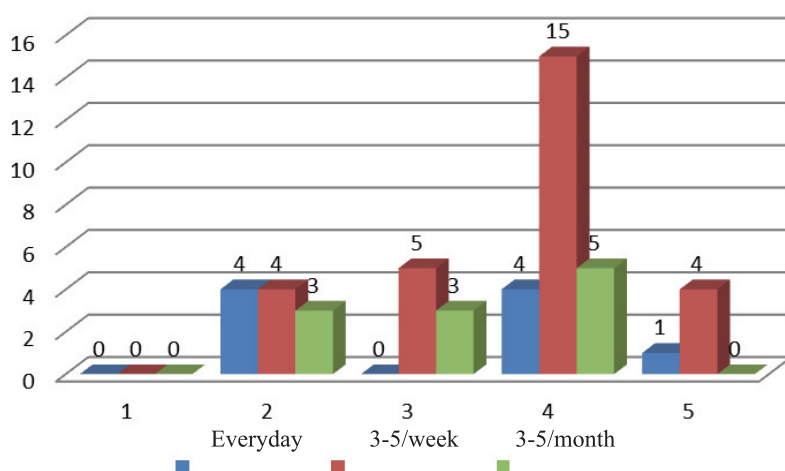


Fig. 6. The frequency of physical activity and the level of efficiency

Discussion

About physical fitness was moved in scientific research award. In our study, we compared the level of performance of individual skill tests in a group of physiotherapists and physiotherapy students. The influence of age on the specific motor skills examined and performance. The analysis of the data shows that physiotherapy students achieved better results in the test speed $x = 4.1$ points and 5.8 points skoczności. In an attempt to strength and flexibility improved average results obtained physiotherapists: to $x = 4.4$ and

$x = 4,8$ pts. Marchewka [6], in her work examined the physical physiotherapy students of the Academy of Medicine, the average scores skill tests were similarly as in own study at a good level.

Kostencka and Drabik [4] showed that taking even minimal physical activity differentiates the students in terms of BMI. The research their own, involving a comparison of the mean values of body mass and height on the outcome of individual skill tests have not yielded statistically significant results, however, we observed that people with normal BMI (18- 24.99) achieved higher results in individual trials.

Physical capacity is an expression of individual ability to perform heavy and long lasting physical exercises without rapidly increasing fatigue and changes in the internal environment of the body, determining its development and defines the high tolerance to changes in fatigue and ability to their rapid liquidation after work. In the present study to determine the level of physical fitness test of such cardiovascular uses of dynamic - Ruffier. Studies have shown that the average physical capacity physiotherapists is 0.72 points, better than the performance of students of physiotherapy.

According Drabik [8] exercise capacity is genetically determined, and thus by moving a designer will have no material effect on the growth. However, according to Nazar [8], any systematic physical exercise endurance after several months of activity resulting in improved efficiency.

Conclusions

1. Physiotherapy's students higher results were obtained in an attempt to speed and jumping, while physiotherapists in an attempt flexibility and strength of abdomen muscles.
2. The age of the patients hasn't effect on a Ruffier test.
3. Persons who more often undertake physical activity have better performance.

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