

## HEALTH

DARIUSZ BOGUSZEWSKI<sup>1(ABCDEFG)</sup>, ANDRZEJ OCHAL<sup>1(BCD)</sup>,  
JAKUB GRZEGORZ ADAMCZYK<sup>2(CDE)</sup>, PAWEŁ JASINSKI<sup>1(BE)</sup>,  
ANNA OBSZYNSKA-LITWINIEC<sup>1(BE)</sup>, DARIUSZ BIAŁOSZEWSKI<sup>1(DE)</sup>

<sup>1</sup> Department of Rehabilitation, Physiotherapy Division, Medical University of Warsaw (Poland)

<sup>2</sup> Institute of Theory of Sport, University of Physical Education in Warsaw (Poland)

Contact: Dariusz Boguszewski, Medical University of Warsaw, Rehabilitation Department, Sports and Rehabilitation Centre, Ks. Trojdena 2c, 02-091 Warsaw, Poland,  
e-mail: dboguszewski@wum.edu.pl

## Evaluation of health-related behaviours of physiotherapy students as amateur combat sports and martial arts practitioners

Submission: 12.05.2020; acceptance: 28.05.2020

**Key words:** physiotherapy, physical activity, combat sports, students

### Abstract

**Introduction.** Lifestyle is one of the main factors in maintaining health and psychophysical fitness.

**Objective.** The aim of this study was to assess the health behaviour of physiotherapy students practising sports and martial arts in comparison with other students.

**Material & methods.** The study included 763 first-year physiotherapy students (48 combat sports and martial practitioners) from Warsaw Medical University. Research tools were: the Juczynski Health Behaviours Inventory, the International Physical Activity Questionnaire and the author's own survey.

**Results.** The students were characterized by an average level of health behaviour (80.23 on average). Women's results were significantly higher than men's ( $p < 0.01$ ). The total result of health behaviours achieved by amateur athletes and martial arts practitioners was higher than that of the other groups.

**Conclusion.** Physically active people were more concerned about a healthy lifestyle than inactive people. However, the highest level of health behaviour was characteristic of sports and martial arts adepts.

### Introduction

A physiotherapy graduate should acquire the knowledge and skills necessary to shape, maintain, and restore fitness and efficiency for people of different ages, lost or reduced due to various diseases or injuries, to perform all physiotherapy procedures impeccably, to adapt their actions to the overriding aims of rehabilitation within the functioning of rehabilitation teams and to control the physiotherapy process' effectiveness. For their patients, a physiotherapist is often not only a specialist in improvement procedures and exercises but also a model and authority in the healthy lifestyle field [Kochanowicz, Hansdorfer-Korzon 2013; Boguszewski 2017; Jakubowska *et al.* 2019].

Lifestyle is one of the main factors in maintaining health and psychophysical fitness. The main lifestyle

component in the health prevention context is physical activity. Systematic physical activity leads to anatomical and functional changes in the locomotive system. It is assumed that physical activity has the greatest impact on the locomotive apparatus. This applies to both the muscular and osteoarticular systems [Irvin 2007; Hervas *et al.* 2018; Peterson *et al.* 2018; Kudlacek *et al.* 2019]. The lack of movement causes a number of adverse anatomical, physiological and psycho-emotional changes [Rebar *et al.* 2015a; 2015b]. It weakens the reaction of the system to thermal loads, disorders of the internal secretion system and lowers haemoglobin levels. The systemic consequences of immobility contribute to the reduction of physical and mental fitness [Klukowski 2011].

The choice of the form of physical activity is very important. Combat sports and martial arts can be a very good choice. The essence of combat sports and martial

arts involves following a personal philosophy, with a particular emphasis on the ethical aspect. During a sports match, it is important to respect the opponent and the rules and to overcome one's own weaknesses. The utilitarian character of the acquired skills is also not without importance. The motor habits developed during training may improve balance and self-security, help to minimise the risk of injury after a fall and provide a means of self-defense. Thus, combat sports and martial arts may constitute part of psychological, moral and defensive education [Ball, Martin 2012; Cynarski 2012, 2017; Cynarski, Obodyski, Zeng 2012; Boguszewski 2017].

Awareness of the beneficial effects of an appropriate diet and physical effort and regular physical activity may contribute to the development of health-promoting attitudes of an individual and, consequently, of the population. Certainly, practising regular physical activity contributes to greater care for other healthy lifestyle components [Boguszewski *et al.* 2014a; 2014b; Yahia *et al.* 2016]. However, the type of activity practised is not without significance, so the aim of this study was to assess the health behaviour of physiotherapy students practising sports and martial arts in comparison with other students (active and physically inactive).

## Material and Methods

The participants were 763 first-year physiotherapy students (551 women and 212 men) from Warsaw Medical University. For comparison purposes, they were divided into three groups. Group 1 (n=48) were students practising sports and martial arts. Group 2 (n=200) were persons engaged in other, regular, organised physical activity. Group 3 (n=525) included persons who did not engage in any organised physical activity (Table 1). The survey was conducted between 2010 and 2018.

**Tab. 1.** Characteristics of examined students

Groups	Gender	Number of people	Age [years]	Body mass [kg]	Body height [cm]	BMI [kg/m <sup>2</sup> ]
1	women	24	20.8 ±1.7	61.3 ±8.1	169.4 ±5.8	21.3 ±2.4
2		133	20.6 ±1.6	60.4 ±8.5	167.9 ±6.6	21.4 ±2.5
3		394	20.9 ±1.4	60.8 ±9.3	168.4 ±6.3	21.4 ±2.9
1	men	24	20.8 ±1.9	79.7 ±10.5	181.0 ±5.5	24.3 ±2.8
2		67	21.3 ±1.7	80.5 ±10.7	182.0 ±6.9	24.3 ±2.6
3		121	20.4 ±1.3	78.4 ±10.2	180.9 ±5.5	23.8 ±2.1

The study used: the Juczynski Health Behaviours Inventory (Polish: IZZ), IPAQ, (International Physical

Activity Questionnaire) and the author's own survey. The Health Behaviours Inventory is intended for lifestyle evaluation. It contains 24 statements that describe health-related behaviours, divided into categories: eating habits, prophylactic behaviours, positive mental attitudes, and health practices [Juczynski 2001]. The questionnaire includes 24 statements, which are descriptions of various health-related attitudes and behaviours. The studied persons indicate the frequency based on a five-grade rating system: 1-almost never, 2-seldom, 3-from time to time, 4-often, 5-almost always. The questions concern the four basic categories of health behaviours: proper nutrition habits (the kind and quality of consumed food), preventing behaviours (complying with the principles of preventing civilization diseases, possessing and obtaining information on one's health and disease), positive psychological attitude (avoiding negative emotions, tension, and stress), health practices (everyday habits such as being physically active, sleep, and recreation). The obtained overall result allows for conventional classification of the studied persons as those of the low 24-77 points, average 78-91 or high 92-120 level of health behaviours [Juczynski 2001]. The International Physical Activity Questionnaire (IPAQ) is a questionnaire that contains questions about physical activity undertaken in the last seven days. Respondents define in the questionnaire: time and frequency of intensive and moderate effort and time spent in a sitting position. The level of physical activity is expressed in MET (Metabolic Equivalent of Work) units. 1 MET is equal to oxygen consumption at rest and amounts to 3.5 ml O<sub>2</sub>/kg of body mass per minute. The level of physical activity (high, moderate or low) can be established [Biernat *et al.* 2007]. The author's survey included questions about training, motives for taking up activities, ways of spending free time, as well as self-assessment of health and physical fitness. The study was voluntary, all participants agreed to the study (they completed the informed consent form).

The following statistical tools were used: arithmetic mean along with standard deviations, T-student test (for independent groups), and Pearson's simple correlation. The minimal reliability level was adopted at p<0.05. The calculations were made in the Statistics 10 software, licensed by Warsaw Medical University.

## Results

The studied students were characterized by an average level of health behaviour (80.23 – women, 78.89 – men). Women's results were significantly higher than men's (p<0.01). The total result of the intensification of health behaviours achieved by amateur athletes and martial arts practitioners was higher than that of the other groups. Statistically significant differences were noted between Groups 1 and 3 among women (p<0.01). Among Group

**Tab. 2.** Health-related behaviours of examined students

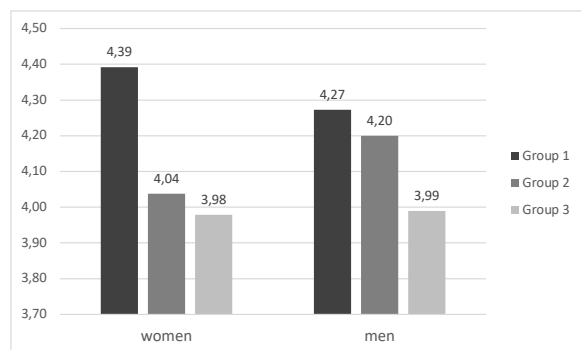
Groups	Gender	Nutrition habits	Prophylactic behaviour	Positive attitude	Healthy practices	Health-related behaviours
1 (n=24)		3.65 ±0.8	3.64 ±0.6	3.54 ±0.6	3.14 ±0.5	83.95 ±12.5
2 (n=133)	women	3.81 ±0.7	3.55 ±0.6	3.44 ±0.7	3.10 ±0.6	82.41 ±11.6
3 (n=394)		3.38** ±0.7	3.36** ±0.6	3.32* ±0.6	3.08 ±0.6	77.74** ±11.2
1 (n=24)		3.22 ±0.9	3.36 ±0.7	3.72 ±0.7	3.24 ±0.7	81.21 ±13.7
2 (n=67)	men	3.18 ±0.8	3.33 ±0.6	3.57 ±0.8	3.15 ±0.7	79.32 ±12.7
3 (n=121)		2.91 ±0.7	3.12 ±0.7	3.17** ±0.7	2.94 ±0.6	73.85* ±14.4

**Tab. 3.** Physical activity of examined students

Groups	Gender	Vigorous physical activity [MET]	Moderate physical activity [MET]	Walking [MET]	Sum [MET]
1 (n=24)		1804.71 ±883.5	922.73 ±484.4	2459.51 ±1421.9	4775.17 ±1572.2
2 (n=133)	women	1683.79 ±849.6	701.76 ±418.2	2201.92 ±1035.6	4572.47 ±1635.1
3 (n=394)		536.43** ±370.6	486.60* ±315.7	1455.18 ±720.6	2495.60** ±902.9
1 (n=24)		2402.16 ±848.9	753.80 ±648.6	1816.20 ±972.2	4440.07 ±1439.4
2 (n=67)	men	2327.33 ±938.2	540.33 ±341.6	1404.65 ±680.5	4272.31 ±1276.9
3 (n=121)		852.53** ±502.7	462.22 ±408.9	1595.17 ±796.1	2909.91* ±1133.4

1 women, the highest scores were obtained in terms of eating habits and prophylactic behaviours, and among men – a positive mental attitude. Similar relationships were observed in students practising other forms of physical activity. In physically inactive people, the highest results were achieved in positive mental attitudes, and the lowest in health practices (women) and eating habits (men). There were no significant differences between students from Groups 1 and 2 in any of the examined categories (Table 2).

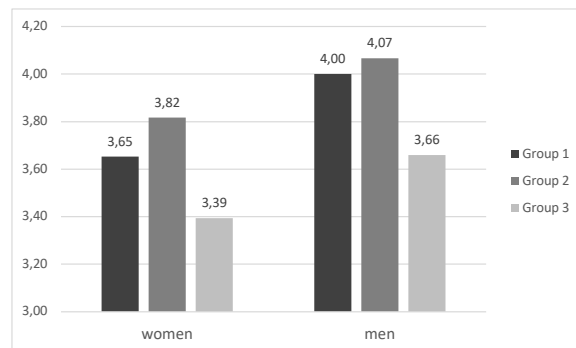
Persons from Groups 1 and 2 were characterized by a similar level of physical activity, significantly higher than those from Group 3. The biggest differences concerned the category of intensive physical activity (Table 3).

**Fig. 1.** Self-esteem of health

Students practising sports and martial arts have the highest rating for their health. Among women, statistically significant differences were noted between Groups 1 and 2 and between 1 and 3. Subjective assessment of physical fitness revealed slight differences between physically active groups. The differences between both

active and inactive groups were statistically significant ( $p < 0.05$ ) (Figure 1 and 2).

The most common motives for taking up physical activity are maintaining physical fitness and releasing energy. Women were also more likely to indicate a desire to lose weight and men, to shape muscle tissue (Table 4). The most common obstacle in undertaking activity was the lack of time and laziness (Table 5).

**Fig. 2.** Self-esteem of physical activity

## Discussion

Lifestyle is one of the main factors in maintaining health and psychophysical fitness. Systematic physical activity leads to anatomical and functional changes in the locomotive system. The active lifestyle reduces the intensity of factors conducive to the development of civilization diseases, e.g. cardiovascular diseases [Tiszczenko *et al.* 2009; Slusarska, Nowicki 2010; Maddison *et al.* 2016; Dempsey *et al.* 2020]. Despite the actions taken by doctors and physiotherapists encouraging to lead an active and

**Tab. 4.** Motives for taking physical activity

Groups	Gender	Leaving home	New friendships	Hobby	Physical fitness	Body building	Body mass reduction	Releasing energy
1 (n=24)	women	0.62	0.19	0.62	0.88	0.19	0.50	0.69
2 (n=133)		0.40	0.25	0.69	0.89	0.28	0.59	0.65
3 (n=394)		0.37	0.16	0.53	0.83	0.20	0.55	0.57
1 (n=24)	men	0.42	0.17	0.83	0.79	0.79	0.46	0.54
2 (n=67)		0.33	0.15	0.80	0.80	0.64	0.33	0.62
3 (n=121)		0.33	0.23	0.58	0.72	0.60	0.34	0.46

**Tab. 5.** Obstacles to taking physical activity

Groups	Gender	Lack of money	Health problems	No offers	Lack of time	Laziness
1 (n=24)	women	0.12	0.15	0.00	0.73	0.35
2 (n=133)		0.11	0.25	0.05	0.77	0.41
3 (n=394)		0.14	0.15	0.06	0.83	0.59
1 (n=24)	men	0.21	0.17	0.08	0.67	0.50
2 (n=67)		0.15	0.23	0.03	0.59	0.54
3 (n=121)		0.17	0.10	0.04	0.77	0.62

healthy lifestyle, the number of physically active people is still small. Every third person in Poland maintains an active lifestyle [Central Statistical Office]. Not only are people not active, but they do not feel the need to improve their fitness [Knapik *et al.* 2004]. On average, the WMU students take up physical activity 2.5 times a week. Around 33% of students do not engage in any intensive physical activity at all, and nearly 20%, not even in moderate physical activity. Studies also show that women more often than men spend their time sitting, and men generally move more often. The research indicates a significant share of high-intensity physical efforts in shaping cardiopulmonary endurance [Slusarska, Nowicki 2010].

Many years of research on somatic development and physical fitness of Polish adolescents conducted by Warsaw Academy of Physical Education prove that the secular tall stature and adolescence in ontogeny trend persists. For the last 20 years, there has also been a phenomenon of slim figure of youth, especially among girls after puberty. At the same time, after 1989, a clear deterioration in general physical fitness of adolescents and a decrease in physical activity was observed [Przeweda 2002]. The disproportion between the somatic and motor development of the young generation threatens to reduce the condition and health of Polish society. Physiotherapy students are part of this picture. Their motor activity is lower than that of the population of Warsaw selected at random for research [Biernat, Tomaszewski 2011; Biernat, Boguszewski 2015].

As the study demonstrates, the recreational physical activity of students most often includes swimming, aerobics, or running. The reasons for taking up various forms of activity are to improve the mood and pleasure associated with movement. Lack of time and laziness are among the reasons cited for resigning from activity [Adamczyk *et al.* 2011]. The students surveyed within

the framework of this work also took up these forms of activity most often. Sports and martial arts were practised by less than 8% of the respondents. Training sports and martial arts shapes, in addition to physical fitness, also the volitional characteristics, ethical attitude and personality of players. The educational and upbringing aspect is, therefore, in a way, inscribed in the system of sports and martial arts training [Blach *et al.* 2005; Cynarski, Lee-Barron 2014; Sterkowicz-Przybycien *et al.* 2014; Boguszewski *et al.* 2019].

Undoubtedly, the issue of athletes' lifestyles is an issue that requires a wider study and analysis. The author's research covered quite a large (n=767) group of students. However, care must be taken in interpreting the results obtained. Groups and subgroups were formed in terms of the type of physical activity or sport. It may be assumed that practising certain disciplines (sports and martial arts) may incline to shape the pro-health attitudes to a greater extent. However, the influence of other factors (coach, family, and peers) should not be excluded either.

The further research direction would be to expand the groups of respondents (by other disciplines) and increase the number of tools. An interesting direction also seems to be the several-year analysis of the impact of sports training on selected elements of health and lifestyle. As a consequence of this research, a wider health education among children, youth and adults could be introduced.

## Conclusions

Physically active people were more concerned about a healthy lifestyle than inactive people. However, the highest level of health behaviour was characteristic of

sports and martial arts adepts. The above data may confirm the importance of the mental factor and prove the educational value of sports and martial arts.

Sports and martial arts, as part of a healthy lifestyle, can be an effective means of preventing civilisational diseases, allowing to satisfy the need for movement and providing utilitarian skills and valuable knowledge. The motor habits developed during training may improve balance and self-security, help to minimise the risk of injury after a fall and provide a means of self-defence. Thus, combat sports and martial arts may constitute part of psychological, moral and defensive education.

The results obtained in this work may constitute a basis for continuing research with the participation of various groups of subjects (other disciplines) and using more advanced technologies and research tools.

## References

- Adamczyk J.G., Boguszewski D., Debrzak-Adamczyk I., Ochal A. (2011), *Physical activity and fitness of physiotherapists*, “Polish Journal of Public Health”, vol. 121, no. 4, pp. 344-349.
- Ball K., Martin J. (2012), *Self-defense training and traditional martial arts: Influences on self-efficacy and fear related to sexual victimization*. “Sport, Exercise and Performance Psychology”, vol. 1, no. 2, pp. 135-144.
- Biernat E., Boguszewski D. (2015), *The level of physical activity of the working inhabitants of Warsaw practising martial arts and combat sports*, “Archives of Budo”, vol. 11, pp. 67-72.
- Biernat E., Stupnicki R., Gajewski A.K. (2007), *International Physical Activity Questionnaire (IPAQ) – Polish version*, “Physical Education and Sport”, vol. 51, no. 1, pp. 47-54.
- Biernat E., Tomaszewski P. (2011), *Socio-demographic and leisure activity determinants of physical activity of working Warsaw residents aged 60 to 69 years*, “Journal of Human Kinetics”, vol. 30, pp. 173-181.
- Blach W., Litwiniuk A., Migasiewicz J. (2005), *Combat sports and martial arts as forms of preventing behaviors risking to the health of youth aged 15-18 shown on example of judo and aikido*, “Polish Journal of Sports Medicine”, vol. 21, no. 2, pp. 135-140.
- Boguszewski D. (2017), *Health-Related Aspects of Combat Sports and Martial Arts*, Medical University of Warsaw [in Polish].
- Boguszewski D., Adamczyk J.G., Bialoszewski D. (2019), *Assessment of the Health-related Behaviors of Men Practising Combat Sports and Martial Arts*, “Iranian Journal of Public Health”, vol. 48, no. 10, pp. 1794-1801.
- Boguszewski D., Adamczyk J.G., Kowalska S., Sado-Drapala J., Lewandowska M., Bialoszewski D. (2014a), *The evaluation of health-related behaviours between the physically active and non-active women*, “Polish Journal of Public Health”, vol. 124, no. 1, pp. 10-13; doi: 10.2478/pjph-2014-0002.
- Boguszewski D., Adamczyk J.G., Suchcicka B., Slyk E., Bialoszewski D. (2014b), *The estimation of health-related behaviors of men practicing aikido and capoeira*, “Ido Movement for Culture. Journal of Martial Arts Anthropology”, vol. 14, no. 2, pp. 41-46; doi: 10.14589/ido.14.2.6.
- Cynarski W.J. (2012), *Values of martial arts in the light of the anthropology of martial arts*, “Journal of Combat Sports and Martial Arts”, vol. 3, no. 1, pp. 1-4.
- Cynarski W.J. (2014), *Moral values, and the people of the noble way of martial arts*, “Ido Movement for Culture. Journal of Martial Arts Anthropology”, vol. 14, no. 1, pp. 1-10.
- Cynarski W.J. (2017), *Towards a general theory of fighting arts*, “Physical Activity Review”, vol. 5, pp. 83-90.
- Cynarski W.J., Lee-Barron J. (2014), *Philosophies of martial arts and their pedagogical consequences*, “Ido Movement for Culture. Journal of Martial Arts Anthropology”, vol. 14, no. 1, pp. 11-19; doi: 10.14589/ido.14.1.2.
- Cynarski W.J., Obodynski K., Zeng H. (2012), *Martial arts anthropology for sport pedagogy and physical education*, “Romanian Journal for Multidimensional Education Lumen”, vol. 4, no. 2, pp. 133-156.
- Dempsey P.C., Strain T., Khaw K.T., Wareham N.J., Brage S., Wijndaele K. (2020), *Prospective Associations of Accelerometer-Measured Physical Activity and Sedentary Time With Incident Cardiovascular Disease, Cancer, and All-Cause Mortality*, “Circulation”, vol. 141, no. 13, pp. 1113-1115.
- Hervas G., Ruiz-Litago F., Irazusta J., Fernandez-Atutxa A., Fraile-Bermudez A.B., Zarrazquin I. (2018), *Physical activity, physical fitness, body composition, and nutrition are associated with bone status in university students*, “Nutrients”, vol. 10, no. 1, p. 61; <https://www.mdpi.com/2072-6643/10/1/61>.
- Irwin J.D. (2007), *The prevalence of physical activity maintenance in a sample of university students: A longitudinal study*, “Journal of American College Health”, vol. 56, no. 1, pp. 37-42.
- Jakubowska L., Grabowska B., Sen M. (2019), *Physical activity, health condition and lifestyle of academic youth*, “Journal of Education Culture and Society”, vol. 10, no. 2, pp. 201-215.
- Juczynski Z. (2001), *Research tools in health psychology*, PTP, Warsaw [in Polish].
- Klukowski K. (2011), *Impact of deficiency of motor activity (hypokinesia) on the human body* [in:] J. Gorski [ed.], *Sports training physiology*, PZWL, Warsaw, pp. 209-219 [in Polish].
- Knapik A., Plinta R., Saulicz E., Kuszewski M. (2004), *The importance of physical activity in health prevention*, “Polish Journal of Public Health”, vol. 114, no. 3, pp. 331-337.
- Kochanowicz B., Hansdorfer-Korzon R.I. (2013), *Attitudes to physical activity among physiotherapy students*, “Annales Academiae Medicae Gedanensis”, vol. 43, pp. 19-28.
- Kudlacek M., Groffik D., Fromel K., Starsciak W., Stepan J. (2019), *Physical activity in adolescents who prefer and perform martial arts*, “Archives of Budo”, vol. 15, pp. 283-291.
- Maddison R., Jiang Y., Foley L., Scragg R., Direito A., Olds T. (2016), *The association between the activity profile and*

- cardiovascular risk, "Journal of Science and Medicine in Sport", vol. 19, no. 8, pp. 605-610.
26. Peterson N.E., Sirard J.R., Kulbok P.A., DeBoer M.D., Erickson J.M. (2018), *Sedentary behavior and physical activity of young adult university students*, "Research in Nursing & Health", vol. 41, no. 1, pp. 30-38.
27. Przeweda R. (2002), *How is the physical condition of modern youth changing – on the example of Poland?*, "Physical Education and Sport", vol. XLVI, suppl. 1, pp. 166-167.
28. Rebar A.L., Faulkner G., Stanton R. (2015a), *An exploratory study examining the core affect hypothesis of the anti-depressive and anxiolytic effects of physical activity*, "Mental Health and Physical Activity", vol. 9, pp. 55-58.
29. Rebar A.L., Stanton R., Geard D., Short C., Duncan M.J., Vandelandotte C. (2015b), *A meta-meta-analysis of the effect of physical activity on depression and anxiety in non-clinical adult populations*, "Health Psychology Review", vol. 9, no. 3, pp. 366-378.
30. Slusarska B., Nowicki G. (2010), *Health behaviours in prophylaxis of cardiovascular diseases among occupationally active population*, "Problemy Higieny i Epidemiologii", vol. 91, no. 1, 34-40.
31. Sterkowicz-Przybycien K., Klys A., Almansba R. (2014), *Educational judo benefits on the preschool children's behavior*, "Journal of Combat Sports and Martial Arts", vol. 5, no. 1, pp. 23-26.
32. Tiszczenko E.M., Surmach M.J., Pieciewicz-Szczesna B. (2009), *Health behaviors as an essential health factor*, "Polish Journal of Public Health", vol. 119, no. 1, pp. 86-89.
33. [www.stat.gov.pl/cps/rde/xbcr/gus/PUBL\\_stan\\_zdrowia\\_2004\\_teryt.pdf](http://www.stat.gov.pl/cps/rde/xbcr/gus/PUBL_stan_zdrowia_2004_teryt.pdf) (Central Statistical Office, Polish: Główny Urząd Statystyczny) [in Polish].
34. Yahia N., Wang D., Rapley M., Dey R. (2016), *Assessment of weight status, dietary habits and beliefs, physical activity, and nutritional knowledge among university students*, "Perspectives in Public Health", vol. 136, no. 4, pp. 231-244.

### Ocena zachowań zdrowotnych studentów fizjoterapii amatorsko uprawiających sporty i sztuki walki

**Słowa kluczowe:** fizjoterapia, aktywność fizyczna, sporty walki, studenci

#### Streszczenie

Wprowadzenie. Styl życia jest głównym czynnikiem determinującym utrzymanie zdrowia i sprawności psychofizycznej. Cel. Głównym celem badań była ocena zachowań zdrowotnych studentów kierunku fizjoterapia uprawiających sporty i sztuki walki.

Materiał i metody. W badaniu wzięło udział 763 studentów pierwszego roku Warszawskiego Uniwersytetu Medycznego (48 uprawiało sporty i sztuki walki).

Wyniki. Studenci charakteryzowali się średnim poziomem zachowań zdrowotnych (80,23). Kobiety uzyskały istotnie wyższe wyniki niż mężczyźni ( $p < 0,01$ ). Ogólny wynik zachowań zdrowotnych osiągnięty przez osoby uprawiające sporty i sztuki walki był wyższy niż wyniki pozostałych grup.

Wniosek. Osoby aktywne fizycznie wyróżniały się większą dbałością o zdrowy styl życia niż nieaktywne. Jednak najwyższym poziomem zachowań zdrowotnych charakteryzowali się adepci sportów i sztuk walki.