

Patronat Komitetu Rehabilitacji Kultury Fizycznej i Integracji Społecznej PAN



# Acta Balneologica

Ukazuje się od 1905 r.

ISSN 2082 - 1867

CZASOPISMO POLSKIEGO  
TOWARZYSTWA BALNEOLOGII  
I MEDYCYNY FIZYKALNEJ  
JOURNAL OF THE POLISH  
BALNEOLOGY AND PHYSICAL  
MEDICINE ASSOCIATION

TOM LXIV  
TOM LXIV

NUMER 2 (168)/2022  
NUMBER 2 (168)/2022

DWUMIESIĘCZNIK  
BIMONTHLY

MARZEC-KWIECIEŃ  
MARCH-APRIL

**MEDYCYNĄ UZDROWISKOWĄ** **MEDYCYNĄ FIZYKALNĄ** **BIOKLIMATOLOGIA**  
**HEALTH-RESORT MEDICINE** **PHYSICAL MEDICINE** **BIOCLIMATOLOGY**

- Evaluation of the Therapeutic Effects of a Series of Treatments with Whole-Body Cryotherapy on Pain of the Cervical Spine in the Course of Degenerative Disease
- Neurological Disorders in Hospitalized Patients with Covid-19: Clinical Symptoms, Treatment, and Rehabilitation
- Determination of the Hazard of Medical Waste in the Convention of the Covid-19 Pandemic



- Implementation of Health-Preserving Technologies in the Process of Physical Education of Students with Type 2 Diabetes in Higher Education Establishments
- Influence of Physical Rehabilitation on the Restoration of Psychoemotional and Cognitive Impairment in Patients Suffered Cerebral Ischemic Stroke
- Features of Physical Therapy of People with Endocrine System Pathology
- Healthy Nutrition and Behavioral Economics: from Principle to Practice
- Algorithm for Creating a Multidisciplinary Team in the Palliative Care System
- Medical and Social Reasoning of Improvement of Oncogynecological Diseases` Prevention System Management

Czasopismo jest indeksowane w Web of Science ESCI (Emerging Sources Citation Index),  
MEiN - 20 pkt., EBSCO, Index Copernicus, Polskiej Bibliografii Lekarskiej, Bibliografii Geografii Polskiej

# Acta Balneologica

CZASOPISMO POLSKIEGO TOWARZYSTWA BALNEOLOGII I MEDYCYNY FIZYKALNEJ  
JOURNAL OF THE POLISH BALNEOLOGY AND PHYSICAL MEDICINE ASSOCIATION

TOM LXIV  
TOM LXIV

NUMER 2 (168)/2022  
NUMBER 2 (168)/2022

DWUMIESIĘCZNIK  
BIMONTHLY

MARZEC-KWIECIEŃ  
MARCH-APRIL

  
Aluna Publishing

# Acta Balneologica

# Influence of the Amount of Students' Motor Activity on their Health Status and Psychophysical Readiness for Future Life

## Wpływ aktywności ruchowej uczniów na stan zdrowia i gotowość psychofizyczną do przyszłego życia

DOI: 10.36740/ABAL202202109

Grygoriy P. Griban<sup>1</sup>, Ivan M. Okhrimenko<sup>2</sup>, Natalia A. Lyakhova<sup>3</sup>, Tetiana M. Kostenko<sup>4</sup>, Oleg A. Zarichanskyi<sup>5</sup>, Nataliia V. Zarichanska<sup>6</sup>, Olena Yu. Pop<sup>6</sup>

<sup>1</sup>Zhytomyr Ivan-Franko State University, Zhytomyr, Ukraine

<sup>2</sup>National Academy of Internal Affairs, Kyiv, Ukraine

<sup>3</sup>Poltava State Medical University, Poltava, Ukraine

<sup>4</sup>Mykola Yarmachenko Institute of Special Education and Psychology of the National Academy of Educational Sciences of Ukraine, Kyiv, Ukraine

<sup>5</sup>Taras Shevchenko National University of Kyiv, Kyiv, Ukraine

<sup>6</sup>Vinnitsia Mykhailo Kotsiubynskyi State Pedagogical University, Vinnitsia, Ukraine

### SUMMARY

**Aim:** To investigate the impact of the amount of students' motor activity on their health status and psychophysical readiness for future life.

**Materials and Methods:** The research was conducted in 2019-2021. The study involved 420 students and 232 graduates of different years. 57 male students took part in the experiment aimed at studying the impact of the amount of motor activity on the health of students and their psychophysical readiness: 28 students were included to the experimental group, 29 students - to the control group. Research methods: theoretical analysis, questionnaires, testing, pedagogical experiment, statistical methods.

**Results:** It was revealed that an increase in the amount of practical (academic and extracurricular) classes to 12-14 hours per week for one year positively affected the state of health of students and their psychophysical readiness for life. In EG, in contrast to CG, the results of most fitness tests significantly improved. The number of students with a high level of health in EG increased by 28.6%, and in CG - by 3.4%. The number of EG students with low level of neuropsychiatric stability decreased by 32.2%, and in CG - by 6.6%.

**Conclusions:** Increasing the level of motor activity of students requires creation of a modern system of physical education of students, which should take into account their interests, motives and personality-oriented choice of the type classes. Classes should be organized in accordance with the level of physical fitness and health status of students.

**Key words:** motor activity, students, psychophysical readiness, physical education, health

**Słowa kluczowe:** aktywność ruchowa, studenci, gotowość psychofizyczna, wychowanie fizyczne, zdrowie

Acta Balneol, TOM LXIV, Nr 2(168);2022:150-154

### INTRODUCTION

Difficult economic conditions, political troubles, and the war in the East of Ukraine negatively affect the social status of students, their health, physical fitness, and psychophysical readiness for future life. At the same time, the modernization of the system of physical education of students in Ukraine according to European standards led to the closure of physical education departments, reduction of hours in the discipline "Physical education" and deterioration of the material and technical base of universities. Now in Ukraine, the natural biological need of students for motor activity does not meet

the nowadays requirements, does not provide students with the necessary level of health, physical fitness, working capacity, scientifically based educational and physical culture and recreational health technologies that can be used by future specialists in their professional activity. There emerged a contradiction between the needs of the students' personality in ideological, spiritual, cultural, intellectual enrichment and physical improvement [1].

In addition, during the quarantine period caused by the COVID-19 pandemic, even greater restrictions arose, which led to the temporary closure of sports halls, sports complexes,

stadiums, cancellation and postponement of sports competitions, etc. Higher education institutions (HEI) switched to distance learning, which significantly increased the deficit of motor activity of students [2].

The system of physical education in Ukrainian HEI should cover the totality of all components that form and educate the student, interact in it, and depending on how coordinated individual and joint actions of students with the department of physical education are, the level of efficiency of functioning of this system will be revealed. One of the indicators of the effectiveness of the physical education system in HEI is the level of motor activity of students [3]. Motor activity is the main factor in maintaining and promoting health, it is a universal means of preventing diseases. Motor activity has a beneficial effect on the formation and development of all functions of the central nervous system, strength, mobility and balance of nervous processes, increasing mental resistance to stress [4, 5]. However, the problematic situation with the physical education of HEI students, which has developed nowadays in Ukraine, reinforced by the pandemic, requires further scientific research.

### AIM

The aim is to investigate the impact of the amount of students' motor activity on their health status and psychophysical readiness for future life.

## MATERIALS AND METHODS

### PARTICIPANTS

The research was conducted in 2019-2021 at Polissia National University (PNU) and Zhytomyr Ivan Franko State University (ZHSU). 420 students took part in the survey, including 258 students (127 male, 131 female) from PNU and 162 students (73 male, 89 female) from ZHSU. In addition, 232 graduates of PNU from different years took part in opinion polls. 57 male students from PNU took part in the experiment aimed at studying the impact of motor activity in the amount of 12-14 hours per week during the academic year on the level of students' health and their psychophysical readiness: 28 students were included in the experimental group (EG), 29 – in the control group (CG).

### PROCEDURE

The content of the practical section of physical education of EG students was enriched with the means that contribute to the improvement of the main systems (cardiovascular, respiratory, musculoskeletal) of the body and meet the interests of students and do not require additional equipment, and their influence can be quickly corrected in the educational process and during self-study classes. The content of physical training of EG students provided for the achievement of a certain level of development of physical qualities, the acquisition of motor skills and abilities that meet the requirements of future professional activity, contribute to the successful combination of training with physical education classes, and allowed students to successfully adapt to future life.

The main means of the practical section were physical exercises of various types: general development, therapeutic,

recreational, preventive, professional and applied, sports, rehabilitation. Exercises were also selected depending on the predominant manifestation of certain motor skills, namely: running, jumping, acrobatic, gymnastic, game, etc. The methods of physical training of students developed by us in the educational process allowed us to use exercises based on the structure of movements (cyclic, acyclic, mixed), on the predominant influence on the development of muscle groups, on the features of the muscle mode, on the intensity of work and energy supply mechanisms. All these means were included in the program of EG classes during the 2020-2021 academic year: to physical education classes according to the schedule; to morning hygienic gymnastics; to exercises that were performed during the day; to classes in sports sections; to self-study classes in free time. The CG was engaged in the current system of physical education according to the curriculum of PNU.

Physical fitness of students was assessed by the results of running 100 m, pull-ups on the crossbar, long jumps, push-ups, shuttle running 4 x 9 m, sit-ups, bending the torso forward. The level of students' health (high, satisfactory, unsatisfactory) was determined by the results of their self-assessment by conducting a survey. Psychological indicators of students, such as neuropsychiatric stability (NPS), were determined using the "Prognosis" method [6]. The NPS became more pronounced the more points a student scored on a scale from 1 to 10 points.

### RESEARCH METHODS

Theoretical analysis, questionnaires, testing, pedagogical experiment, statistical methods. During the researches the authenticity of difference between the indicators of cadets by means of Student's t-test was determined.

### ETHICAL APPROVAL STATEMENT

This study complies with the ethical standards of the Act of Ukraine "On Higher Education" No. 1556-VII dated 01.07.2014 and the Letter from the Ministry of Education and Science of Ukraine "On the Academic Plagiarism Prevention" No. 1/11-8681 dated 15.08.2018. Informed consent was received from all individuals who took part in this research.

## RESULTS

The main tasks of forming the motor activity of students are to provide students with knowledge and form motivation for maintaining a healthy lifestyle and a desire for self-improvement. It is important to develop students' skills and abilities to conduct independent daily physical exercises, using various forms of classes, conduct systematic physical training with a health or sports orientation, teach students to diagnose and correct formation of posture and regulate physical activity, etc. The solution of these problems is possible if individual and differentiated approaches are applied in the process of physical education, which are determined by the different composition of students in terms of interests, motives, preferences, physical development, physical fitness, health status, etc.

Studying the students' weekly time budget revealed their overall motor activity. The average data obtained by us for



Table 1. Motor activity of students in the weekly time budget (n=420, %)

Types of physical activity	PNU (n=258)		ZHSU (n=162)	
	1st year	2nd year	1st year	2nd year
Scheduled physical education training sessions	1.2	1.2	1.2	1.2
Classes in sports sections and recreation groups	0.9	1.2	0.9	1.2
Self-study classes	1.7	1.9	1.7	1.9
Total	3.8	4.3	3.8	4.3

Table 2. Analysis of motor activity of PNU graduates after graduation (n=232,%)

Motor activity while studying at the university	Motor activity after graduation			
	Persons engaged in physical culture and sports	Persons engaged in fishing and hunting	Persons engaged in walking and cycling	Persons working in the kitchen garden and in the field
Physical education training sessions (n=169)	4.1	8.9	17.2	46.8
Training sessions, classes in sports sections, participation in sports competitions (n=63)	31.8	14.3	42.9	52.4

the weekly time budget of students is the trend of load distribution, which is consistently repeated throughout the week (Table 1). From the data obtained, it can be seen that the weekly time budget of students of the 1st and 2nd courses is largely aimed at expanding the reserves of activity of thought processes and intellectual activity, and is not aimed at achieving the necessary level of motor activity.

The norm of motor activity for students should be 14 hours (8.33 %) per week. The data obtained show that in general, students are in a state of physical inactivity, a reduced regime of physical activity. The formation and upbringing of students by means of physical culture and sports is a complex process with stable objective and subjective social qualities that develop in the educational process of higher education institutions, as well as under the influence of the social environment. The dynamics of students' motives and interest in physical culture and sports during their studies at the HEI shows that there are no significant changes in understanding of their importance for maintaining a healthy lifestyle, work and professional activities. Therefore, future specialists after passing the exam or graduating the HEI stop practicing physical exercises. Sociological studies conducted among PNU graduates have shown that only those students who were actively engaged in sports during their studies at the HEI continue doing physical exercises and sports, and try

to lead an active lifestyle during their professional activity (Table 2). This indicates that it is necessary to expand the opportunities of HEI for introducing new most popular sports and means of physical culture and recreation activities, and actively involve students to independent motor activity.

The survey of students showed that most of them are more or less dissatisfied with the system of organization of physical education, means, methods and material and technical equipment of sports halls, forms of conducting training sessions, their content and direction, and this, in turn, negatively affects the attitude to the educational process of physical education, independent physical exercises and physical culture and recreation activities during extra-curricular hours. An even larger number of students are not satisfied with the organization and conduct of physical culture, recreation and sports events (Table 3).

To increase the level of physical activity of students, it is necessary, first of all, to improve the system of physical education in the HEI what regards developing software, scientific and methodological, regulatory and legal support, bringing educational standards and regulatory documents in line with new requirements and opportunities for the development of society. The criteria and standards for evaluating students in physical education, which will be taken into account in their professional activities, should be significantly revised and justi-

Table 3. Students' satisfaction with the organization of physical education and physical culture and recreation activities during their studies at the HEI (n=420, %)

Name of the HEI (number of students)	Type of physical education classes	Subjective assessment of students					
		Satisfied		Partially satisfied		Not satisfied	
		male	female	male	female	male	female
PNU (n=258)	Practical exercises	67/52.8	73/55.7	43/33.8	38/29.0	17/13.4	20/15.3
	Classes in the section	42/33.1	38/29.0	53/41.7	52/39.7	32/25.2	41/31.3
ZHSU (n=162)	Practical exercises	46/63.0	57/64.0	19/26.0	21/23.6	8/11.0	11/12.4
	Classes in the section	21/28.7	36/40.5	34/46.6	39/43.8	18/24.7	14/15.7

**Table 4.** Dynamics of physical fitness indicators of students (male) during the pedagogical experiment (EG, n=28; CG, n=29)

Tests	Groups	Before the experiment	After the experiment	Reliability of the difference	
				t	p
100 m run (s)	EG	14.6±0.89	13.9±0.78	1.84	>0.05
	CG	14.3±0.67	14.2±0.68	1.29	>0.05
Pull-ups on the crossbar (times)	EG	6.7±0.56	11.7±0.52	2.86	<0.01
	CG	6.6±0.49	7.7±0.67	1.33	>0.05
Long jump from the place (cm)	EG	207.4±13.21	223±15.51	2.03	<0.05
	CG	203.5±14.09	207.7±12.83	1.41	>0.05
Push-ups (times)	EG	18.9±0.75	31.9±0.76	2.48	<0.05
	CG	18.7±0.82	23.5±0.87	1.96	>0.05
Shuttle run 4 x 9 m (s)	EG	10.71±0.93	9.30±0.83	1.73	>0.05
	CG	10.42±0.86	10.09±0.94	1.38	>0.05
Sit-ups in 1 min (times)	EG	20.1±0.94	34.5±1.35	2.51	<0.01
	CG	19.9±0.86	26.7±1.13	1.63	>0.05
Bending over (cm)	EG	7.1±0.47	14.7±0.53	2.87	<0.01
	CG	7.2±0.43	9.9±0.41	1.56	>0.05

fied. The system of assessment of students in physical education should be supplemented taking into account the availability of physical culture and recreation competencies. To increase physical activity, teachers should focus on attracting students to practical training and extracurricular activities in the amount of 12-14 hours per week. This motor mode contributes to a significant improvement in the level of physical fitness of EG students, which was proved during the experiment (Table 4).

The results of the study showed that EG students during one academic year were able to significantly improve their physical fitness indicators in five tests out of seven ( $p < 0.05-0.01$ ). At the same time, students' test performance in CG did not improve in any test ( $p > 0.05$ ). In addition, a survey of students was conducted on how they assess their own health status. The results of the assessment show that at the beginning of the academic year, the number of students who rated their health status as high (EG – 17.8%, CG – 20.7%), satisfactory (EG – 60.7%, CG – 55.2%) and unsatisfactory (EG – 21.5%, CG – 24.1%) in both groups was approximately the same. At the end of the experiment, the number of students with a high level of health in EG increased to 46.4% (by 28.6%), and in CG – to 24.1% (by 3.4%). The number of students with a satisfactory level of health in EG decreased to 42.8%, and in CG – to 51.8%; with an unsatisfactory level, the number of EG students decreased to 10.7%, and in CG – remained unchanged (24.1%).

The study of the dynamics of students' NPS indicators showed that at the beginning of the experiment, the EG and CG indicators were almost the same: 7.1% had a high level of NPS (items 1-3 on the NPS scale) in the EG, and 7.0% in the CG; medium level (items 4-6) in the EG 32.1%, in CG – 24.1%; low level (items 7-10) in the EG 60.8%, in CG – 68.9%. At the end of the study, the number of low-level students in EG decreased to 28.6% (the difference is 32.2%), in CG – to 62.1% (the difference is 6.6%). The number of students with a high level of NPS in EG increased to 17.8% (the difference is

10.7%), in CG – to 10.3% (the difference is 3.3%). This suggests that EG students are more prepared for unpredictable and atypical (stressful) life situations. The conducted studies indicate a positive impact of the proposed amount of motor activity on the health status of students and their psychophysical readiness for further educational and professional activity.

## DISCUSSION

Human motor activity is defined as a factor that favorably affects the growth and development of the body, as an indicator of the functional state of the body, because movement is an important biological need of a person [7]. Under the motor activity of students, we consider all body movements made by skeletal muscles, as a result of which there is a significant increase in energy consumption, which is higher than the basal metabolic rate [3, 8]. Scientists [1, 4] consider motor activity as an integral part of a person's lifestyle and behavior, which is determined by socio-economic and cultural factors, which depends on the organization of physical education, morphofunctional features of the body, the type of nervous system, the amount of free time, motivation for classes, availability of sports facilities and recreation areas for young people. Psychophysical readiness is a kind of personal trait that provides and characterizes the possibilities of continuous growth of the individual in the present and future, his attitude to the world and himself [9, 10]. Along with this, multifaceted manifestations of a person's psychophysical readiness give an idea of the mechanisms and conditions of special sequential transformations in the personality structure.

The amount of motor activity of students and the needs of their body in it depend on many physiological, socio-economic, household, psychological and other factors: age, gender, physical build, level of physical fitness, motivation for classes, lifestyle, geographical and climatic conditions, the amount of free time and its character, availability of sports facilities, etc. [2, 11]. The individual norm of motor activity is determined by the achieve-



ment of a specific physical state, which can be expressed by quantitative indicators of physical performance, physical fitness, and the functional state of the main body systems [4].

One of the most important tasks of improving the educational process is to organize the optimal level of motor activity of students, which is able to provide them with good health, physical and mental performance, a positive emotional state, active rest, and satisfy their need for movement. We offered a weekly norm of activity of 12-14 hours. As a result, at the end of the academic year, the level of physical fitness of EG significantly improved, in contrast to CG, where most indicators remained unchanged. The percentage of students with a high level of health and neuropsychiatric stability has increased significantly.

## CONCLUSIONS

1. Increasing the amount of motor activity of students requires creation of a modern system of physical education of students, which should take into account their interests, motives and personality-oriented choice of the type of classes. Classes should be organized in accordance with students' health and physical fitness. Methods, means and forms of classes should correspond to the level of formation of individual motor qualities, material and technical equipment of classes to ensure the fulfillment of tasks.

2. Analysis of the current level of motor activity of students in the weekly time budget showed that students were in a state of reduced motor activity (3.8-4.6%). It was revealed that an increase in the amount of practical (academic and extracurricular) classes to 12-14 hours per week for one year positively affected the students' health and their psychophysical readiness for life. In EG, in contrast to CG, results in pull-ups, push-ups, long jump and bending over significantly improved. The number of students with a high level of health in EG increased by 28.6%, and in CG – by 3.4%. Indicators of neuropsychiatric stability of EG students at the end of the study are significantly better than in CG: in EG, the number of students with a low level decreased by 32.2%, in CG – by 6.6%; with a high level in EG, it increased by 10.7%, in CG – by 3.3%.

Prospects for further research are to study of the influence of the amount of motor activity on the functional state and health of female students.

## References

1. Prysiazniuk S, Oleniev D, Tiazhyina A et al. Formation of health preserving competence of students of higher educational institutions of information technologies specialties. *Inter J Appl Exer Physiol.* 2019;8(3):283-292. doi:10.26655/IJAEP.2019.10.1.
2. Griban G, Filatova O, Bosenko A et al. Water in students' life and its impact on their health. *Acta Balneol.* 2021;2(164):99-104. doi:10.36740/ABAL202102104.
3. Prontenko K, Griban G, Medvedeva I et al. Interrelation of students' motivation for physical education and their physical fitness level. *Inter J Appl Exer Physiol.* 2019;8(2):815-824. doi:10.30472/ijaep.v8i2.1.566.
4. Griban G, Prontenko K, Yavorska T et al. Non-traditional means of physical training in middle school physical education classes. *Inter J Appl Exer Physiol.* 2019;8(3): 224-232. doi:10.26655/IJAEP.2019.10.1.
5. Aleksandrov DO, Okhrimenko IM, Drozd OYu. Features of professional-psychological adaptation of Ukrainian National police officers for law enforcement activities. *Science and education.* 2017;11:35-45. doi:10.24195/2414-4665-2017-11-4. (in Ukrainian).
6. Halyan IM. *Psychodiagnostics.* Kyiv: Akademvydav. 2011{52p. (in Ukrainian).
7. Prontenko K, Griban G, Bloschynskyi I et al. Development of power qualities of cadets of Ukrainian higher military educational institutions during kettlebell lifting training. *Baltic J Health Phys Act.* 2019;11(3):27-38. doi:10.29359/BJHPA.11.3.04.
8. Bondarenko V, Okhrimenko I, Tverdokhvalova I et al. Formation of the professionally significant skills and competencies of future police officers during studying at higher educational institutions. *Revista Românească Pentru Educație Multidimensională.* 2020;12(3):246-267. doi:10.18662/rrem/12.3/320.
9. Tsilmak O, Okhrimenko I, Okhrimenko S et al. Characteristics of volitional qualities of successful students. *Inter J Appl Exer Physiol.* 2020;9(12):119-128.
10. Okhrimenko I, Yevdokimova O, Shvets D et al. Police training or police education: View on the matter. *Inter J Appl Exer Physiol.* 2020;9(12):129-136.
11. Prontenko K, Bublei T, Marushchak M, Bondar T. A computer program for evaluation of children's fitness at football classes. *Inf Tech Lear Tools.* 2020;77 (3):90-100. doi:10.33407/itlt.v77i3.3277.

*This study was carried out according to the plan of the research work of Polissya National University for 2014-2024 on the theme of "Theoretical and methodological bases of improving the educational process of physical education at higher educational institutions" (state registration number 0114U003978).*

### Conflict of interest:

The Authors declare no conflict of interest

**Received:** 30.06.2021

**Accepted:** 23.12.2021

### ADDRESS FOR CORRESPONDENCE:

Ivan M. Okhrimenko  
National Academy of Internal Affairs  
1 Solom'yanska square, 03035 Kyiv, Ukraine  
phone: +380679903905  
e-mail: ivango-07@ukr.net

### ORCID ID and AUTHORS CONTRIBUTION

0000-0002-9049-1485 - Grygoriy P. Griban (A, B)  
0000-0002-8813-5107 - Ivan M. Okhrimenko (F, D)  
0000-0003-0503-9935 - Natalia A. Lyakhova (E)  
0000-0002-4976-1236 - Tetiana M. Kostenko (C)  
0000-0002-6934-9521 - Oleg A. Zarichanskyi (C, D)  
0000-0002-5636-1900 - Nataliia V. Zarichanska (A, F)  
0000-0001-7284-9685 - Olena Yu. Pop (E)

A - Research concept and design, B - Collection and/or assembly of data, C - Data analysis and interpretation, D - Writing the article, E - Critical revision of the article, F - Final approval of article

*Info*

### **LICENCE**

Articles published on-line and available in open access are published under Creative Common Attribution – Non Commercial-No Derivatives 4.0 International (CC BY-NC-ND 4.0) allowing to download articles and share them with others as long as they credit the authors and the publisher, but without permission to change them in any way or use them commercially.

## Polskie Stowarzyszenie Pacjentów Uzdrawiskowych

Z inicjatywy Pani Profesor Ireny Ponikowskiej w 2019 roku powstało Polskie Stowarzyszenie Pacjentów Uzdrawiskowych (PSPU). Celem Stowarzyszenia jest m.in. integracja pacjentów korzystających z lecznictwa uzdrawiskowego, zwiększenie dostępności do lecznictwa uzdrawiskowego dla osób potrzebujących, poprawa jakości usług świadczonych w sektorze lecznictwa uzdrawiskowego, współpraca z lekarzami i zakładami lecznictwa uzdrawiskowego, edukacja pacjentów.

Każdy członek Stowarzyszenia będzie mógł korzystać ze zniżek w opłatach za pobyt i leczenie m.in. w przypadku pobytów komercyjnych w wybranych zakładach lecznictwa uzdrawiskowego oraz brać udział w organizowanych przez Stowarzyszenie konferencjach, warsztatach, konsultacjach.

**Członkami Stowarzyszenia mogą być osoby fizyczne i prawne.**

**Członkostwo w Stowarzyszeniu dla osób fizycznych jest bezpłatne, osoby prawne mogą zostać członkami wspierającymi.**

**Zapraszamy do wspólnego działania zarówno pacjentów jak i firmy działające w obszarze medycyny uzdrawiskowej.**

**Prosimy o odwiedzenie strony Stowarzyszenia [www.uzdrawiskowi.pl](http://www.uzdrawiskowi.pl)**

**na której znajdują Państwo więcej informacji oraz deklarację przystąpienia do Stowarzyszenia.**

*Zarząd Polskiego Stowarzyszenia Pacjentów Uzdrawiskowych*

[www.uzdrawiskowi.eu](http://www.uzdrawiskowi.eu)

**Szanowni Państwo!**

Uprzejmie informujemy, że od 2022 roku opłata za publikację artykułu w czasopiśmie Acta Balneologica wynosi 1000 zł plus 23% VAT dla polskich autorów i 200 euro dla zagranicznych. Wydawnictwo wystawia faktury zarówno instytucjom zatrudniającym Autorów i opłacającym druk artykułu, jak i Autorom, którzy sami płacą za swoją publikację.

Poniżej numer konta: Credit Agricole 82 1940 1076 3010 7407 0000 0000

The publication of the manuscript in „Acta Balneologica” is paid. The cost of publishing the manuscript is PLN 1000,00 plus 23% VAT (for foreign authors: 200€). The publisher issues invoices. The fee should be paid after receiving positive reviews, and before publishing the manuscript.

**Szanowni Państwo!**

Więcej informacji o czasopiśmie, szczegółowy regulamin publikowania prac i przysyłania artykułów znajduje się na stronie

[www.actabalneologica.eu](http://www.actabalneologica.eu)