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Contribution to the history and prospects of complementary and alternative medicine (CAM) in Poland

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SUMMARY

The author, on the basis of her personal experiences, describes the 30 years process of laying the foundations for academically proven fundaments for complementary and alternative medicine (CAM) in Poland. This article also slightly grasps the problem of parallel existence of CAM and standard medical treatment.

KEY WORDS: complementary and alternative medicine (CAM), conventional medicine (CM), traditional medicine (TM), history

STRESZCZENIE

Przyczynek do historii i perspektyw medycyny komplementarnej i alternatywnej (CAM) w Polsce

Autorka, w oparciu o osobiste doświadczenia, opisała 30 lat tworzenia się fundamentów pod naukowe podstawy medycyny komplementarnej i alternatywnej (CAM) w Polsce. Artykuł rzuca też nieco światła na problem współpracy CAM z oficjalnym systemem leczenia.

SŁOWA KLUCZOWE: medycyna komplementarna i alternatywna (CAM), medycyna konwencjonalna (CM), historia

Background

Complementary and alternative medicine (CAM) has been developing for many years in the whole world, and it officially became a part of health care systems in certain countries. It would seem that it could be similarly in Poland, but unfortunately here the history of CAM failed to have auspicious outcome. What may be found interesting is the study of the state of affairs, realization of what has happened in Poland over the course of the last decades, and a question if we are capable of catching up with other countries by broadening the horizons of our domestic medicine, thus becoming a more self-aware society for taking the responsibility for our own health. It is not about healthier lifestyle exclusively but rather about the choices of the right health treatments which can give the best effect with as little cost as possible.

The author, being a scientist of many years involved with a medical discipline as well as a patient since her earliest childhood of health care which has applied conventional (academic) medicine, she investigated her health condition on her own after she noticed the treatment had not been effective. It is why for years she was coming into contact with professions connected with the conventional and unconventional medicine. In the next years she was actively taking part in scientific researches and curriculum preparations concerning the complementary and alternative methods of treatment also addressed to doctors.

Therefore, in the present article the author brings closer the facts which created a framework for complementary, alternative and integrative medicine focusing on the most important matters which became the topics of lively discussions. They also showed mental barriers among medical community and the society which have precluded a fusion of the two types of medicine. As a consequence it has been impossible to solve the issues of a great value not only in terms of academic medicine, but also in terms of health and life of patients.

Fundaments which provided a foundation of problems

The characteristic of the Polish society is mistrust for the CAM methods which have been brought into disrepute by the media and other opinion-forming services. Even in the 80s of 20th c. the beginning of the movement promoting CAM and its practice faced some problems in Poland, too. At that time it hindered its unfettered and natural development, and the possibility of practicing CAM was virtually detruded to the role of a craft – in Poland CAM has been recognised as a biotherapy craft guild [1]. Soon it was completely depreciated by the assemblies. As a result it has been developing as a secondary stream often labelled as "magic", fraud, witchery. It was related to the typical biotherapy as well as to the classic methods as homoeopathy, herbal medicine and acupuncture.

In the first movement also a group of doctors participated who noticed new possibilities of alternative methods of non-invasive patient support allowing them to take the responsibility for their own health. However, due to the given labels the initial movement disintegrated, and some physicians went into a state of „sleep" often not parading that they were working on the new methods waiting for „better days". The rest withdrew due to external pressures and the „notoriety" of the movement.

The subject of complementary and alternative medicine, however, did not disappear, it has been stored in the memory of the medical community and has become a testing bench in medical circles, particularly in those which lay at the heart the effectiveness of the treatment processes and hope for a better quality of life. This community gathered around the successors of the Professor of Medical Sciences Julian Aleksandrowicz (1908-1988) – the great doctor, a humanist and a social activist, a long-term head of the Department of Haematology in Kraków.

Nevertheless, at the same time CAM found many opponents and even enemies precisely in the medical community which even negated reasonableness of CAM. As this movement was resurging, there also began to arouse a similar type of controversy in the society finding enthusiasts and supporters as well as absolute critics depreciating all of its aspects.

The described story dates back basically to the late 80s and then to the end of the 90s of the 20th c. It applies to both refining the shape of and discussing complementary and alternative medicine (CAM) at the European Symposium of Psychosomatic Education in Kraków. Inasmuch as I am the author it is important for me because it constitutes to a greater whole of „fostering and educating for health" (health education) which I have been involved in for many years and which is the subject of many publications in this field. This sheds some light on the nature of the fundamental problem that underlies the "marriage" or "incompatibility" of the two partners: classical and complementary/alternative medicine.

According to the author, only by expanding the awareness through appropriate education, it is possible to change public awareness of CAM. An important element of this process is to combine education for health and welfare into one, and to build a quality of life that promotes health (health education) and helps maintain it for many years of lifespan preventing many diseases. When the issue is perceived in that manner, medicine changes its nature from purely „reconstructive" into preventive and health medicine, and when combined together, they lead to healing the whole person not just treating the symptoms. In addition, the integration of complementary and alternative techniques, which apply to other spheres of life and health (emotions, ways of thinking, the energy of the body), with a conventional treatment allows more efficient helping the patient not only from the narrow perspective of a disease. This compound treatment is actually healing many aspects of a patient's life including these which require healing of family and the environment relations.

A number of facts in chronological order

The story presented below began in the early 80s of the 20th c. when I was a research fellow at the Medical University of Warsaw. At that time, I met people affiliated with the Warsaw University of Technology who participated in the meetings and discussions of the concept of human energy and the possibilities of implementing methods of strengthening and restoring health based on this concept. It was the time when I faced a number of my own health problems which lasted from my childhood which were not only left uncured but eventually transformed into subsequent diagnoses and therapies. During the period when I was going to various scientific conferences in Poland, I also had the opportunity to hear something more about what was happening outside the scientific mainstream; nonetheless they were preparing the main directions of research in various fields. And so, for example, by participating in immunology conferences (the field of specialisation which I was then deepening my knowledge of) in Poznań, I came across, by courtesy of one of my cousins-doctors, dowsers' environment.

The whole environment I have mentioned above from Warsaw and Poznań was very diverse. Among those who appeared at the Warsaw University of Technology were many healers, later classified as biotherapists, and research fellows of the University, especially electronic engineers, because the aspects these specialisations were important for the understanding and study of the new methods. Many times there were held lectures, demonstrations and conferences bringing together people from across Poland as well as representatives of this new trend of treatment/healing from neighbouring countries. In this group I remember the then future Professor Marek Józef Pilkiewicz, Dr. R. Tomaszewski, the co-originator of the „artificial heart", as well as a physicist Giennadija Szipowa (USSR), and several doctors who demonstrated their skills during the conference and explained the mechanisms of interaction energy.

At this point, one should also mention a group of people who were engaged in the study of watercourses or electromagnetic radiation in the environment as well as protection against these. In Warsaw, the people gathered around the Polish Psychotronic Society, located opposite the University, and in Poznań – located around the Service and Manufacturing Headquarters „Różdżkarz" [ˊruʒdʒkʌʒ] (Eng. "a dowser"). The latter published numerous books aimed at familiarising the public with the methods used by the employees of "Różdżkarz" and interpreting the methods to facilitate their understanding to a layman. In those years there was, in fact, a great need for digging wells and building houses in accordance with the best location possible in the environment and with maximised utilisation of its positive qualities. Therefore, methods of harmonious space organization coming from the East, such as feng shui, began to develop rapidly. Apart from Warsaw, an important centre of this type of education was the University of Technology in Częstochowa. These methods were particularly interesting for architects or civil engineers.

At that time, a variety of anti-stress techniques also began to gain recognition of, for instance yoga, which had its supporters in various centres including the mentioned the Częstochowa University of Technology, Kraków University of Physical Education and even some medical faculties of the Jagiellonian University in Kraków which began to examine those who practiced yoga for academic purposes. Likewise, meditation techniques became popular, and some independent researchers began to examine students participating in them (A. Szyszko-Bohusz). At the Universities there were organised seminars attracting people from outside who wanted to more deeply understand the function of cognitive processes, the interaction energy, mind development. As an example, there was even a seminar organised by the Department of General Pedagogy and Methodology at Adam Mickiewicz University in Poznań led by Professor Janusz Gnitecki (1945-2008). At that time, a few of his books were published explaining these phenomena which he regarded as the foundation of the practice of pedagogy, its philosophical aspect. It was very close to Professor Julian Aleksandrowicz's attitude in which he indicated the need for philosophy, teachers' teaching and an interest in life as a whole.

The then active Reverend Professor Włodzimierz Sedlak (1911-1993) can not be overlooked. He received his PhD from theoretical biology for his thesis "The Ability to Recreate the Beginnings of Organic Evolution Based on Silicon Component" in 1966, he created the concept of bioplasma, the concept of all-vacuum and, above all, he established the Polish school of bioelectronics and electromagnetic theory of life. Sedlak was the author of many books with *Life is Llight* among them. Here, it is worth recalling Janusz Gnitecki who studied Włodzimierz Sedlak's theories and described them in one of his books entitled *Life is Light and Luminosity* which explains that every object is an energy generator and a resonator at the same time (author's note: including human).

Each of those personages deserves a separate article, for their work in various fields laid the foundations for „the new" in science, especially in understanding the humans and their functioning in the world, as well as their health and diseases. As one can see, evoking "the new" occurred concurrently in different environments and concerned similar issues. For this reason, these unique personalities deserve special attention because they aroused the awareness of people from many cummunities, and most importantly, they left their apprentices to continue their work. In the years of Professors Sedlak or Aleksandrowicz's professional activity the explications of life processes based on the subtle energies were critically accepted by the majority of the scientific community. Therefore, those personalities participating in some kind of battle of paradigms, and so expressing the need for changes, they provoked the resistance to change in the milieu. They also were attacked or, as Włodzimierz Sedlak, desolated.

As it was described by Professor Teresa Hejnicka-Berwińska in the remembrance of Professor Janusz Gnitecki, "The gratification in science is most often deferred," and, 'It is acceptable and worthy learning from an outsider because an outsider – being outside the "system" – sees better.' This strand can be ended with recalling Robert Merton's words:

"The members of the scientific community and outsiders unite. You have nothing to lose but your claims. You can get everything, the whole sphere of understanding" [2].

(R)Evolutionary approach

All what was discussed above was revolutionary at that time, and it was the announcement of new discoveries in scence, but by the attitude of negation and rejection of the Polish communities it was unnoticed in the world. Perhaps the time was not right yet because people preffered the life of illusion based on the science and education which have existed for more than 300 years, and not the holistic paradigm. As I wrote earlier, the movement disintegrated, but it began to revive in the medical community which I was in favour of because of my love for research making and human health/illness puzzle solving. Already in 1982, I had the opportunity to read the book of Professor Julian Aleksandrowicz, written together with a poet Harry Duda *On the Eve of Tomorrow's Medicine*, which made a huge impression on me because it reached out to my inner needs of humanistic treatment of a patent and a patient's entire sphere of existence. Moreover, I was aware of the fact that I was a participant of this unique process in the history of changing the paradigm [3]. 10 years later, I heard about the research program of the Faculty of Philosophy at the University of Warsaw entitled "Universalism and the World Order", and the Library of Dialogue of the Faculty published a book *Universalism and Medicine* edited by another precursor this time in medicine Professor Kazimierz Imieliński. It presented an extremely interesting and integrated approach to both human and medicine topics, such as: the state of medicine at the threshold of the 21st c., holistic medicine, environmental medicine, promotional medicine, a universal man as a medical partner, doctor as "the officer of God and nature," the holistic vision of personality as a person or a holistic model in the training of doctors.

Nevertheless, it took a few years, until 1995, when I came across the psychosomatic approach to health/illness in the literature and symposia held in Kraków. It was that time when I also familiarised with psychosynthesis. Even then, in the Polish magazine *Sztuka leczenia* (Eng. "the art of treatment"), there appeared articles which heralded new trends in medicine, such as: health in the perspective of ecological thinking, an integrated approach in diagnosis and therapy, music as a source of life energy, proposals for a psycho-ecological-socio-somatic medicine or a more methodical one as Carl Rogers' therapy,

yoga and Schultz's autogenic training. The authors presented the current state of scientific researches on alternative and integral medicine. There was Fritjof Capra's philosophy of medicine presented (the human psyche and spirituality approach), the subjects of mind-body relationship and holotropic breathwork were broached about, the future of medical education in a broader context was discussed.

In the same year there also appeared an article in *Sztuka leczenia* „Conventional and Alternative Medicine" as well as imaginative and visualization therapies. Hence, it was the time when the theoretical foundations of the forthcoming integrated medicine were contemplated, and also their practical components which enhanced their content creating a wide range of methods and techniques to support the process of recovery. However, the foundations of all these approaches which, as it soon turned out, permeated, have already been laid by the environmental philosophers and physicians (professors) in Warsaw.

Therefore, when I heard about the annual Symposia of Somatotherapy (then the International Congress of Somatotherapy) organized by: the Society of Psychosomatic Education in Kraków, the Jagiellonian University, the International Association of Somatotherapy and L'Ecole Européenne de Psychothérapie Socio- et Somato- Analytique (EEPSA), I was present on one of them immediately in the late 90's. Then, for the next 12 years I actively took part in the subsequent Symposia [4,5].

The topics which I confronted were innovative in terms of both theory and practice. They referred to the area of medicine, health promotion and especially the education on healthy lifestyle. In addition, the problem of psychosomatic education was discussed, which analyses the causes of disease, and not just deals with the symptoms. The mainstream of the discussions and presentations were also: contemporary therapeutic dilemmas, the concepts of combining mental with somatic sphere, the importance of stress in the fight against a disease. There were presented the models and interpretations of somatic diagnosis, various therapies considered as non-medical, or the ones poorly explored in medicine, such as: music therapy, meditation, shamanism, acupuncture, relaxation, rebirthing, bioenergetic analysis etc. Also, issues, such as: ethics in medicine, the role of doctor's personality traits in a contact with a patient, knowledge of spirituality in the psychosomatic approach, were also argued.

Over the years in my memory the following names of the active participants in the ongoing debates on the CAM engraved: Kazimierz Imieliński, Marzanna Magdoń, Henryk Gaertner, Jan Łazowski, Beata Szymańska, Dorota Kubacka-Jasiecka, Teresa Bernadetta Kulik, Helena Wrona-Polańska, Beata Tobiasz-szard Tomaszewski, and many others interested in the subject including Anna Ostrzycki-Rymuszko and Marek Rymuszko.

During this period, there was an intensive work in progress on the concept of the integrative approach in medicine. There was the discussion conducted on topics either directly related to individual therapies, at the time identified as non-medical, or indirectly related to complementary and alternative medicine, such as ethical issues in the medicine and the role of doctor's personality traits in a contact with a patient. In 1998, there also took place a round table discussion on the real possibilities of integration of complementary and classical medicine.

On the next Symposium there was, among others, a problem introduced concerning the attitude of doctors and medical approach towards unconventional therapies in the context of the possibility of scientific research [6]. Also, there were topics broadened, such as: the dilemmas of modern medicine, including the Convention on Human Rights and Biomedicine, the accomplishments of Albert Schweitzer (1875-1965) – considered to be an icon of the 20th c. medical humanist thought. The other topics were: legal and bioethical norms for medical experiments, aspects of holistic education and self-creation in medicine with regard to problems of a choice between „freedom and necessity", the theoretical and practical development opportunities of psychosomatics. An important part of the Symposium was the view on a patient (as a human) in terms of the methods and techniques such as yoga, neuro-linguistic programming (NLP), psychosynthesis, hypnosis, choreotherapy, manual therapy for solid-organs.

In 2000, during the Symposium the entire session was devoted to the foundations of complementary and alternative medicine, and workshops to individual techniques. In connection with the first Polish edition of a book written by doctors, edited by Wayne B. Jonas and Jeffrey S. Levin, on the scientific introduction to the issues of complementary and alternative medicine, there was a round table discussion on "How Will the Knowledge Contained in *The Foundations of Complementary and Alternative Medicine* Influence the Relationship Between Conventional and Unconventional Medicine" [7, 8].

In 2001, at the Symposium, during one of the sessions, there were presented the paradigmatic transformations in modern medicine, and during another one, the issues of integrative medicine. The objective of round table discussions was to determine the current status of complementary and alternative medicine in Poland. As in previous years, there also were presented papers on various techniques and methods used in complementary and alternative medicine [9].

All of these topics, including presentation of the various therapeutic techniques which are elements of CAM as well as theoretical movement, played a huge role in a preparation for the most important discussion which was the case of joining complementary and alternative medicine together.

The 12th European Symposium of Somatoherapy and the 5th European Symposium of Psychosomatic Education in 2003 brought together not only the academic representatives of medicine or psychology but also the doctors' communities who practice unconventional medicine. The Symposium was attended by a wide range of guests interested in the topic of CAM, associations, representatives of the Ministry of Health, the then Chairman of the Bard of the Unconventional Methods of Therapy at the Ministry of Health, representatives of the spiritual healers guild and the press. During the Symposium there was held another round table discussion entitled "How to Approach Conventional and Complementary Medicine?" [10]

There were discussions on the social demand for alternative therapies. It was emphasized that, although the book *Fundamentals of Complementary and Alternative Medicine* was published two years earlier, a large part of the doctors did not know about it or did not familiarise with it. It was pointed out that in other countries, for example in Switzerland, since 1999 five methods of CAM have been implemented to the system of health care. In the United States and in the United Kingdom also emerged beneficial solutions for CAM and the patients. In the next part of the discussion it was noted that many people have had problems with a scientific approach to alternative medicine.

In 2004, a unique novelty at the Symposium was presented by Professor Marek Pilkiewicz which was the energy concept of life and human in the light of energy medicine (vibrational medicine). This was an essential step in understanding the holistic paradigm including the spiritual realm, contemporary discoveries in physics and the theory of quantum mechanics to explain the world in terms of energy, not just in terms of matter. Marek Pilkiewicz clearly pointed out that this sort of model has been the groundwork for energy medicine (vibrational medicine) popularized in the United States for years, and it is relevant to what has been happening in Poland in the field of biotherapy/bioenergy which was the Polish phenomenon on a world scale – the creation of a new profession included in the guild crafts with the possibility of execution.

In 2005, during the 15th European Symposium of Somatotherapy and Psychosomatic Education there was organized a round table on education in the field of unconventional medicine in Poland. One of the sessions was devoted to conventional and unconventional medical science and practice, where the WHO presented its standpoint in relation to unconventional therapies, which was officially announced in 2003, as well as the test methods recommended for their verification. Due to the fact that many developing countries in nearly 80% have used other means than academic medicine, and CAM has become popular in developed countries (at least 50 % of the patients have used CAM), the WHO has been receptive to the introduction of these methods for treatment. The WHO has developed a strategy recommended for all countries which are the members of the WHO, which the main points to accomplish are:

– to create and apply the appropriate program and policies aimed at the incorporation of CAM into integrated national health care system;
– to develop the principles of safety, efficacy, quality, to build the knowledge base and supervision of the system; the WHO offered a counselling in this scope;
– to emphasise on the wide availability of properly used CAM (due to the low costs and extremely low side effects);
– to create conditions for the proper adopting of the integrated system by doctors and patients; it is for the accreditation and licensing of CAM universities and therapists, the creation of the proper institutions and enforcement of the established law just as well as extensive information for the public [11].

During the same Symposium, the President of the Society of Psychosomatic Education Professor Marzanna Magdoń (1941-2006) informed the participants that she submitted at the Jagiellonian University a course outline entitled "Complementary and Alternative Medicine" in the form of optional lectures for the students of medicine. Actually, the year 2005 was the last year of expansionary measures to promote CAM and especially Marzanna Magdoń herself. Another Symposium was held up without her and her enthusiastic attitude.

The year 2007 was indirectly a watershed for CAM, for the Polish Academy of Medicine (PAM) named after A. Schweitzer and the World Albert Schweitzer Academy of Medicine announced the creation of the integrative medicine, and they named the 16th International Symposium after it. The Symposium was held May 11-12 at the Royal Palace in Warsaw. The guest of honour was the then Minister of Health Professor Zbigniew Religa. During the Symposium Marek Pilkiewicz presented the energy concept of life and human, which was a reference to the aforementioned Sedlak's theory, like the Eastern medical approach. The other lectures were dedicated to therapeutic techniques including homeopathy [12].

It has been more than 7 years since these recent events had taken place, and the path towards integrated medicine still seems to be open. There is no system of education, no regulation, no official position on the issue of the Ministry of Health, and, above all, no reliable information and public education. However, I feel that the above described parallel struggles in many areas aimed at awakening a new awareness were not in vain. Although, the previous generation has lost hope, the present one already bears a seed in their young minds. This generation will pick up the baton to fulfil the dreams of their grandparents who dedicated their lives for the sake of health and quality of life of the individual and the whole world. It is why the record will be preserved through generations.

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The application of self-massage in supporting of warm-up

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SUMMARY

Background. Warm-up is necessary part of sports training, because prepare the body for exercises and minimize the risk of injury. The aim of this study was assess the effectiveness of two types of warm-up: aerobic exercises and exercises with self-massage.

Material and methods. The research covered 59 women. All of them did fitness tests (power of lower limbs, speed, flexibility and physical efficiency) two times. Each test was preceded by a different form of warm-up (aerobic exercises and exercises with self-massage). For examined the differences t-Student test was used.

Results. Warm-up with self-massage had positive effect for fitness level – differences in results (after the standard warm-up and warm-up with self-massage) in every tests were significant ($p<0.001$).

Conclusion. Alternative forms of warm-up can be effective way to preparing the body for exercises and make the training more attractive.

KEY WORDS: self-massage, warm-up, fitness, women

STRESZCZENIE

Zastosowanie automasażu we wspomaganiu rozgrzewki

Wstęp. Rozgrzewka jest nieodzownym elementem treningu sportowego. Ma za zadanie nie tylko przygotować organizm do wysiłku, ale też zminimalizować ryzyko ewentualnych uszkodzeń ciała. Celem pracy była ocena efektywności dwóch form rozgrzewki (standardowej rozgrzewki opartej na ćwiczeniach aerobowych oraz automasażu połączonego z rozgrzewką) w przygotowaniu organizmu do wysiłku fizycznego.

Materiał i metody. W badaniach wzięło udział 59 kobiet rekreacyjnie uprawiających fitness. Wszyscy uczestnicy eksperymentu dwukrotnie wykonali test sprawności fizycznej składający się z prób: mocy kończyn dolnych, szybkości, gibkości i wytrzymałości. Każdy z testów poprzedzony był inną formą rozgrzewki (ćwiczenia aerobowe i ćwiczenia z automasażem). Istotność różnic między parami zmiennych oceniono testem t-Studenta dla grup zależnych, za minimalny poziom istotności przyjmując $p<0,05$.

Wyniki. Dowiedziono pozytywnego wpływu niestandardowych form wspomagania rozgrzewki na poziom sprawności fizycznej w badanej grupie. Automasaż był efektywniejszą metodą przygotowania do wysiłku fizycznego – badane kobiety osiągnęły bowiem znacząco lepsze rezultaty ($p<0,001$) wszystkich prób sprawnościowych.

Wnioski. Alternatywne formy przygotowania organizmu do wysiłku fizycznego mogą nie tylko zwiększyć efekt treningu, ale również uatrakcyjnić zajęcia sportowe i rekreacyjne.

SŁOWA KLUCZOWE: automasaż, rozgrzewka, fitness, kobiety

Background

Sports-massage can adopt various forms, such as e.g.: the lymphatic drainage, isometric massage, manual self-massage, mechanical massage, classical massage enriched with strokes from the manual therapy, segmental massage, Shiatsu and different versions of hydro massage and mechanical massage [1-5]. Depending on the aim and needs of a sportsman, classical massage is diversified with strokes from various forms of manual therapy of soft tissues. Pressure on trigger-points, elements of fascial therapy and various strokes from the segmental massage are used. The choice of method, intensity of stimulation and tempo of massage should be adapted to the phase of training, excitability of a competitor and the sport discipline [6-10].

The aim of sports-massage is, among other things, to prevent pathological symptoms which can occur as a result of strain, to supplement the training-process, to accelerate the restitution, but also to prepare for the physical effort. The intervention helping the warming up is called a pre-event or warm-up massage. It is an application of strokes used in order to supplement warming up exercises before the maximal exercise. It is important to exercise muscles, articular bags and ligaments for the purpose of increasing their elasticity. This will prevent future injuries and strains. It can be practiced in the form of self-massage. The affirmative warming effect can be reached with the application of massage directly before exercises or self-massage during warming up exercises. The duration is strictly dependent on the size of the active muscular group and specificity of the exercise. At prolonged exercise a sportsman ought to perform the massage long and slowly, instead at of short duration – short and energetically. The pre-event massage can also influence the emotional condition of a competitor [11-13].

The aim of the study was to evaluate the effectiveness of two different forms of warm-up exercises – standard warm-up (based on general developmental exercises) and self-massage (combined with warm-up) in preparing for physical exercises.

Material and methods

The research covered 59 women attending fitness classes on a regular basis (at least three times a week). The age of women participating in the research was 29.3 (±11), in average. Their average height was 166.9 cm (±4.8) and their average body weight was 61.7 kg (±6.3). For comparative purposes, the research group was divided into sub-groups, in which the criterion for division was:

- age – women after the age of 30 (n=25) and before the age of 30 (n=34),
- training experience – women with less than a year's experience in exercising (n=35) and women with more than a year's experience in exercising (n=24),
- exercising in the past – women who exercised in the past (n=29) and women who did not exercise in the past (n=30).

All women participating in the research received two various forms of preparation to physical exercise: standard warm-up and warm-up supporting by self massage. After having received all types of warm-up, the women underwent fitness tests and filled in survey questionnaires.

Standard warm-up was the first type of preparation to physical exercise. Here, the warm-up was based on copying steps from aerobics to the rhythm of music. The recommended tempo of music was 130-135 BPM (beats per minute). The exercise consisted of the following steps: march in place, toe step, step touch, twice, hill back, knee up, grapevine, which additionally engaged the upper limbs. The steps were arranged in a simple choreographic block, suitable for any exercising person. Then, additional stretching exercises for neck, shoulder, trunk and lower limb muscles were introduced. To close the session, several breathing exercises were performed. This warm-up took approximately 10 minutes [14].

The second form of warm-up was self-massage of lower limbs accompanied by standard warm-up. The person performing the self-massage was sitting down with legs straight or bent, so that it was possible to loosen their muscles. They were instructed on how to perform the massage in the correct way. The techniques applied in the self-massage were: stroking, rubbing, pressing, patting, and shaking to close with. The warm-up with self-massage took approximately 15 minutes [15,16].

After having performed all forms of warm-up, the women were asked to undergo specific fitness tests, the results of which were entered to special data sheets. The intervals between particular evaluations were seven days.

Four fitness tests were carried out as part of the research: a power test – long jump from standing (the length of the jump was measured), a test of suppleness – a bend to the front performed on a bench (the distance of the tip of the longest finger to the ground was measured), a speed test – a 10-second run in one spot, clapping hands below the knees (the number of claps decided on the result) and an physical efficiency test – the Ruffier Test (the Ruffier coefficient was used to evaluate the results of the test). The Ruffier Test was based on performing 30 squats in 30 seconds and monitoring pulse during the rest immediately following the exercise and after one minute of the rest. The Ruffier coefficient is calculated basing on the following formula [14]:

- IR = [(P + P1 + P2) – 200]/10
- IR – Ruffier Index
- P – resting pulse
- P1 – pulse measured immediately after the test
- P2 – pulse measured after 1 minute of the rest

Standard statistical analysis methods were applied in evaluating empirical data. The results of particular fitness tests were presented with the use of arithmetic means (), taking into account the standard deviation (SD) factor. The significance of disparities between couples of variables were evaluated using the t-Student test for dependent groups, assuming $p<0.05$ as the minimal significance level.

Results

Standard warm-up basing on aerobic exercises (without massage) proved to be the least effective method of preparing to physical exercises, compared to self-massage. Women applying self-massage acquired considerably better results (p=0.000) in all tests (tab. 1). The biggest disparities were recorded in the results of the speed test, and the smallest ones – in the physical effi-

Tab. 1. Average results (with SD) of fitness tests preceded by two kind of warm-up

	Aerobic exercises		Exercises with self-massage		difference
	mean value	SD	mean value	SD	
POWER long jump [cm]	132.47	19.9	138.41	22.3	p<0.001
FLEXIBILITY deep bend [cm]	1.67	10.1	4.97	8.9	p<0.001
SPEED run with taping [n of tapping]	28.12	4.7	31.44	4.4	p<0.001
PHYSICAL EFFICIENCY Ruffier Test [IR]	9.27	3.7	7.51	3.3	p<0.001

Tab. 2. Results of fitness tests preceded by two kind of warm-up in subgroups

Subgroups	**kind of warm-up**	**POWER** long jump [cm]	**FLEXIBILITY** deep bend [cm]	**SPEED** run with taping [n of tapping]	**PHYSICAL EFFICIENCY** Ruffier Test [IR]
persons over 30 years old	only exercises	117.5	0.3	24.6	7.72
	self-massage	120.7 **	2.5 *	27.5 **	6.15 *
persons under 30 years old	only exercises	137.13	1.37	29.38	9.42
	self-massage	144.18 ***	5.59 ***	32.68 ***	7.68 ***
Subgroups	**kind of warm-up**	**POWER** long jump [cm]	**FLEXIBILITY** deep bend [cm]	**SPEED** run with taping [n of tapping]	**PHYSICAL EFFICIENCY** Ruffier Test [IR]
persons practicing under 1 years old	only exercises	135.25	-0.1	28.7	9.86
	self-massage	139.84 ***	3.05 ***	32.11 ***	7.96 ***
persons practicing over 1 years old	only exercises	128.5	4.21	27.28	8.43
	self-massage	136.31 ***	7.77 ***	30.46 ***	6.85 *
subgroups	**kind of warm-up**	**POWER** long jump [cm]	**FLEXIBILITY** deep bend [cm]	**SPEED** run with taping [n of tapping]	**PHYSICAL EFFICIENCY** Ruffier Test [IR]
persons practicing sport in the past	only exercises	141.55	5.25	29.1	9.36
	self-massage	148.56 ***	8.89 ***	32.5 ***	7.73 ***
persons not practicing sport in the past	only exercises	116.79	-4.92	26.35	8.29
	self-massage	121.79 ***	-0.85 ***	29.21 ***	6.52 *

* p<0.05; ** p<0.01; *** p<0.001: differences between measurement after standard warm-up and warm-up with self-massage

ciency test. The results of all tests were completely different to the results of tests conducted after standard warm-up and the results of tests conducted after warm-up with self-massage.

Analyzing the results of particular sub-groups, it may be claimed that non-standard forms of preparation to physical exercise (warm-up with self-massage) had greater impact on women below the age of 30. The biggest differences in all sub-groups were recorded with respect to power and speed tests. Self-massage had the slightest impact there – particularly among elder women (Tab. 2).

Discussion

The correctly run training consists of three main elements: warming up, proper exercises and calming phase [14,17]. The warming up is considered to be the most indispensable in the preparation for the physical exercise, however, according to some, there are few scientific evidences confirming its efficiency [18-20].

Techniques of warming up can be divided into two main categories: a passive and active warming up. The passive warming up consists of increasing muscles temperature with the use of external resources, such as a shower with the hot water, sauna, baths, diathermy or fomentation. The passive warming up does not cause the waste of energy-substrata. The active warming up, instead, contains properly chosen physical exercises such as jogging, gymnastics, cycling or swimming. Extremely important elements of this part of training are stretching exercises which are practiced to prevent muscle damaging. This kind of warming up is most often and most willingly practiced in the preparation for the sports-training and its results [17,20,21].

The efficiency of various forms of warming up is rated by, among other things, using the technique of thermo graphic imaging. It was proved that dynamic exercises with the use of elastic bands had influenced the result of the counter movement jump (CMJ) in the greatest degree. Instead, there was not found any relationship between the temperature of the muscles surface and their power [22].

The warming up preceded by the sports-massage was used instead during boxing-championships in Turkey. There were 112 competitors participating in the study. The results revealed that the warming up with the utilization of massage had prepared the boxers for fights more efficiently – up to 66% competitors from the study won their fights (only 34% from the control group won) [23].

The research concerning the effect of sports massage and self-massage on supplementing the warming up, confirmed the effectiveness of physical methods [24].

Men, who applied the warming up with massage or self-massage, reached higher results during fitness tests [25]. Therefore, it obtained convergent results with the ones of the present work.

Summing up the presented results, it can be said that the use of the self-massage produces a profitable effect in the preparation for the effort. However, for the purpose of more objective verification of the effectiveness of various forms of supporting the warming up (such as e.g. the self-massage) there would have to be a research done with the use of advanced technologies at different examined groups.

Conclusions

1. Self-massage proved to be an effective and practical form of preparation to physical exercise. Self-massage should be applied more often in the initial part of exercises (rehabilitation, professional and amateur sport).
2. Self-massage may serve as interesting supplements to traditional warm-up procedures, both for professional sportsmen, and amateurs.
3. The present results may be the basis for a prospective randomized study involving a more diverse group of people.

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The place of acupuncture in the medical research from 1965 to 2000

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SUMMARY

Background. Acupuncture has been progressively winning its place within European communities in the last decades of the XX century. This study endeavours to weigh up the process of acupuncture permeation into the medical world. The task is being carried out with the employment of multi-level linguistic analysis of the Internet PubMed Central Home titles of the articles on the subject of acupuncture in the period of 1965 - 2000.

Material and method. The selected article titles on acupuncture were compared to the British National Corpus (BNC) written sample, with the employment of the Wmatrix software. The data was analysed for the over– or under-use of keywords and semantic fields, which were chosen with the use of Wmatrix software, as most frequent for the orthodox medicine article titles.

Results. Acupuncture has attracted an interest of medical sciences at the end of the XX century.

Conclusions. The use of Wmatrix software tool in the analysis of the article titles is an effective way for monitoring the trends and processes in the world of science.

KEY WORDS: acupuncture, key words, semantic fields

STRESZCZENIE

Miejsce akupunktury w badaniach medycznych od 1965 do 2000 roku

Wstęp. Akupunktura w drugiej połowie XX wieku cieszyła się coraz większą popularnością w społeczeństwie europejskim. Przeprowadzone badanie miało na celu ocenę procesu rozprzestrzeniana się akupunktury w świat medycyny konwencjonalnej. W badaniu wykorzystano tytuły czasopism naukowych internetowej biblioteki PubMed Central Home z zakresu akupunktury z lat 1965-2000. Tytuły te zostały poddane wielopoziomowej analizie lingwistycznej.

Materiał i metody. Wybrane tytuły artykułów zostały porównane do próbki tekstu z Brytyjskiego Narodowego Korpusu (lingwistycznego) z dziedziny ortopedii i fizjoterapii za pomocą oprogramowania Wmatrix. Otrzymane dane zostały poddane analizie na występowanie słów kluczowych i pól semantycznych powszechnych w literaturze naukowej ortopedii i fizjoterapii.

Wyniki. Akupunktura stała się źródłem zainteresowania nauk medycznych pod koniec XX wieku.

Wnioski. Wykorzystanie oprogramowania Wmatrix do analizy tytułów artykułów jest korzystne do obserwacji procesów mających miejsce w publikacjach naukowych.

SŁOWA KLUCZOWE: akupunktura, słowa kluczowe, pola semantyczne, oprogramowanie Wmatrix

Background

Acupuncture had emerged in Europe in the sixties of the XX century and towards the end of it became quite widely accepted by the european society. The purpose of this study is to find out whether the above trend was reflected in the medical science articles. The choice of acupuncture was intentional, since the author practices acupuncture and observed good therapeutic effects.

Acupuncture, the ancient art of healing, employs needles to restore good health. It has won the test of time, since it is used worldwide.

Material and methods

Material

The material for the study was taken from the Internet Medline Webside, Pubmed section and made from the articles on acupuncture, which were archived from 1965 to 2000. For the clarity of the examination the articles were divided into five year spells in the following manner: 1965-1970, 1971-1075, 1976-1980, 1981-1985, 1986-1990, 1991-1995, 1996-2000.

Additionally, a database consisting of the article abstracts taken from the Pubmed related to orthopaedic and physiotherapy was composed. The database consisted of about six thousand words. The orthopaedics and physiotherapy sample was made of the randomly chosen article abstracts in this subject.

The purpose of composing the database was to ascertain the important keywords and semantic fields for the orthodox medical research texts.

Methods

Each article title, used in the study, was processed (Fig. 1), to make it suitable for the Wmatrix software. The aim of the process was to leave the important information about the article. Therefore the PubMed entry as seen in Fig. 1 was reduced to: *Adverse effects of acupuncture. Which are clinically significant?*

Prepared in the described manner entries/titles formed the database to be used for the research. The database was divided into five year periods and fed, in the selected periods, into the Wmatrix software where it was compared by the software to the BNC written sample database from the field of orthopaedics and physiotherapy.

Wmatrix software selected from the orthopaedics and physiotherapy database sample most common keywords and semantic fields for orthodox medical research texts, which were observed as valuable for the analysis of keywords and semantic fields listings of the acupuncture titles (Tab. 1 and 2). The keywords and the semantic fields that

1: Chung A, Bui L, Mills E.

Adverse effects of acupuncture. Which are clinically significant?

Can Fam Physician. 2003 Aug;49:985-9.

PMID: 12943357 [PubMed - in process]

Fig. 2. The example of the Internet Medline Webside in their PubMed entry

Tab. 1. The orthopaedic and physiotherapy keywords which held the LL value above 3.8 (p<0.05) [1]

• clinical-trials
• evaluation
• resulting
• useful
• complications
• reliability
• shortcomings
• prospective

Tab. 2. The orthopaedic and physiotherapy semantic fields which held the LL value above 3.8 (p<0.05) [1]

• Investigate, examine, test, search (LL 24.08)
• Affect:- Modify, change (LL 11.28)
• Evaluation:- Good/bad (LL 22.45)
• Caution (LL 16.22)
• Ability:- Success and failure (LL 8.92)
• Usefulness (LL 6.09)
• Evaluation:- Accuracy (LL 5.08)

held Log Likelihood (LL) value equal or above 3.8 for 95% confidence (p<0.05) were used for unbiased data analysis.

Results

Tab. 3. data points to the rapid increase in the interest of medical research in acupuncture (clinical trial/s) toward the end of analyzed period. However, much earlier between 1971-75 and then again between 1986-90 acupuncture was given a solid evaluation (evaluation/ evaluations/re-evaluation), what most likely generated the number of clinical trials from 1996. The high LL value of the keyword ¬– usefulness from the period 1986-90 suggests the positive scientific evaluation of acupunc-

Tab. 3. The statistically significant keywords in the article titles on acupuncture between 1965-2000 [1]

	65 - 70	71 - 75	76 - 80	81 - 85	86 - 90	91- 95	96 - 2000
clinical-trial	0	8.26	8.99	9.93	29.26	19.62	0
clinical-trial**s**	0	8.26	8.99	0	0	0	94.96
evaluation	33.32	179.5	94.65	45.3	125.8	64.85	55.27
evaluation**s**	0	16.52	0	0	0.01	0	0
re-evaluation	0	0	0	0	21.94	9.81	0
Result	0	-1.01	0	0	-3.73	0	0
Result**s**	6.87	30.76	23.34	3.13	15.48	4.98	30.32
result**ing**	2.37	0.28	0	0	0.01	1.23	0
acupuncture-results	0	0	0	0	0	0	14.61
Useful	0	0	0	0	-0.31	0	-0.32
usefulness	0	0	0	0	18.38	0	0
complication	23.05	56.25	38.88	11.56	41.46	18.92	67.32
complication**s**	13.45	98.97	76.93	43.05	33.57	33.99	45.87
Reliable	0	0	0	0	0	0	0
reliability	0	0	0	0	0	0	5.93
shortcoming	0	0	0	0	0	0	0
shortcoming**s**	0	0	0	0	0	0	0
prospective	0	6.38	0	0	8.92	3.44	150.49

Tab. 4. The statistically significant semantic fields in the article titles on acupuncture between 1965-2000 [1]

	65 - 70	71 – 75	76 - 80	81 - 85	86 – 90	91-95	96- 2000
Investigate	6	68.13	35.65	23.61	145.88	40.09	108.7
Evaluation - good/bad	11.56	73.8	28.63	8.47	35.87	19.96	75.7
Caution	3.27	-0.36	0	0	0.43	3.54	30.93
Affect:- Modify, change	4.92	5.88	6.04	3.45	45.79	18.92	30.11
Ability: success/failure	-0.11	18.21	10.26	8.28	-4.31	7.02	72.72
Usefulness	0	19.47	28.2	13.23	38.54	6.75	35.48
Evaluation:- Accuracy	0	-7.73	-3.77	-1.04	-10.37	-0.03	-5.51

ture. Finally, the keyword perspective supports the observation relating to the keyword usefulness.

To make the analysis of the article titles with the use of semantic fields it is important to notice which keywords form the concordances of the semantic fields. Furthermore, defining the keywords eliminates possible tagging errors during the computer data processing. Thus the semantic field (SF) investigate included the following keywords: research, experiment, survey, monitor, analysis, surveillance, assessing, and investigation; the SF evaluation: good/bad included following words: evaluation, appraisal, quality, acceptability, standards, reappraisal and assessment; the SF caution included word: care; the SF affect – modify/change included following words: changes, formation, modification, developments, manipulation, combined, affected and evolution; the SF ability – success/ failure included following words: effective, effectiveness, results successful and efficacy; the SF usefulness included following words: useful, functional; the SF evaluation – good/bad included following words: evaluation, appraisal, quality, acceptability, standards, reappraisal and assessment.

The SF data (Tab. 4) indicates that there was an increase in acupuncture research in the period 1971-75 after which there was a 10 year drop and steady rise. In support of this hypothesis are SF: investigate, evaluation – good/bad, usefulness. Whereas the period 1996-2000 sees the rise in all the SF with the exception of SF evaluation: accuracy.

Discussion

The rationale for choosing keywords and semantic fields for the analysis of the interpretation of alternative and complementary medicine by medical sciences is justified by the fact that the article author wants to include in its title the essence of the article content [2]. Furthermore, the scientific article titles are free of unnecessary vocabulary and in principle present the core of the article issue, what makes it suited for computer aided analysis. Moreover, Wmatrix software produces both the keywords and semantic fields listings by covariation of words with different and similar meanings [3].

Conclusion

Computer aided text analysis of the article titles of scientific papers, with the application of Wmatrix software, is a useful and unbiased form of monitoring the changes taking place in the world of science. However, the model that appeared in the assembled data turns out to be difficult in interpretation at times, hence there is a need for its shrewd assessment. The carried analysis has indicated that acupuncture, despite its classification as an alternative medicine, has attracted the interest of medical sciences and won its respect.

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Personality and stimulate demand for extreme sports enthusiasts

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SUMMARY

Background. The aim of the researches was checking if there are any differences in personality structure among people practising extreme sports (ExS), and if the sensation seeking theory is the bounding factor of their personality.

Materials and methods. The examined group consisted of 86 males aged 20-54 practising ExS (climbers, paragliders and free divers). In the researches there were used polish adaptations of personality questionnaire NEO-FFI by Costa and Mccrae, and the Scale of Sensation Seeking by M. Zuckerman.

Results. The analysis of respondents` personality profile has shown that these are extrovertic people mostly, open for experiences, and emotionally balanced, amicable and very conscientious. The people practising ExS are the ones who are not afraid of challenges and are willing to take a risk.

Conclusion. The knowledge in the area of personality profile and the level of sensation seeking among people practising ExS may be useful for both: competitors practising ExS and their coaches, to strengthen motivating activities, define individual development plan of a competitor, create necessary traits and minimalize the risk connected with practising ExS.

KEY WORDS: EXTREME SPORTS (EXS), PERSONALITY, SENSATION SEEKING

STRESZCZENIE

Osobowość i zapotrzebowanie na stymulację osób uprawiających sporty ekstremalne

Wstęp. Celem badań było sprawdzenie, czy istnieją różnice w strukturze osobowości, pomiędzy osobami uprawiającymi sporty ekstremalne (ExS) oraz czy składnikiem łączącym ich osobowość jest teoria poszukiwania doznań.

Materiał i metody. Grupę badaną stanowiło 86 mężczyzn w wieku od 20 do 54 lat uprawiających ExS (wspinacze, paralotniarze i nurkowie swobodni). W badaniach wykorzystano polskie adaptacje kwestionariusza osobowości NEO-FFI Costy i Mccrae oraz Skali Poszukiwania Doznań M. Zuckermana.

Wyniki. Analiza profilu osobowości badanych wykazała, że są to osoby przede wszystkim ekstrawertyczne, z dużą otwartością na doświadczenia, zrównoważone emocjonalnie, ugodowe oraz bardzo sumienne. Osoby uprawiające ExS to osoby, które nie boją się wyzwań i chętnie podejmują ryzyko.

Wnioski. Wiedza na temat profilu osobowości oraz poziomu poszukiwania wrażeń u osób uprawiających ExS może służyć zarówno samym zawodnikom uprawiającym ExS jak i ich trenerom we wzmacnianiu działań o charakterze motywującym, określaniu indywidualnego planu rozwoju zawodnika, kształtowaniu pożądanych cech oraz minimalizowaniu ryzyka związanego z uprawianiem ExS.

SŁOWA KLUCZOWE: SPORTY EKSTREMALNE (EXS), OSOBOWOŚĆ, POSZUKIWANIE WRAŻEŃ

Background

Extreme sports are quite a new phenomenon in sports range. It is also a totally new way of spending free time, and, in some cases it is even a way of earning money. Practising extreme sports needs courage and experience because actions in adverse conditions can often be related with loosing life or health.

All the mystery of extreme sports popularity seems to be connected with emotional sensations, way of experiencing and stimulation of human's activity. According to Sahaj – practising ExS is related with overcoming extreme external difficulties, mental limits and all the strong emotions that are connected with all of that. Moreover, human has a constant will to overcome his or her own limits; he or she becomes, as Kozielecki says, "homo transgressivus" [10,19,25].

Present lifestyle makes that there is a bigger need to release emotional strains. The bigger the need is, the bigger the speed of changes and unpredictable events is. Such events that have an influence on the fact that people need some toehold and releasing their emotions in some more intensive way. Extreme sports can give such an opportunity because they are a source of strong impulses and they are also a reason of growing adrenaline which stimulates activity by reducing tiredness at the same time. Nowadays tiredness is as common and serious as other problems of this world for example famine – says J.Baudrillard. A paradox can be found here; in the one hand wealth and civilisation development generate emotional strain and tiredness, and on the other hand, there is a huge need to reduce the created strain [1,2,4,5].

Considering that in each professional sport human body matches to specific rivalry conditions, it could be said that each sport is some kind of ExS. But it is advisable to consider this assumption in the area of adapting organism to a bigger effort; the level of risk is not taken into account here. Not to let to a paradoxical situation, there should be a division onto smaller and wider meaning of extreme sports. A group of extreme sports in a wider meaning would contain such disciplines in which achievement of extremely high results demands from players proper training, not only physical or mental predispositions. This group would also consist of the sports disciplines that are freely practised , and the ones that are related with natural, difficult or fake conditions when practising. Extreme sports seen in a smaller meaning would be based on disciplines of which practising is

strongly connected with big danger of health or life loss, and with big risk, too [6].

Because of a big number of extreme disciplines and a possibility of practising them in any training conditions, they have been ordered into: water, land and air ones. The most popular air extreme sports are: B.A.S.E. jumping, skydiving, hang gliding, paragliding and gliding. The most noticeable water sports are: mountain canoeing, rafting, hydrospeed, canyoning, windsurfing, kitesurfing, freediving. The most popular mountain disciplines land disciplines are: adventure rallies, downhill, snowboard, skiing, mountain boarding, climbing, skialpinism, speleology and alpinism [2,7].

The aim of the researches was checking if there are any differences in personality structure among people practising extreme sports in three different natural environments; and if the bounding factor of their personality is the theory of sensation seeking.

Material and methods

Material

The respondents were 86 males aged 20-29 practising extreme sports. There were 27 climbers, 29 paraglders and 30 freedivers. Getting to persons practising ExS demanded from the authors of the thesis personal meetings with the sportsmen during competitions and trainings. Gathering data from the group of climbers was the easiest task because of a personal participation of the first author of the thesis in climbing competition in one of the Giant Mountains band.

Methods

1. NEO-FFI personality inventory by Costa and McCrae in polish adaptation.

NEO-FFI personality inventory by Costa and McCrae in polish adaptation of Zawadzki, Strelau, Szczepaniak and Śliwińska [8,9] has been used for measuring personality traits. The questionnaire positions are 60 self-describing statements in which a respondent rates the truth by himself in 5-levels scale. The positions mentioned here create 5 measuring scales: neuroticism, extroversion (EKS), experience openness (OTW), amicability (UGD), conscientiousness (SUM).

2. Sensation Seeking Scale by Marvin Zuckerman in polish adaptation

There was used here Sensation Seeking Scale by Marvin Zuckerman in polish adaptation of Oleszkiewicz-Zsurzs (1982) version II. In the polish adaptation of SSS scale a few points were changed. There was also added a new, seven-questions underscale of intellectual-cognitive stimulation (I). Counting the results, one point is given for each diagnostic answer. The result is counted individually for each underscale (in accordance with the key, there is also a result for G-scale – the individual one).The scale consists of 72 pairs of assumptions and underscales:

- general stimulation request scale (G)
- thrill and adventure seeking scale (TAS)
- sensation seeking scale (ES)
- disinhibition scale (DIS)
- boredom susceptibility scale (BS)
- intelectal-cognitive stimulation scale (I) [10]

A t-student test for independent groups was used to make a comparison of the polish respondents.

Results

1. NEO-FFI Personality inventory by Costa and McCrae

The results analysis of all respondents practising ExS (without any differentiation onto particular sports disciplines) has shown that the most important trait in this group is extroversion (33.14), then conscientiousness. The next essential traits have been: openness (29.52) and amicability (29.14). The lowest values have been noted in the area of neuroticism (15.71).

Personality traits detailed analysis of people training particular ExS shows that freedivers are characterised with high level of conscientiousness and extroversion, next: openness and amicability; neuroticism is on the lowest level here. Taking into account paragliders, there is the highest factor of conscientiousness and extroversion. Openness and amicability are almost on the same level in this case. Freedivers and paragliders are characterized with the lowest neuroticism level. Climbers have the highest extroversion level, and then: openness of experiences and conscientiousness, next – amicability. Similarly just likefreedivers and paragliders, neuroticism level of climbers is the lowest of all the traits.

Detailed data in this range is presented in Table 1.

The graphic form of collected material for 3 extreme sports disciplines(ExS) referring to the results of male population aged 20-29 in polish adaptation of NEO-FFI questionnaire shows Diagram 1. The diagram analysis shows that paragliders are the people with the highest ratio in all the NEO-FFIunderscales, in comparison with other examined disciplines, and additionally referring to male population aged 20-29. It seems that it is the most characteristic sportsmen group. Moreover, it is also the less comparable group of population. Detailed analysis show that paragliders have the widest imagination, action need, straightforwardness, altruism, modesty and a tendency to tenderness. These sportsmen also have high competence level, orderliness and dutifulness tendency, and they endeavour to achieve self-discipline.

Averaging the results of the examined group, creating the combined profile in the NEO-FFI personality scale and comparing them taking into account male population aged 20-29 is presented in Diagram 2. It shows that people practising ExS have the highest extraversion and conscientiousness, the lowest level of neuroticism and not

Table. 1. NEO-FFI Personality Traits comparison, with t-student significance level

	Freediving	paragliding	climbing	all respondents	population
Neuroticism	13.80	15.55	18.00	15.71	20.53
SD	6.70	5.48	8.39	7.05	
t-test	5.50	4.80	1.53	6.33	
statistical significance	0.001	0.001	0.1	0.001	
extraversion	33,87	34.69	32.89	33.14	27.40
SD	3,36	6.96	7.66	6.19	
t-test	-10.35	-5.54	-3.64	-8.59	
statistical significance	0,001	0.001	0.001	0.001	
opennes to experience	29.50	31.55	28.74	29.52	28.34
SD	5.67	6.17	5.16	5.75	
t-test	-1.10	-2.75	-0.39	-1.90	
statistical significance	0.3	0.01	0.7	0.1	
agreeableness;	27.87	31.28	28.41	29.14	27.68
SD	6.29	4.27	6.61	5.93	
t-test	0.69	-3.22	0.20	-2.28	
statistical significance	0.5	0.001	0.9	0.05	
conscientiousness;	33.93	35.17	28.67	32.61	28.83
SD	6.63	4.13	8.15	6.98	
t-test	-4.13	-8.12	-0.09	-5.02	
statistical significance	0.001	0.001	>0.9	0.001	

SD - standard deviation

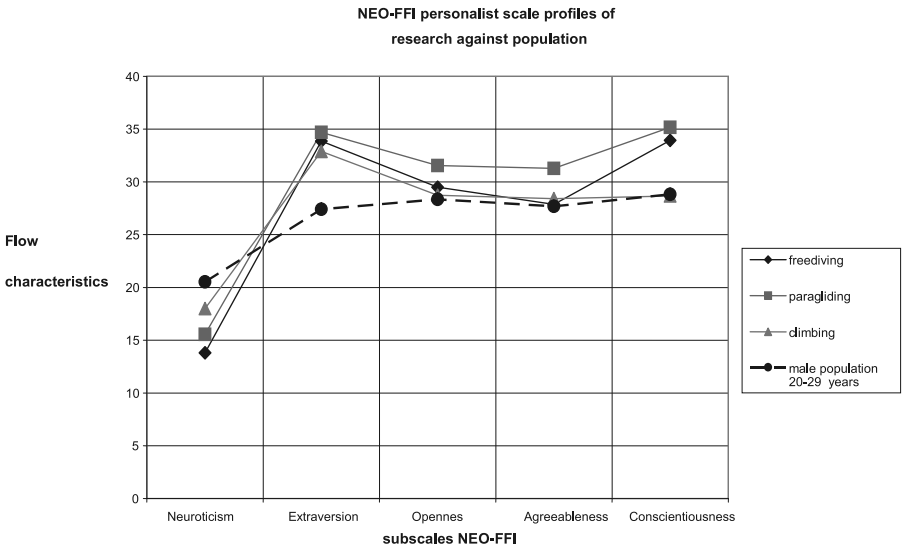

Diagram 1. Personality scale profiles of respondents among polish male population

big differentiation between openness and amicability. Against population, the common personality profile of people practising ExS is characterized by higher level of sociability, heartiness, activity, sensation seeking and positive emotionality.

2. Sensation Seeking Scale (SSS)

The results of Sensation Seeking Scale (detailed data in Table 2) show:

– general stimulation request scale (G)

The persons choosing climbing showed higher stimulation request. Right after them there were divers and paragliders.

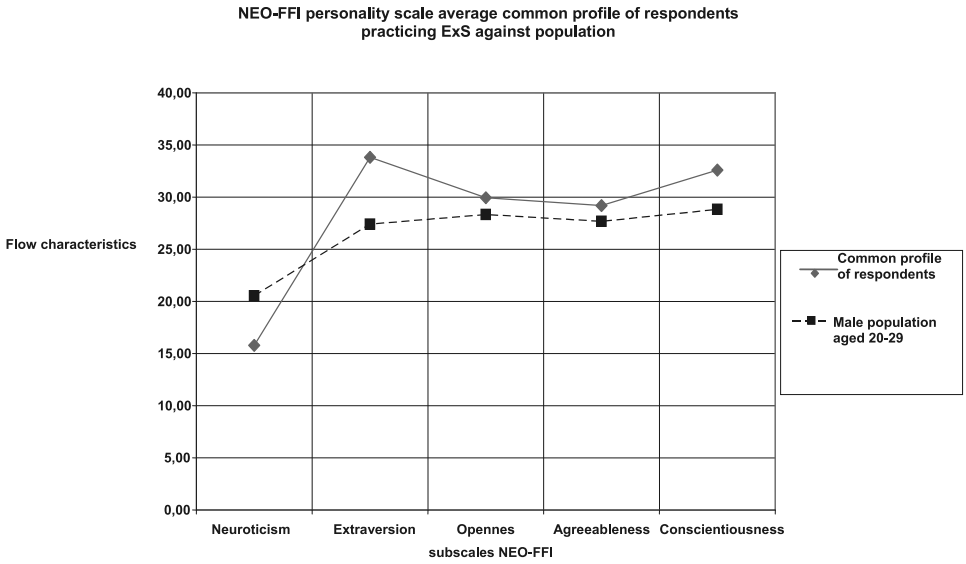

Diagram 2. NEO-FFI personality scaleaverage common profile of respondents practising ExS against population

Table 2. Comparison of the intensity of sensation seeking traits, with t-student significance level

	freediving	Paragliding	Climbing	all responders	male population aged 16-20
G - General Scale	11.60	11.41	12.00	11.66	11.5
SD	2.99	3.21	3.78	3.30	
T	-0.17	0.14	-0.67	-0.44	
poziom istotności	0.9	0.9	0.9	0.7	
TAS - Thrill and Adventure Seeking	10.67	10.90	10.19	10.59	10.5
SD	1.21	1.76	2.91	2.05	
T	-0.75	-1.2	0.54	-0.4	
poziom istotności	0.5	0.3	0.6	0.7	
ES - Experience Seeking	8.37	7.90	9.11	8.44	6.5
SD	2.87	3.19	3.24	3.10	
T	-3.5	-2.32	-4.10	-5.8	
significance level	0.005	0.05	0.001	0.001	
DIS - Dishibition	9.00	8.62	8.41	8.69	5.5
SD	3.46	3.59	3.43	3.46	
T	-5.44	-4.59	-4.31	-8.54	
significance level	0.001	0.001	0.001	0.001	
BS - Boredom Susceptibility	9.00	9.90	10.70	9.84	8.5
SD	3.46	3.42	4.11	3.69	
T	-0.77	-2.16	-2.72	-3.36	
significance level	0.5	0.05	0.02	0.02	
I -Intelectual Seeking	5.30	5.76	5.00	5.36	*
SD	1.02	1.27	1.64	1.35	

*no data due to small number of questions in Scale I.

– thrill and adventure seeking scale (TAS)

Paragliders, then divers and climbers show the biggest fondness in practising sports and activities with a high risk level which contain big factor of physical danger.

– sensation seeking scale (ES)

Sensation seeking scale is associated with seeking different enjoyable experiences and with using stimulants too. The biggest need of feeling pleasure have climbers, then freedivers and paragliders.

– inhibitation scale (DIS)

DIS scale covers behaviour that are socially approved, and it means that the persons take into account social standards, rules and values. Freedivers have the highest DIS level; the lowest one is represented by climbers. Paragliders are between them.

– Boredom Susecibility (BS)

Boredom Susecibility shows the desire for news, changes, meeting new people and a big reluctance to-

wards routine and boring activities. Considering this particular scale, climbing in on the first place, next there is paragliding and, finally – freediving.

– Intelectual-cognitive stimulation scale (I)

(I) scale has been taken into account during researches despite the fact that there is no possibility of referring it to the polish version of researches results.

Making generalization of sensation seeking profile among people practising extreme sports, distinguishing onto particular disciplines, it is noticeable that the level of stimulation demand, seeking thrill and adventures, is the most convergent here. Clearly noticeable differences in sensation seeking profile begin on the level of sensation seeking scale. Varied request for experiencing pleasure is clearly visible here. Firstly, the diagram presents that there is a big deviation between male population aged 16-20 and sportsmen. It can be a result of the fact that the respondents` group exceeded the age specified in the comparison. These were persons aged 20-29. It can be said that these respondents had wider imagination and higher sense of security. For this reason there may be a bigger distinction between comparative group and respondents. Secondly, there is a big divergency between comparative group and respondents on DIS scale. People practising extreme sports are less inspired by socially approved values because they develop their ventures in accordance with their own needs and desires. But considering boredom sensitivity level, the results start to

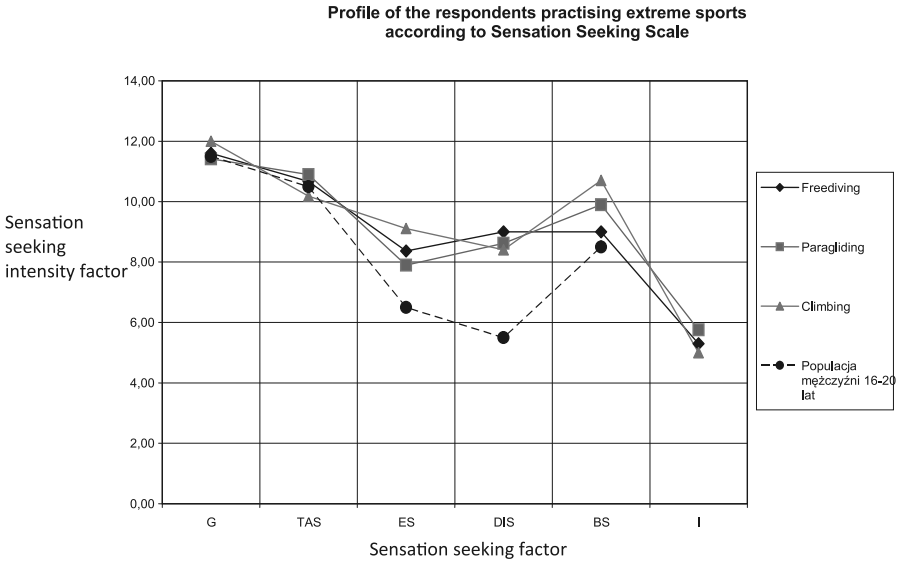

Diagram 3. Profile of respondents practising extreme sports according to sensation seeking scale

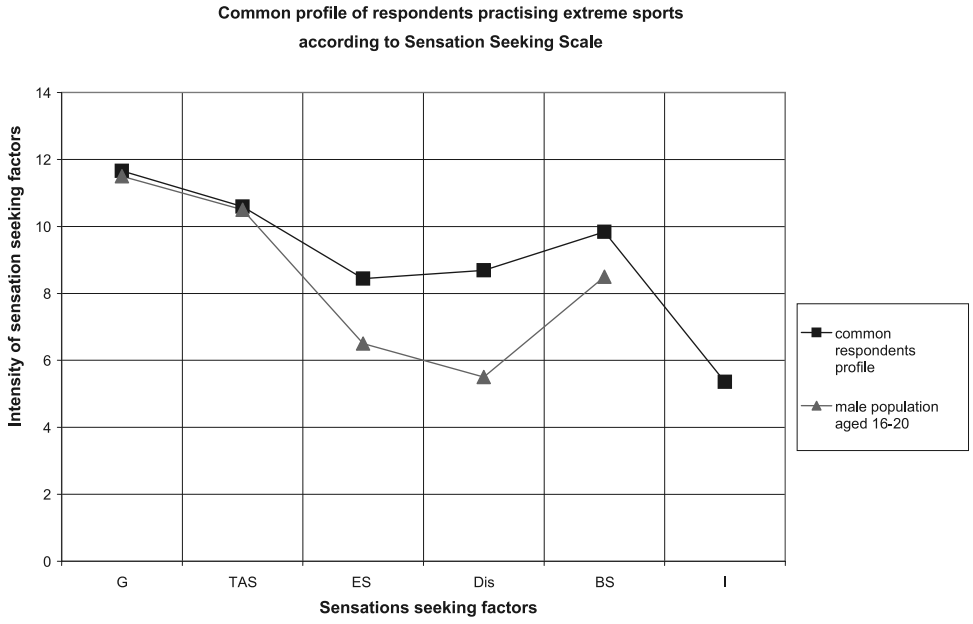

Diagram 4. Common profile of respondents practising extreme sports according to Sensation Seeking Scale

be comparable among examined sportsmen and comparative group.

Diagram 4 shows that respondents have a bigger need of experiencing pleasures. This group is also more focused on own desires and dreams realization, than comparative group. It may indicate that people practising extreme sports do not seek social approval by their behaviours in such an extent that it is presented in standards.

Discussion

The extreme sports issue is not widely discussed in literature. Perhaps it is all because people practising extreme sports are not so available – small number of these sportsmen. People practising extreme sports (ExS) usually belong to clubs and sports associations while in everyday life they train individually. Moreover, people practising ExS are not willing to take part in any experiment because they find them time-consuming when filling questionnaires [11].

The researchers point out relation between personality and choice of sports, but categorizing particular personality traits and their assignment to individual sports disciplines are ambiguous. If it was a simple dependency, it would be possible to define and speculate with a big doze of probability of achieving championship in a particular discipline by people with defined personality traits. We could also indicate a failure of people who do not have categorized personality traits. Based on researches, Dobersek and Bartling claim that players training team sports are more neurotic than players training individual sports disciplines; but because of a small group of respondent it is difficult to prepare more detailed conclusions in this topic [12,13,14].

Considering the problem mentioned before, the analysis of people practising extreme sports seems to be interesting. These people have a constant lack of experiences, and they are also less sensitive on external stimuli. In a consequence, they need to get more to be stimulated in comparison with people with higher creativity level. A person practising ExS differs from the one practising classical sport. A player of extreme sport is focused on himself and his interior feelings – not on rivalry with others or achieving sports results. Practising extreme sports cannot rely on randomness of being under pressure because that is what parents, other important people, or media promoting fashion want. It has to be passion combined with high technical abilities and personality predispositions, and with creating optimum conditions associated with safety of practising this kind of sports, and finally with a specific motivation system [2,15,16,17].

The aim of these researches in a group of people practising ExS in an active way in 3 different natural environments was to check if there are any differences in personality structure in 5-factor personality model, and if their mutual temperament trait is a need of sensation seeking. The result of the researches confirms that these are extrovert people mostly, with big openness for experiences, emotionally balanced, conciliatory and very conscientious. Between these people there was no big distinction in personality traits. For instance, the research did not show introverted and extrovert people. It showed only extrovert ones. The average profile of the respondents compared with males aged 20-29 shows a significant increase in extroversion of extreme sports players. The research has also showed that there are no differences in personality structure between people practising extreme sports in different natural environments. The examined groups showed similar, low neuroticism level and high extroversion level. There is only a small difference in openness for experiences and amicability between freedivers and climbers. Climbers differ the most from the two other groups because they are characterized by lower level of conscientiousness. It may be caused by the fact that climbing is a partner sport. Paraglider must be certain of his skills and he must be sure he has prepared the flight equipment because a few hundreds of meters above the ground he can count on himself and his own skills. The same can be said about freediver deep under water. Climber can rely on his partner who is at the other end of rope. However it is possible that the conscientiousness level would be higher for individual climbers. Pargliders, for instance, show higher openness for experiences level and higher amicability level than the two previous groups of sportsmen. However, averaging the results of the three researched groups, it may be noticed that one graphic profile do not show a big difference in any of examined groups. Among all the examined groups, paragliders represent a higher level experiences openness and amicability. Climbers show much lower conscientiousness that the rest of respondents.

In the area of 5-factor Personality Model we can observe not big differentiation, but it is justified because of individual personality differences of each respondent. Personality profile remains the same, but in the area of profile there is only small differentiation, what confirms a hypothesis that there are no differences in personality structure among people practising extreme sports in various natural environments.

In the area of sensation seeking scale we can notice that despite a distinction onto profiles in the NEO-FFI personality scale, and considering a common profile, respondents show a comparable level of thrill and adventure seeking. It follows that people practising extreme sports have a smilar (high) thrill and adventure seeking level, no matter in which environment. It should be assumed that the older people are, the lower level of seeking strong, hazardous and dangerous sensations. It can be caused by the fact that a person has wider imagination of what may happen when undertaking dangerous actions. But the research shows opposite result which means that people aged over 20 achieve the same thrill

and adventure seeking level as people aged 16-20. This result is surprising, and it needs additional analysis, for instance the analysis of coping with stress strategy or everyday environment of competitors practising ExS.Siudem postulates that the increased demand for stimulation may correlate with an environmental factors, for example disadvantageous family situation [18].

Pimentel postulates that people practising ExS are more stress-resistant in professional life [19].

Conclusion

Extreme sports (ExS) are the disciplines of which choosing and practising should be based on the principle of voluntary, full awareness of the risks involved and ethical aspects related. The obtained results can be useful for players and for trainers – for motivating, defining individual development plan, taking into account characteristic personality traits, creating necessary personal traits, minimalizing and reduce risk, and to minimalize imperil of players and other people.

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Manufacturing, testing, validation – elements of safety policies for materials and alternatives

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SUMMARY

Products coming into contact with the human body include cosmetics, medicinal products (pharmaceuticals), medical devices. There is an obligation of compliance with good practice in the area of, at the very least, production. Validation is obligatory in the field of medicinal products and medical devices. For cosmetics, it is voluntary. An important element is the validation of both the manufacturing process and the analytical methods used in testing. There are some obligatory parameters of the analytical methods which must be assessed in the validation process. In addition, validation includes; validation planning, installation qualification and, at least minimal, operational qualification.

KEY WORDS: MANUFACTURING OF ALTERNATIVES, VALIDATION, SAFETY POLICIES

STRESZCZENIE

Wytwarzanie, kontrola, walidacja – elementy polityki bezpieczeństwa dla materiałów i środków alternatywnych

Produkty wchodzące w kontakt z ciałem ludzkim obejmują kosmetyki, produkty lecznicze (farmaceutyki), wyroby medyczne. Istnieje obowiązek przestrzegania zasad dobrej praktyki w obszarze, co najmniej, wytwarzania. Walidacja jest obowiązkowa w obszarze produktów leczniczych, wyrobów medycznych. Dla kosmetyków jest dobrowolna. Istotnym elementem jest walidacja zarówno wytwarzania jak i stosowanych w kontroli metod analitycznych. Istnieją obligatoryjne parametry metod analitycznych podlegające ocenie w procesie walidacji. Dodatkowo walidacja obejmuje: planowanie walidacji, kwalifikację instalacyjną oraz minimalnie, kwalifikację operacyjną.

SŁOWA KLUCZOWE: WYTWARZANIE PREPATARÓW ALTERNATYWNYCH, WALIDACJA, POLITYKA BEZPIECZEŃSTWA

The market offers a range of products intended to come into contact with the human body. These are for example cosmetics, medicinal products (pharmaceuticals), medical devices. In accordance with regulations, manufacturers of these products have an obligation to apply good manufacturing practices (pharmaceuticals and cosmetics).

There is also a wide range including generally understood materials and aids used in rehabilitation procedures, both medical and those improving physical fitness and mobility.

Due to their nature, they are not classified as medicinal products (pharmaceuticals), cosmetics or medical devices. Given the fact that they come into contact with the human body, they should be subject to specific requirements.

Good Manufacturing Practice (GMP) obliges manufacturers to implement a series of measures in order to maintain and control the production process. One of these steps, in addition to audits, batch documentation system, etc., is validation of both the production process and the testing procedures.

Validation is a concept which describes a formal definition of capabilities of, e.g., the production process. Validation consists in performing a series of inspections and documenting them in the form of a validation report. The Regulation No 1223/2009 of the European Parliament and of the Council on cosmetic products does not impose on manufacturers of cosmetics any obligation of validation but instead requires the application of harmonised standards.

In the case of medical devices and pharmaceuticals, the obligation of validation is formally sanctioned. However, taking into account the consumer's safety and the company's image, a "pharmaceutical" approach to this problem is worth considering. The purpose of validation of the manufacturing process, including laboratory testing, is to ensure the manufacturer that a reproducible product with specific characteristics is obtained. Validation of the manufacturing process consists in classification of individual operations in the company, starting from the supply inspection, to the weighing process, bulk product manufacturing, to packaging and storage of the finished product. One of the elements of the manufacturing process are the physicochemical analyses of raw materials, bulk product and the finished product. Validation of the analytical method helps to ensure reproducibility of the analyses carried out and verify the choice of method by determining the parameters of the analytical method.

Validation planning should be based, at least, on the legal requirements (laws, regulations), the standard for good manufacturing practice in force. For chemical analysis methods, the recommendations of the International Conference on Harmonisation (ICH) are useful, which are used by the pharmaceutical industry.

The parameters of the analytical method are subject to assessment. There are determined and assessed statistical parameters divided into validated mandatorily and voluntarily.

The parameters which are subject to mandatory validation (qualification) are: specificity, precision, repeatability, reproducibility, accuracy, linearity, range, limit of detection, limit of determination.

The analytical method parameters such as selectivity, stability and robustness are considered as parameters qualified voluntarily.

The presented validation of the analytical method requires the use of statistical methods. After carrying out a validation, the user obtains a full picture of the method he uses or is planning to use. Furthermore, he obtains a measurable result which can be used for management and marketing purposes, for example as the declaration on the packaging and materials promoting the products and the company. Adding such information may prove to be a valuable argument in the battle for customers.

The above data encourage to consider the validation of the manufacturing process in the entire company, including the validation of analytical methods. As a result, the implementation of a validation policy in the company helps to reduce the cost of manufacturing, meet the GMP requirements and determine the reliability of the analytical techniques and the duration of the production cycle.

A validation policy constitutes an organizational and marketing element to achieve the company's objectives. These elements can be defined as:

- Ensuring the safety of the real user,
- Gaining an advantage in manufacturing (reproducibility, predictability, etc.),
- Marketing benefits (marketing argument for use in promotional materials),
- Cost reduction (reduction of the number of analyses which have to be,
- Exceeding of the current legal GMP requirements,
- Optimisation of the use of both personnel and production equipment.

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The total length of the manuscript (including figures and tables) should not exceed 10 standard pages of 1800 characters.

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1. Title page

- the full name of each author (without academic titles),
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- the full title of the article in both Polish and English,
- in the case of titles containing more than 10 words, a title alias,
- 3–6 key words selected in accordance with the MeSH (Medical Subject Headings) system (http://www.nlm.nih.gov/mesh/meshhome.html),
- the full name, address, telephone and/or fax number, and e-mail address of the first author, responsible for the preparation of the manuscript for print,
- the sources of any material support, in the form of grants and subsidies (citing the source and grant number), subventions, equipment, medicines, etc. (if any), or the authors' financial and personal relationships that might bias their work (see below: Conflict of interest).

2. Summary (applies to original articles)

The summary should be in a structured form, not exceeding 230 words, and should consist of four paragraphs, labeled:

- Background: the purpose of the article or research, the primary thesis;
- Material and methods: a brief description of the research; in the case of a review or opinion article, a characterization of the literature; for a case study, a brief description of the patient, the main parameters measured, etc.;
- Results: the most significant results achieved;
- Conclusions: the most important conclusions derived by the authors from the results presented in the article.

Strict compliance with the above-described structure is not required in the case of articles other than original research articles.

3. Structure of the text (applies to original articles)

The text of the article should be divided into six main sections, complemented by two additional ones, if necessary:

- Background – should give the scientific and/or clinical rationale for researching the given topic, the primary issues and controversies, an explanation of the aim of the study and the primary thesis;
- Material and methods – should contain essential information regarding how the experiment or research was conducted, including characteristics of the experimental and control groups, clearly defined inclusion and exclusion criteria (age, gender, etc.), randomization, and the randomization and masking (blinding) method used. The protocol of data acquisition, procedures, investigated parameters, methods of measurements and apparatus should be described in sufficient detail to allow other scientists to reproduce the results. In the case of published methods, the names and appropriate references should be given. A brief description should be provided for methods that have been published but are not well known, whereas new or substantially modified methods should be described in detail. The rationale for using such new or unknown methods should be discussed, along with a balanced evaluation of these methods, not omitting their limitations. Drugs and other chemicals should be precisely identified, including the generic name, dosage, and route of administration. Whenever possible, the statistical methods used should be described in detail. Information regarding the patients' informed consent should be included in the text of the article (see below: Patient confidentiality);
- Results – concisely and reasonably summarize the findings in the form of text, tables and figures arranged in a logical and internally self-consistent manner. The number of tables and figures should be limited to those absolutely needed to confirm or refute the thesis. Data given in graphs and tables should not be automatically repeated in the text (a reference will suffice). The number of observations should be indicated, as well as the number of and reasons for exclusions from the study. Any complications that may occur in treatment or examination should be reported;
- Discussion – should deal only with new and/or important aspects of the results obtained, without repeating in detail data or other material previously presented in Background or Results. The Discussion should focus on the the-

oretical implications and/or practical consequences of the findings, including suggestions for further research. The Discussion should compare the results of the present study with those obtained by other investigators mentioned in the text;

• Conclusions – must be linked with the goals of the study. New hypotheses with recommendations for further research should be advanced only when fully warranted and explicitly justified. Broad generalizations and conclusions not supported by the data obtained should be avoided;

• References – chosen for their importance and accessibility, are numbered consecutively in the order of their occurrence in the text. References first cited in tables or figure legends must be numbered in such a way as to maintain numerical sequence with the references cited in the text. References should be cited using square brackets. Polish authors are required to maintain a balance between the number of Polish references and those in other languages. References to articles in Polish should also include the English title of the paper and the journal. The style of references, which will be strictly observed, is that of Index Medicus. In the case of review articles, the list of references should include 40–50 works cited in the text, out of which a minimum of 75% should have been published in the last 5 years.

Additional sections:

• Acknowledgements – list all those who have contributed to the research but do not meet the criteria for authorship, such as assistants, technicians, or department heads who provided only general support. Financial and other material support should be disclosed and acknowledged;

• Appendix.

Sections should be separated, and their headings centered and boldfaced.

Review articles do not need to follow the format described above, provided that their structure is clear and consistent. If the editors upon review of the manuscript feel that it should be structured, they will ask the author to do so prior to publication.

4. References

Careful compilation of the list of references, in terms of both content and form (proper style, punctuation, etc.) is the responsibility of the author. According to the rules stated in the Uniform Requirements for Manuscripts Submitted to Biomedical Journals (N Eng J Med 1997; 336:309–15; www.acponline.org/journals/resource/unifreqr.htm), each reference should include: authors' surnames with initials of first names, title of the article, abbreviated title of the journal, year of publication, volume number, issue number, and page numbers. When an article has six or fewer authors, all should be listed; when there are seven or more, only the first three are listed, followed by "et al.". If the article or book is in Polish, a translation of its title into English should be added.

Standard journal article

Colloca L, Klinger R, Flor H, Bingel U. Placebo analgesia: Psychological and neurobiological mechanisms. Pain 2013; 154 (4): 511–4.

Article published in electronic form only

Furlan AD, Yazdi F, Tsertsyadze A et al. A systematic review and meta-analysis of efficacy, cost-effectiveness, and safety of selected complementary and alternative medicine for neck and low-back pain. Evid Based Complement Alternat Med. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC32236015.
Published online 2011 November 24. doi: 10.1155/2012/953139

Scientific monograph

Szulc W. Sztuka w służbie medycyny od antyku do postmodernizmu [Art in the service of medicine from antiquity to postmodernism]. Poznań: Wydawnictwo Naukowe Akademii Medycznej; 2001 (in Polish).

Book, personal author(s)

Gerber R. A practical guide to vibrational medicine. New York: Harper Collins Publishers 2001.

Book, editor(s) as author

Ernst E (ed.). Complementary Therapies for Pain Management: An Evidence-Based Approach. Mosby: Churchill Livingstone; 2007.

Book, organization as publisher
Duke Center for Integrative Medicine. The Duke encyclopedia of new medicine: conventional and alternative medicine for all ages. New York: Rodale Books International; 2006.

Chapter in a book
Bukowska A, Konieczna A. Neuromuzykoterapia w pracy muzykoterapeutów, fizjoterapeutów, logopedów i terapeutów zajęciowych [Neurologic music therapy in the work of music therapists, physiotherapists, speech therapists and occupational therapists]. In: Cylulko P, Gładyszewska-Cylulko J (eds). Muzykoterapia, tożsamość-transgresja, transdyscyplinarność [Music therapy, identity-transgression, transdisciplinarity]. Wrocław: Wydawnictwo Akademii Muzycznej; 2010: 45–51 (In Polish)

Conference proceedings
Duda-Chodak A, Tarko T, Walczycka M, Jaworska G (eds). Materiały z X Konferencji Naukowej z cyklu „Żywność XXI wieku" – Żywność projektowana [Proceedings of the 10th Scientific Conference "Food of the 21st Century" – Designed Food]; 2011.09.22–23; Kraków, Polska: Oddział Małopolski Polskiego Towarzystwa Technologów Żywności; 2011.
Abstracts or reviews should generally not be cited as references, nor should "unpublished data" or "personal communications". If such material is necessary, it may be incorporated in the text at the appropriate place.

5. Formatting requirements for the manuscript and illustrations
The manuscript should be sent in the form of electronic files without final formatting (12-point black font, 1.5 line spacing, standard margins).

6. Tables and illustrative material (figures, graphs, diagrams, charts, photographs)
- Titles and descriptions of tables, photographs and illustrations should be given both in Polish and English;
- Illustrative material should be sent separately, in jpg format;
- The position of tables, figures and other illustrative material should be indicated in the text [in square brackets];
- Text in the legends to the tables and figures should not be duplicated in the tables or figures themselves;
- The arrangement of the table should be as simple as possible, without adding unnecessary horizontal or vertical subdivisions;
- Explanations, including the clarification of non-standard abbreviations, should be provided in footnotes under the table, and not in the table itself. Footnotes below the table should be numbered separately, starting from number 1 with each table;
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Praca w całości (łącznie z rycinami i tabelami) nie powinna przekraczać 10 stron standardowego tekstu komputerowego – 1800 znaków na stronie.

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Streszczenie nie może przekraczać 230 słów. Streszczenie musi być ustrukturowane:

- Wstęp: cel artykułu lub badań, główna teza badawcza;
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• Dyskusja – przedstawia wyłącznie nowe i/lub ważne aspekty związane z uzyskanymi wynikami, pomijając zbędne powtarzanie danych i materiałów już uprzednio przedstawionych we Wstępie lub Wynikach. Dyskutuje się znaczenie i skutki stwierdzonych w Wynikach prawidłowości, w tym postulaty do dalszych badań. Należy porównywać uzyskane przez Autorów wyniki z doniesieniami innych badaczy cytowanych w tekście;

• Wnioski – muszą być związane z celami badań. Nowe hipotezy, z zaleceniami do nowych badań, można wysunąć jedynie po przeprowadzeniu poprawnego metodologicznie uzasadnienia. Należy unikać stwierdzeń nadmiernie uogólnionych lub niewynikających z rezultatów uzyskanych w badaniach własnych;

• Piśmiennictwo – zawiera pozycje z literatury ponumerowane w kolejności ich występowania w tekście, wybrane pod względem ważności i dostępności. Pozycje występujące po raz pierwszy w tabelach lub na rycinach należy ponumerować tak, aby utrzymać kolejność z pozycjami cytowanymi w tekście. Piśmiennictwo powinno być cytowane w nawiasach kwadratowych. Redakcja wymaga od polskich autorów zachowania równowagi pomiędzy cytowanym piśmiennictwem polskim i zagranicznym. W cytowaniach piśmiennictwa polskiego obowiązuje również podanie tytułu pracy i czasopisma w języku angielskim. Redakcja oczekuje także konsekwentnego i starannego stosowania stylu piśmiennictwa Index Medicus. W przypadku artykułów przeglądowych piśmiennictwo powinno zawierać od 40 do 50 pozycji, w tym minimum 75% z ostatnich 5 lat;

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Autorzy zobowiązani są do starannego doboru i rzetelnego opracowania piśmiennictwa nie tylko pod względem merytorycznym, ale także stylistycznym, z użyciem określonych znaków interpunkcyjnych. Zgodnie z zasadami ustalonymi przez Jednolite wymagania dotyczące prac złożonych do druku w czasopismach biomedycznych (Uniform Requirements for Manuscripts Submitted to Biomedical Journals N Eng J Med 1997; 336:309–15; www.acponline.org/journals/resource/unifreqr.htm), każda pozycja piśmiennictwa powinna zawierać: nazwiska i pierwsze litery imion autorów, tytuł artykułu, skrót tytułu czasopisma, rok wydania, numer tomu, numer wydania i numery stron. W przypadku artykułu mającego nie więcej niż sześciu współautorów należy podać wszystkie nazwiska, natomiast w przypadku siedmiu lub więcej współautorów podaje się tylko pierwsze trzy nazwiska, dodając „i wsp.", ew. „et al.".

Typowy artykuł w czasopiśmie

Colloca L, Klinger R, Flor H, Bingel U. Placebo analgesia: Psychological and neurobiological mechanisms. Pain 2013; 154 (4): 511–4.

Artykuł opublikowany wyłącznie elektronicznie

Furlan AD, Yazdi F, Tsertsyadze A i wsp. A systematic review and meta-analysis of efficacy, cost-effectiveness, and safety of selected complementary and alternative medicine for neck and low-back pain. Evid Based Complement Alternat Med. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC32236015. Published online 2011 November 24. doi: 10.1155/2012/953139

Monografia naukowa

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Książka

Gerber R. A practical guide to vibrational medicine. New York: Harper Collins Publishers 2001.

Książka pod redakcją

Ernst E (red.). Complementary Therapies for Pain Management: An Evidence-Based Approach. Mosby: Churchill Livingstone; 2007.

Książka wydana przez organizację
Duke Center for Integrative Medicine. The Duke encyclopedia of new medicine: conventional and alternative medicine for all ages. New York: Rodale Books International; 2006.

Rozdział w książce
Bukowska A, Konieczna A. Neuromuzykoterapia w pracy muzykoterapeutów, fizjoterapeutów, logopedów i terapeutów zajęciowych. W: Cylulko P, Gładyszewska-Cylulko J (red.). Muzykoterapia, tożsamość-transgresja, transdyscyplinarność. Wrocław: Wydawnictwo Akademii Muzycznej; 2010: 45–51.

Materiały kongresowe
Duda-Chodak A, Tarko T, Walczycka M, Jaworska G (red.). Materiały z X Konferencji Naukowej z cyklu „Żywność XXI wieku" – Żywność projektowana; 2011.09.22–23; Kraków, Polska: Oddział Małopolski Polskiego Towarzystwa Technologów Żywności; 2011.

Nie należy na ogół cytować abstraktów i przeglądów, jak również „niepublikowanych danych" oraz „informacji ustnej". Jeżeli jednak są niezbędne, można je włączyć do tekstu w odpowiednim miejscu.

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• Należy je przesłać oddzielnie, w formie plików jpg;
• W tekście należy zaznaczyć miejsce ich występowania [w nawiasach kwadratowych];
• W oknach tabel i rycin nie należy umieszczać powtórzonego tekstu zawartego w podpisie;
• Wskazany jest najprostszy układ tabeli (bez zbędnych poziomych lub pionowych linii podziału);
• Wyjaśnienia (w tym tłumaczenia niestandardowych skrótów) należy umieścić w przypisach pod tabelą – nie w samej tabeli. Dolne przypisy pod tabelą należy ponumerować odrębnie, zaczynając od 1 dla każdej tabeli;
• Należy się upewnić, czy każda tabela i rycina jest wymieniona w tekście. Numeracja musi być zgodna z kolejnością występowania pierwszego odwołania w tekście;
• Jeżeli dana rycina lub tabela została już opublikowana, należy podać źródło i uzyskać pisemną zgodę osoby mającej prawa autorskie na przedruk materiału (za wyjątkiem dokumentów stanowiących dobro publiczne);
• Redakcja drukuje standardowo zdjęcia w postaci czarno-białej. Istnieje możliwość wydrukowania zdjęcia w pełnym kolorze, za opłatą. Opłata ta jest każdorazowo ustalana z Wydawcą CAMS;
• Zdjęcia mikroskopowe powinny mieć wewnętrzne oznaczenie skali. Używane w zdjęciu mikroskopowym symbole, strzałki i litery powinny być w kolorze kontrastującym z tłem. W przypadku fotografii badanych osób należy ukryć tożsamość lub uzyskać pisemną zgodę na opublikowanie zdjęcia;
• Jednostki miary (długości, wysokości, wagi i objętości) powinny być podane w jednostkach metrycznych (np. metr, kilogram, litr i inne) lub w systemie dziesiętnym (np. decymetry). Temperatura musi być podana w stopniach Celsjusza. Ciśnienie tętnicze powinno być podane w milimetrach słupa rtęci;
• Wszystkie kliniczne pomiary hematologiczne i chemiczne powinny być podane w systemie metrycznym według Międzynarodowego Systemu Miar (SI). Alternatywne jednostki, niepochodzące z tego systemu, powinny być dodane w nawiasach;
• Redakcja wymaga stosowania standardowych skrótów. Nie należy używać skrótów w tytule i w streszczeniach. Pełna wersja nazwy, dla której używa się danego skrótu, musi być podana przed pierwszym wystąpieniem skrótu w tekście, za wyjątkiem standardowych jednostek miar.

7. Wysłanie artykułu do czasopisma
Redakcja CAMS przyjmuje do druku prace przesłane pocztą elektroniczną: cams@medsport.pl lub sekretariat@medsport.pl, bądź za pośrednictwem poczty na adres Redakcji czasopisma.
• Tekst pracy (strona tytułowa, streszczenia, tekst pracy, piśmiennictwo itd.) powinien być przygotowany W JEDNYM PLIKU TEKSTOWYM. Ryciny, tabele, wykresy i fotografie powinny być załączone ODDZIELNIE w formie plików graficznych jpg. Objętość e-maila nie powinna przekraczać 10 MB;
• Manuskryptowi powinno towarzyszyć Oświadczenie Autorów dotyczące nadesłanego do Redakcji CAMS artykułu, wraz z oryginalnym podpisem Autorów publikacji (por. poniżej: Oświadczenie). Zeskanowane (podpisane) Oświadczenie prosimy przesłać do Redakcji (drogą elektroniczną lub pocztą).

8. Procedura recenzowania

Recenzentami czasopisma Complementary and Alternative Medicine in Science są członkowie Rady Naukowej czasopisma, jak również wybrani przez Redakcję niezależni recenzenci zewnętrzni. Zewnętrznymi recenzentami CAMS są naukowcy z Polski i ze świata, reprezentujący określony obszar wiedzy i praktyki klinicznej, niebędący formalnie członkami RN czasopisma. W przypadku otrzymania przez Redakcję pracy z obszaru niemieszczącego się w dziedzinach, w których specjalizuje się czasopismo (a jest obszarem pokrewnym), Redaktor Naczelny powołuje każdorazowo „Superrecenzenta" z danego obszaru.

Każdy nadesłany do Redakcji artykuł rejestrowany jest w bazie czasopisma. Autor/Autorzy otrzymują e-mailem informację zwrotną dotyczącą numeru rejestracyjnego.

Redaktorzy podejmują decyzję o wstępnej kwalifikacji pracy do druku. Oceniają czy nadesłana praca jest zgodna z obszarem zainteresowań czasopisma i decydują o wyborze dwóch niezależnych recenzentów spoza jednostki, którą reprezentują Autorzy. Stosuje się zasadę „double-blind review process". W przypadku uznania pracy za ewidentnie niewłaściwą do publikacji, otrzymane materiały zostają odesłane do głównego Autora bez dalszej recenzji. Podobnie jest w przypadku, gdy prace są przygotowane niezgodnie z instrukcjami (zob. powyżej), jednak po stosownej korekcie mogą być złożone ponownie. Merytoryczna recenzja – sporządzona na podstawie opinii dwóch Recenzentów – zostaje przesłana Autorowi/Autorom. W przypadku sprzecznych recenzji, Redaktor Naczelny powołuje „Superrecenzenta", którego decyzja jest obowiązująca. Ostateczna decyzja odnośnie akceptacji pracy do druku następuje po wykonaniu zaleconej przez Recenzenta korekty. Decyzja o odrzuceniu pracy należy do uprawnień Redakcji i nie podlega odwołaniu. Redakcja nie musi uzasadniać podjętych decyzji. Lista recenzentów jest publikowana w ostatnim numerze danego roku.

9. Oświadczenia

Redakcja CAMS uznaje zasady zawarte w Deklaracji Helsińskiej i w związku z tym oczekuje od Autorów, aby wszelkie badania wykonane z udziałem człowieka zostały przeprowadzone zgodnie z tymi zasadami.

W przypadku eksperymentów na zwierzętach wymagamy przestrzegania międzynarodowych zasad i wytycznych w zakresie udziału zwierząt w badaniach i edukacji wydanych przez Komisję ds. Badań na Zwierzętach przy Nowojorskiej Akademii Nauk. Wymagana jest również zgoda komisji bioetycznej, właściwej dla głównego Autora, na prowadzenie eksperymentów z udziałem ludzi lub zwierząt. Wskazane jest załączenie kopii wyżej wymienionego dokumentu do złożonej pracy.

Redakcja wyjaśnia, że wszelkie zdarzenie typu „ghostwriting", „guest authorship" są przejawem nierzetelności naukowej, a wszelkie wykryte przypadki będą demaskowane – włącznie z powiadomieniem odpowiednich podmiotów (instytucje zatrudniające Autorów, towarzystwa naukowe, stowarzyszenia edytorów naukowych itp.).

Z „ghostwriting" mamy do czynienia wówczas, gdy ktoś wniósł istotny wkład w powstanie publikacji, bez ujawnienia swojego udziału jako jeden z autorów lub bez wymienienia jego roli w podziękowaniach zamieszczonych w publikacji.

Z „guest authorship" („honorary authorship") mamy do czynienia wówczas, gdy udział autora jest znikomy lub w ogóle nie miał miejsca, a pomimo to jest autorem/współautorem publikacji.

Oświadczenie (dostępne na www.medsport.pl/czasopisma) jest zgodne ze stwierdzeniem, że:

- złożona praca jest własna,
- wyniki badań nie zostały wcześniej opublikowane lub złożone do druku w innym czasopiśmie,
- wszyscy Autorzy wymienieni na stronie tytułowej wyrazili zgodę na złożenie tej pracy do czasopisma CAMS.

10. Konflikt interesów

Redakcja CAMS oczekuje, że Autorzy artykułów nie będą mieli udziału finansowego w firmie mającej w ofercie produkt przedstawiany w tekście lub w innej firmie konkurującej z tą firmą.

W przeciwnym wypadku powinni ujawnić (w momencie złożenia pracy) istnienie jakichkolwiek umów z firmą, której produkt jest przedmiotem dyskusji w pracy. Podczas procesu recenzowania informacje te pozostają do wyłącznej wiadomości Redakcji i nie będą miały wpływu na naukową ocenę pracy. Jednak w momencie zatwierdzania artykułu do druku, Redakcja uzgodni z Autorem formę upowszechnienia tej informacji lub odstąpi od tego.

Regulamin czasopisma wymaga, aby Recenzenci i Redaktorzy ujawnili (w piśmie do Redaktora Naczelnego) istnienie jakichkolwiek związków, które mogłyby stanowić podstawę do podejrzenia konfliktu interesów wobec Autora pracy. Pismo winno zawierać również ujawnienie jakichkolwiek umów z firmą komercyjną związaną z przedstawianym w artykule produktem medycznym.

11. Poufność informacji o pacjencie

Badanych należy identyfikować wyłącznie za pomocą inicjałów lub cyfr. Informacje zawarte na fotografiach, w tabelach i rycinach, które mogą ujawnić tożsamość osoby badanej, muszą być starannie wymazane lub zamaskowane. Twarze osób pokazanych na zdjęciach należy zamaskować lub pokryć czarnym paskiem. Jeżeli zawarte w artykule informacje umożliwiają w jakikolwiek sposób ustalenie tożsamości badanej osoby, Autorzy muszą uzyskać pisemną zgodę tej osoby lub jej opiekuna na opublikowanie wyników (w tym zdjęć fotograficznych, obrazów radiologicznych i innych). Szczegóły dotyczące rasy, pochodzenia etnicznego, kulturowego i religii osoby badanej powinny być podane wyłącznie w przypadku, gdy, zdaniem Autora, wywierają wpływ na przebieg choroby i/lub terapii dyskutowanych w treści pracy.

12. Przekaz praw autorskich

Po akceptacji pracy do druku w Complementary and Alternative Medicine in Science Autorzy cedują prawa autorskie na rzecz Agencji Wydawniczej MEDSPORTPRESS Sp. z o.o. Od tego momentu nie wolno ujawniać zawartych w niej informacji (do czasu ukazania się numeru czasopisma, w którym artykuł występuje). Bez pisemnej zgody MEDSPORTPRESS nie można opublikowanej pracy wykorzystywać w innych celach.

13. Zezwolenia na druk

Materiałom wykorzystanym z innych źródeł musi towarzyszyć pisemna zgoda pierwszego Autora oraz wydawcy pierwotnej publikacji. W przypadku prac niepublikowanych lub informacji ustnych, należy uzyskać pisemną zgodę osoby udostępniającej niepublikowane dane wykorzystywane w artykule.

14. Odpowiedzialność cywilna

Wydawca i Rada Naukowa czynią wszelkie starania, aby zapewnić rzetelność informacji, opinii i stwierdzeń zawartych w każdym artykule ukazującym się w Complementary and Alternative Medicine in Science. Niemniej jednak, za treść artykułów i reklam odpowiada wyłącznie Autor, sponsor lub firma marketingowa. Zgodnie z powyższym ani Wydawca, ani Rada Naukowa nie ponoszą odpowiedzialności za skutki ewentualnych nierzetelności. Redakcja zaleca Czytelnikom, aby wszystkie metody i techniki opisane w Complementary and Alternative Medicine in Science były stosowane wyłącznie zgodnie z instrukcjami i zaleceniami producentów leków lub sprzętu, wydanymi w kraju danego czytelnika.

Niniejszy regulamin jest zgodny z wytycznymi opracowanymi przez Wspólny Komitet Wydawców Czasopism Biomedycznych, opublikowanymi w opracowaniu pt. „Jednolite wymagania dotyczące prac złożonych do druku w czasopismach biomedycznych" (Uniform Requirements for Manuscripts Submitted to Biomedical Journals N Eng J Med 1997; 336: 309–15; http://www.icmje.org/index.html).

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