

Current Issues of the Implementation of Complementary medical and health-improving methods in medical Rehabilitation: on what are Attachment and mistrust Based?

Aktualne problemy wdrażania komplementarnych i poprawiających zdrowie metod w rehabilitacji medycznej: na czym opiera się przywiązanie i nieufność

DOI: 10.36740/ABAL202204116

Olga ye. Kovalenko^{1,2,4}, Olha ye. yuryk^{3,4}, Olena V. Litvin^{2,4}, Liliana V. Klymenko¹

¹Shupyk National Healthcare University of Ukraine, Kyiv, Ukraine

²State Institution of Science «Research and Practical Centre of Preventive and Clinical Medicine», Kyiv, Ukraine

³State Institution “Institute of Traumatology and Orthopedics of the National Academy of Medical Sciences of Ukraine”, Kyiv, Ukraine

⁴Ukrainian Association of Reflexotherapy and Medical Acupuncture (UARMA), Kyiv, Ukraine

Summary

Aim: To sharpen the attention of doctors and rehabilitation specialists on the wide possibilities of alternative/complementary methods in modern medicine.

materials and methods: The main method used in the preparation of this work is bibliosemantic. We conducted an analysis of modern literary data and studied the experience of leading clinics in both Europe and China. Researched leading works on the validity of using reflexology for improved treatment compliance. The directions of medical rehabilitation for the restoration of impaired functions in various nosologies were presented, along with this, the question of the feasibility of using alternative methods in the rehabilitation of patients with various diseases was considered.

Conclusions: The modern theoretical and practical evidence base for the effectiveness of methods in rehabilitation, which is based on the anatomical and physiological mechanisms of action of acupuncture and related non-invasive methods of reflexotherapy, was considered, and the reasons for insufficient commitment of the population and doctors of related specialties to the use of the methods were analyzed. References are given to some existing protocols for the use of acupuncture in various pathological conditions, which is explained by the evidence base of the method.

Key words: medical rehabilitation, acupuncture, reflexotherapy, reflexology, UARMA

słowa kluczowe: rehabilitacja medyczna, akupunktura, refleksoterapia, refleksologia, UARMA

INTRODUCTION

According to the definition of WHO, rehabilitation is defined as «a set of interventions designed to optimize functioning and reduce disability in persons with diseases in interaction with their environment.» That is, rehabilitation helps people of all ages to be as independent as possible in daily activities and to participate in education, work, recreation, and meaningful life roles such as family care. This is done by addressing underlying conditions (such as pain) and improving a person's functioning in everyday life by helping them overcome difficulties with thinking, vision, hearing, communication, eating or movement [1].

Rehabilitation is highly person-centered, meaning that the intervention and approach chosen for each person depends on their goals and preferences. Rehabilitation can be provided in many different settings, from inpatient or outpatient hospitals, to private clinics or community facilities, as well as at home. The rehabilitation workforce consists of, including but not limited to, a variety of medical professionals, physical therapists, occupational therapists, speech and language therapists, orthopedists and prosthetists, clinical psychologists, physical medicine and rehabilitation physicians, and rehabilitation nurse. That is, rehabilitation is a socio-medical problem that includes a number of aspects: medical, including psychological; professional (labor, production); socio-economic [1-6]. It has been studied that socio-economically vulnerable segments of the population do not return to work more often after medical rehabilitation. These inequalities are less pronounced for certain types of rehabilitation care and usually relate to the active role of the care system. However, there is a need for further studies of effect modification by treatment type [6].

It is no secret that the medical rehabilitation of patients with various pathologies, in particular, after the most common acute vascular disasters (heart attacks, strokes), injuries, surgical interventions, as well as with various chronic diseases, etc., needs further continuous improvement. As practice shows, not in every clinical case the patient receives the necessary rehabilitation measures or even sufficient information about them. Unfortunately, not all potential effective directions of rehabilitation are involved in the world to a sufficient extent, and among them are the so-called alternative (complementary) methods originating from traditional oriental medicine and in Ukraine and some other countries are called “methods of reflexotherapy”.

AIM

The aim of the article is to sharpen the attention of doctors and rehabilitation specialists on the wide possibilities of alternative/complementary methods in modern medicine.

MATERIALS AND METHODS

The main method used in the preparation of this work is bibliosemantic. We conducted an analysis of modern literary data and studied the experience of leading clinics in both Europe and China. Researched leading works on the validity of using reflexology for improved treatment compliance. The directions of medical rehabilitation for the restoration of impaired functions in various nosologies were presented, along with this, the question of the feasibility of using alternative methods in the rehabilitation of patients

acute diseases. The use of reflex methods (reflexotherapy, RT) in clinical practice should be recognized as unjustifiably insufficient. Often, these methods in the minds of doctors of various specialties and patients are traditionally associated exclusively with acupuncture and, possibly, with some hardware methods (electropuncture, laser acupuncture). And what exactly stops the wider introduction into clinical medicine of methods based on TEM, in particular, traditional Chinese medicine (TCM)?

It is known that due to its own internal laws of development, Chinese medicine is more prone to empirical medicine during a relatively long historical period. It is believed that it lacks objective and unified clinical practice guidelines, and the associated difficulties in diagnosis and assessment of therapeutic effect have limited its further imitation, development and international communication. Therefore, over the years, researchers have worked to improve the standardization theory and methodology of CM, as well as to improve relative methods for further application, which are based on the stratified evidence assessment method. The researchers have already applied this method to 45 issued guidelines, including 5 national guidelines, 3 industry guidelines, and 37 social organization development/review guidelines. The stratified evidence assessment method has been recognized and is widely used. This helps academics and practitioners to better study, formulate, publish and popularize clinical practice guidelines for acupuncture therapy, thus contributing to the further development of the acupuncture method [10]. Standardization was also studied in relation to wormwood heating, a technique related to acupuncture [11], significant importance is also attached to the training of specialists in the world [12, 13], but, in our opinion, it is acupuncturists who should be trained by higher medical institutions and acupuncture should be practiced by specialists with a basic higher medical education with various diseases was considered.

REVIEW AND DISCUSSION

The results of our survey of the population showed that medical rehabilitation in the imagination of many of them mainly looks like the occupation of patients in specialized medical centers with bulky and inexpensive equipment (exercise machines) located in large cities and with extremely high efficiency (?!), but small access of patients to it due to the high cost in the absence of insurance. The idea of home rehabilitation mostly looks like performing certain physical exercises for the affected part of the body (limbs, back, face) prescribed by a medical professional.

Unfortunately, among the widespread descriptions of personnel and material support for medical rehabilitation in Western medicine, one cannot usually find either acupuncture or related methods based on the foundations of traditional Eastern medicine. Although, as proven by many years of experience and the attention of international organizations [7-9], they can make a significant contribution to measures of primary and secondary prevention and rehabilitation in chronic diseases and in the period of convalescence after acute diseases. The use of reflex methods (reflexotherapy, RT) in clinical practice should be recognized as unjustifiably insufficient. Often, these methods in the minds of doctors of various specialties and patients are traditionally associated exclusively with acupuncture and, possibly, with some hardware methods (electropuncture, laser acupuncture). And what exactly stops the wider introduction into clinical medicine of methods based on TEM, in particular, traditional Chinese medicine (TCM)? It is known that due to its own internal laws of development, Chinese medicine is more prone to empirical medicine during a relatively long historical period. It is believed that it lacks objective and unified clinical practice guidelines, and the associated difficulties in diagnosis and assessment of therapeutic effect have limited its further imitation, development and international communication. Therefore, over the years, researchers have worked to improve the standardization theory and methodology of CM, as well as to improve

relative methods for further application, which are based on the stratified evidence assessment method. The researchers have already applied this method to 45 issued guidelines, including 5 national guidelines, 3 industry guidelines, and 37 social organization development/review guidelines. The stratified evidence assessment method has been recognized and is widely used. This helps academics and practitioners to better study, formulate, publish and popularize clinical practice guidelines for acupuncture therapy, thus contributing to the further development of the acupuncture method [10]. Standardization was also studied in relation to wormwood heating, a technique related to acupuncture [11], significant importance is also attached to the training of specialists in the world [12, 13], but, in our opinion, it is acupuncturists who should be trained by higher medical institutions and acupuncture should be practiced by specialists with a basic higher medical education.

It is for the sake of scientific argumentation and adaptation to Western medicine that semiotics has been used for many years, which by definition explains the key mechanism of action of methods of stimulating active points and zones in clinical practice. So, the concept that has been used in Ukraine for more than 40 years, reflexotherapy is a treatment and prevention system based on the assessment of the parameters of peripheral reflexogenic zones (acupuncture points) and their influence in order to regulate functional systems. It is fundamental that the interpretation of the concept of “reflexotherapy” has a conceptual theoretical-philosophical and anatomical-physiological foundation and corresponds to the essence of the speciality of the doctor-reflexotherapist, which has existed for several decades in Ukraine.

The very concept of “reflex”, which means the body’s response to a stimulus, is the terminological basis of the concept of “reflexotherapy”. Although it is not enough to explain all the phenomena of the TEM and TCM methods only by reflex, the undeniable presence of a reflex mechanism in them puts them at the level of scientifically based [14, 15].

Unfortunately, in foreign literature, one can find a narrowed use of the concept with the word “reflex” at the base - “reflexology” to denote the method of point and zonal influence on the distal parts of the limbs, mainly feet, which impoverishes the broad possibilities of applying the concept of “reflex” [15]. Reflexology, also known as zone therapy, is an alternative medical practice involving the application of pressure to specific points on the feet, ears, and/or hands [16]. This is done using thumb, finger, and hand massage techniques without the use of oil or lotion [17]. The effort to standardize the qualification requirements revealed that everyone who uses the method calls himself a reflexologist [18]. The lack of scientific evidence also causes skepticism, which, in our opinion, may be related to insufficiently developed methodology and the probable lack of basic medical training among the performers.

Along with acupuncture and possibly some hardware methods (electropuncture, laser acupuncture), such methods of influencing points and reflexogenic zones, which are non- invasive, that is, do not cross the skin, such as point and vacuum massage, vacuum acupuncture, pressure on points (shiatsu), moxa-therapy, surface acupuncture with multi-needle applicators, etc. also belong to reflexotherapy methods [19]. If invasive methods (acupuncture), where, in addition to a specific performance technique, more complex recipes for combining points in one session are usually used, which are selected individually in each specific case, in a number of countries, only a doctor with a special education should be performed, then simple symptomatic recipes for point massage, point heating (for example, with headache of one or another localization, dizziness, pain in the joints, etc fatigue, runny nose, etc.), as well as surface needling, in addition to a doctor, can be performed by both a middle-level medical worker and the patient himself, provided that he receives certain

instruction or training by a specialist who himself is familiar with non-invasive therapeutic RT methods. It is important to emphasize once again that in Ukraine and some other countries, full use of RT (acupuncture and related methods) is allowed only to specialists with a higher medical education – reflexotherapists, who usually also have a basic medical specialty of a medical profile (neurologist, therapist), who can timely and professionally monitor the rehabilitative and therapeutic effects of RT, prevent complications and prescribe complex drug therapy [15]. Unfortunately, in some countries, acupuncture is used by persons without medical education, having completed a certain course of study at relevant courses, which significantly reduces the public's confidence in it.

Our survey of different strata of the population (students, people of mental and physical labor of different ages, patients of several medical institutions of Ukraine) showed insufficient awareness of the possibilities of using RT methods to improve the level of health, especially the involvement of patients in the process of self-healing (performance of appropriate physical exercises, point self-massage and chi-therapy, post-isometric relaxation, etc.) by medical professionals was rare.

Unfortunately, non-drug methods do not have the same publicity as pharmacotherapy for obvious reasons. Of course, it is difficult to overestimate pharmacotherapy in emergency conditions, on the other hand, the rehabilitation of patients with chronic pathology will not be able to achieve a sustainable positive effect without non-pharmacological reflex methods, the implementation of which should involve the patients themselves.

As experience has shown, the specific terminology used in this field contributes to the reduction of trust in RT. Since RT is a conceptual regulatory system, the action of which is aimed at restoring the disturbed balance of body functions (“yin-yang energies” according to ancient Eastern terminology), the concept of “yin-yang”, according to the formulations of modern medicine, corresponds to the concept of homeostasis, the balance of vegetative sympathetic-parasympathetic relationships [14, 15]. An in-depth analysis of the mechanism of action of the method proved that the use of RT has a wide range of indications and a minimum of contraindications [16].

The reflexotherapy effect begins with the stimulation of the receptor apparatus at the acupuncture point by physical or chemical factors. In the future, a complex cascade of neurohumoral reactions develops, which, in addition to the peripheral, cover both the segmental and suprasegmental levels of the nervous system. RT effects include general (increase in general non-specific resistance to various stressors, increased immunity, etc.) and selective (specific) effects on a certain organ or system. The latter is based on the phenomenon of convergence of afferent pathways on common neuronal elements that provide mutual switching of multimodal information of both somatic and visceral systems on the basis of metameric-segmental organization and form an integrated image of information under the influence of which adaptive motor programs are formed. This provides opportunities to control the sensory and motor functions of the body. There are different levels of convergence of native modal afferents: spinal, trunk, thalamo-cortical. It is known that artificially induced somatic signals are capable of inhibiting visceral afferentation [14, 17, 18, 20].

The humoral factor is also of great importance in the effects of reflexology. At the central level, stimulation of the hypothalamus contributes to the release of the hypothalamic releasing factor, which in turn affects the pituitary gland with the subsequent release of adrenocorticotrophic hormone, followed by a complex sanogenetic reaction of the body. Based on the complex pathogenetic phenomena of neurohumoral regulation, RT affects the nociceptive and

antinociceptive systems due to the mediated secretion of opioid and non- opioid peptides (vasopressin, oxytocin, neurotensin, etc.) [21, 22].

Therefore, the body's reaction to the stimulation of acupuncture points occurs by irritating specific and non- specific anatomical structures, not only exclusively pain receptors. The use of various other methods and means of influence on acupuncture points and reflexogenic zones allows to activate other receptors (light, barometric, specific and complex sensitivity) even more widely, thereby obtaining qualitative and quantitative sanogenetic reactions from the body. It is at the level of the thalamus that the signal is transmitted from specific afferents - visual and auditory thanks to the lateral and medial geniculate bodies, respectively. Thanks to their connections, the ventral nuclei participate in the transmission of information from the cerebellum to the cortex, from the midbrain to the limbic system, as well as somato-visceral afferentation, the convergence of nociceptive signals, thus participating in the modulation of the excitability of projection motoneurons of the cortex, in the integration of emotional- visceral information of the limbic system and emotional-sensory information of the thalamo-cortical system, implementation of trigeminal and vagal somato-visceral convergence [17, 18, 20, 23].

Thus, adequate somatic afferentation, which is formed by drawing up a therapeutic prescription (stimulation by various factors of a set of certain points and zones in one session according to the appropriate rules), causes in response a complex somato-visceral and autonomic reaction with the expected regulation of functions, which is conceptually based on its effect does not contradict the theoretical concepts of Eastern medicine [17, 20, 23, 24].

Theoretical ideas born in ancient Eastern philosophy and medicine, which served as the basis for modern reflexology, upon detailed analysis are consistent with existing provisions, in particular, with the concept of neuroplasticity, i.e. a set of processes aimed at remodeling and adapting the nervous system to physiological and pathological external changes or/ and internal environment [21, 25].

Recently, the results of global research prove the existence of the so-called primary vascular system (PVS), which, according to scientists, can be an organic substrate for the action of acupuncture. Studies have shown that the PVS system is different from the circulatory and lymphatic systems; spread throughout the body, from the surface layer of the skin to the internal organs. Composed of primary nodes and vessels, it can claim to be the anatomical substrate of acupuncture points and meridians. Liquid circulates inside the primary vessels, the components of which are precursors of stem cells, hormones, amino acids, lipids, and hyaluronic acid [26].

As mentioned, the RT system includes a whole list of methods that differ in physical characteristics of the methods of exposure and stimulation of various receptors. Along with well-known acupuncture, which should be performed only by a doctor, there is a whole list of RT methods, which do not involve crossing (piercing) the skin - non-invasive RT methods (NIRT) [17, 19].

Non-invasive RT methods have a wide range of advantages, namely: effectiveness in comprehensive rehabilitation, treatment, prevention of various diseases; the possibility of long-term use in chronic diseases; harmlessness; the possibility of complex application with other methods, including medicinal ones; possibility of application to people of different ages; a differentiated possibility of application both by medical workers and directly by the patients themselves; high efficiency.

Thus, the scientifically proven effectiveness of acupuncture and related non-invasive methods in various diseases served as the basis for the creation of a whole list of clinical guidelines and recommendations in the world, which largely relate to the treatment of pain syndromes, even in oncology [22, 27-30], depressive and other disorders [31-34]. Although, in our opinion, the optimal step would be to integrate them into the general protocols of medical care for various diseases.

So, the question arises, why, with proven priorities and even the presence of regulatory documents, acupuncture and related methods still do not gain due recognition among the population, doctors and state medicine and their use in medical rehabilitation does not reach the deserved level? Of course, this primarily concerns not only Ukraine, but also European countries and America, since for most countries of the Southeast these methods belong to widely used traditional medicine. Undoubtedly, one of the pressing issues should be considered the fact that in most countries acupuncture is allowed to be practiced by people without higher medical education or with secondary education. Ukraine is one of the few countries where only doctors are allowed to practice acupuncture and related methods! Even, despite specific and not always successful medical reforms, Ukraine still retains a small number of government positions, unlike other countries, where this method is practiced only in private institutions and not always by people with a medical education!

Fortunately, there is an international public association ICMART, which takes care of the professional level of specialists in the field of acupuncture and related methods in Europe, and unites only doctors!

In Ukraine, the public organization “Ukrainian Association of Reflexotherapy and Medical Acupuncture” (PO “UARMA”) takes care of this issue, which was created almost 30 years ago on the initiative of Professor Yevgenia L. Macheret [15].

In order not to lose this direction in Ukraine, where the reorganization in medicine in the last decade has led to a significant reduction in the rates of doctors-reflexotherapists in state medical institutions, and the retraining of doctors also needs to be better due to many objective reasons, as well as to allow consideration of these issues under the conditions of their countries to relevant foreign specialists, we continue to investigate acute issues in this area. Namely: the question of commitment and mistrust of doctors and potential patients to the use of non-medicinal methods - acupuncture and related methods in medical rehabilitation for various diseases. The results of the survey of the population and patients already have some preliminary results.

Among the interviewed doctors, all 98% answered that they know RT methods: 25% of the interviewed believe that these methods are effective only in Eastern countries, the rest claim that they are effective to some extent: they know positive results for dorsalgia and in general for pain syndromes, of which 12% recommended to their patients in these cases; 12% - heard about effectiveness in strokes; 18% believe that this is a purely psychotherapeutic effect, which also deserves attention. Insufficient scientific justification (57%) and lack of scientific basis at all (8%) are considered a disadvantage.

Among 100 ordinary citizens - persons on a random sample, 76% said that they have this or that information about the methods; 7% – used it themselves (5% were satisfied with the result, 1% could not decide whether there was an effect, 1% – no effect). In 23% – they were used by acquaintances (18% – for pain syndromes, 7% for neuritis of the facial nerve, 3% – for after stress). Interestingly, the same people (70% of those who used) usually used and underwent repeated treatment, which can be explained by the fact that after receiving a positive therapeutic and

rehabilitation effect, they sought it again even with another problem. So, the research is ongoing and its results will be published in the near future.

How can reflexotherapy methods, which originate from traditional Eastern medicine, enrich modern rehabilitation and medicine in general?

The answer refers directly to treatment and rehabilitation measures that, on the one hand, are performed by a medical professional: some methods are exclusively performed by a doctor (acupuncture), and some can be performed by a nurse and/or paramedics (point and zone massage, chi therapy, etc.), and on the other hand, the patient performs it himself, being trained or instructed by a specialist. In the first case, the patient is the object of influence, and in the second - the subject. That is, such methods of influencing points and reflexogenic zones, which are non-invasive, that is, do not cross the skin, such as point and vacuum massage, vacuum puncture, pressure on points (shiatsu), moxa-therapy, superficial acupuncture (in particular, Lyapko multi-needle dissimilar metal applicators), etc. can be widely used not only by medical professionals, but also to a certain extent directly by patients. It is extremely important to spread knowledge among the population, teach them self-help using methods of reflexology and oriental medicine on their clinical basis, and in the educational process.

It is the non-invasive RT methods that can be widely used in primary care. Given the possibility of synergistic action, properly selected reflexotherapy tactics in complex therapy can significantly increase the effectiveness of treatment and rehabilitation. It is important to actively further integrate the methods into the everyday lifestyle and education in different countries of the world.

As part of preventive measures, a family doctor (neurologist, therapist, and doctors of other specialties) can use various types of information delivery to the population: individual conversations (both with patients of risk groups and their family members); speeches in front of the community (group seminars, where there can be both large and small groups); appearances in mass media and communication (print publications, radio, television, Internet); printed leaflets and information sheets. The information conveyed to the population must be clear, well-argued, supported by statistical indicators, in particular, comparative ones, etc.

Reflexotherapy methods are especially relevant and reveal their possibilities in rehabilitation during the war in Ukraine. Reflexotherapy specialists prepare trainings and leaflets for help and self-help training for the affected population and defenders of our land.

CONCLUSIONS

Thus, the doctor's possession of information on complementary methods of rehabilitation and treatment of patients will help solve the following problems:

- how to increase the level of rehabilitation of patients with various diseases;
- what to do when a person has a polyvalent allergy or when the situation requires urgent medical assistance, even in extreme military conditions, and the necessary first-aid drugs are not available or are insufficient, or the person cannot tolerate them;
- how to better rehabilitate patients with chronic diseases;
- how to directly involve the patient himself in the process of recovery and protection (preservation) of health.

In our opinion, an extremely important prospective issue should be the integration of a whole list of existing guidelines in the world with the use of acupuncture and related methods in the rehabilitation of general medical care protocols for various diseases, as well as further scientific research and the creation of new protocols.

References

1. Gilbert JHV, Jean Yan FCAHS et al. Framework for Action on Interprofessional Education and Collaborative. World Health Organization. Accessed March. 2015:197.
2. Tijssen LM, Derksen EW, Achterberg WP et al. Challenging rehabilitation environment for older patients. *Clin Interv Aging*. 2019; 14:1451-1460. doi: 10.2147/CIA.S207863
3. Leniger T, Heßling A. Die Medizinisch-beruflich orientierte Rehabilitation (MBOR) in der Neurologie erfordert eine individualisierte Rehabilitandenidentifikation [Work-related medical rehabilitation (WMR) in Neurology requires individualised rehabilitant identification]. *Fortschr Neurol Psychiatr*. 2010;87(2):92-102. doi: 10.1055/a-0695-9074
4. Spies M, Kulisch K, Streibelt M et al. Wie bewerten Versicherte unterschiedliche Ausgestaltungen der medizinischen Rehabilitation? [Insurants' Views on Different Forms of Medical Rehabilitation – A Qualitative Study]. *Rehabilitation (Stuttg)*. 2020;59(5):282-290. doi: 10.1055/a-1148-5051
5. Buschmann-Steinhage R. Trends in der medizinischen Rehabilitation: Angebotsstruktur und Zielgruppen [Trends in Medical Rehabilitation: Supply Structure and Target Groups]. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz*. 2017; 60(4):368-377. doi: 10.1007/s00103-017-2513-1
6. Götz S, Wahrendorf M, Dragano N. Unterscheidet sich die berufliche Wiedereingliederung nach medizinischer Rehabilitation bezüglich Sozialstatus und Art der rehabilitativen Versorgung? [Does Vocational Reintegration After Medical Rehabilitation Differ in Terms of Social Status and Type of Rehabilitative Care?]. *Gesundheitswesen*. 2022;84(2):130- 138. doi: 10.1055/a-1335-4339
7. WHO. Benchmarks for the training of acupuncture. 2021; <https://www.who.int/publications/i/item/9789240017962>. [date access 02.02.2022]
8. WHO. Benchmarks for the practice of acupuncture. 2021. <https://www.who.int/home/search?indexCatalogue=genericsearchindex1&searchQuery=acupuncture&wordsMode=AnyWord>. [date access 17.01.2022]
9. Rosenthal B., Lisi A.J. A qualitative analysis of various definitions of integrative medicine and health. 2015. [http://www.tihcij.com/Articles/A-Qualitative- Analysis-of-Variou-Definit](http://www.tihcij.com/Articles/A-Qualitative-Analysis-of-Variou-Definit). [date access 17.01.2022]
10. Lyu ZX, Zhao X, Guo Y et al. Exploration of Stratified Evidence Scoring Method of Acupuncture Clinical Practice Guidelines. *Chin J Integr Med*. 2021;27(2):141-147. doi: 10.1007/s11655-019-3170-z

11. Lim MY, Huang J, Zhao B. Standardisation of moxibustion: challenges and future development. *Acupunct Med.* 2015;33(2):142-7. doi: 10.1136/acupmed-2014-010688
12. Weeks J. What is the commitment to interprofessionalism in integrative health and medicine? *Glob Adv Health Med.* 2015;4(3):9-11. doi: 10.7453/gahmj.2015.046
13. Lewith GT, Hyland M, Gray SF. Attitudes to and use of complementary medicine among physicians in the United Kingdom. *Complement Ther Med.* 2001;9(3):167-72. doi: 10.1054/ctim.2001.0475
14. Macheret YeL, Korkushko AO. Osnovy tradicionnoj kitajskoj mediciny v refleksoterapii [Fundamentals of Traditional Chinese Medicine in Reflexotherapy]. Kiyiv: Deystvije. 2005: 400. (in Russian)
15. Kovalenko OYe, Semenova OV, Babich YeH et al. Refleksoterapija v Ukrajin: fundator ta poslidovnyky. Do 90-richya vid dnya narodzhennya profesora Macheret Yevgeniyi Leonidivny [Reflexotherapy in Ukraine: founder and followers. To the 90th anniversary of the birthday of Professor Macheret Evgenia Leonidovna]. *Mizhnarod Nevrol Zhurnal.* 2019;4(106). (in Ukrainian)
16. Macheret YeL, Kovalenko OYe, Chupryna GM. Aktualni pytannya pokazan ta protypokazan shcho do zastosuvannya refleksoterapiji v klinichnij praktyci [Current issues of indications and contraindications for the use of reflexology in clinical practice]. *Mizhnarod Nevrol Zhurnal.* 2009;8 (30). (in Ukrainian)
17. Cheng KJ. Neurobiological mechanisms of acupuncture for some common illnesses: a clinical prospective. *J Acupun Merid Studies.* 2014;7(3):105- 114. doi: 10.1016/j.jams.2013.07.008
18. Zang W. *Akupunktur und Nervensystem.* Heidelberg: Haag. 1976:120.
19. Qaseem A, Wilt TJ. Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain: A Clinical Practice Guideline From the American College of Physicians. *Ann Intern Med.* 2017;166(7):514-530. doi: 10.7326/M16-2367
20. Bossy Y. *Bases neurobiologiques des reflexotherapies.* Paris: Masson. 1983:110.
21. Nudo RJ. Plasticity. *NeuroRx.* 2006;3(4):420-427.
22. Oliveira CB, Maher CG, Pinto RZ et al. Clinical practice guidelines for the management of non-specific low back pain in primary care: an updated overview. *Eur Spine J.* 2018; 27(11):2791-2803. doi: 10.1007/s00586-018-5673-223. Pomeranz B. Brain opiates work in acupuncture. *New Scientist.* 1997;73 (1033):12-13.
24. Zhao Jianguo, Zhang Linying. Review of the Current Status of Acupuncture and Moxibustion Theory. *Amer J Acupun.* 1998;14 (2):105-109.
25. Kovalenko O, Chizhikova M, Kovalenko A. The Phenomenon of Neuroplasticity and Neurophysiological Aspects of Acupuncture in Clinical Practice. *J Acupun Med Studies (JAMS).* 2018;11(4):235
26. Stefanov M, Potroz M, Kim J. The Primo Vascular system as a New Anatomic System. *J Acupun Med Studies.* 2013; 6(6):331-338.

27. Ge L, Wang Q, He Y et al. Acupuncture for cancer pain: an evidence-based clinical practice guideline. *Chin Med*. 2022;17:8. doi:10.1186/s13020-021-00558-4
28. Zhou J, Jiang N-N, Fang Y et al. .Efficacy of Acupuncture Treatment of Migraine Delivered by Senior or Junior Acupuncturists: Study Protocol for a Randomized Controlled Trial *Front Neurol*. 2022;12:812504. doi: 10.3389/ fneur.2021.812504
29. Tradit J. Clinical practice guidelines for treating headache with TCM. *Chin Med*. 2018; 38(3):339-350.
30. Cheng DK, Lai KSP, Pico-Espinosa OJ et al. Interventions for Depressive Symptoms in People Living with Chronic Pain: A Systematic Review of Meta- Analyses. *Pain Med*. 2022; 23(5):934-954. doi: 10.1093/pm/pnab248.
31. Yuen HK, Cunningham MA. Optimal management of fatigue in patients with systemic lupus erythematosus: a systematic review. *Ther Clin Risk Manag*. 2014;10:775-86. doi: 10.2147/TCRM.S56063
32. Mezzanotte JN, Grimm M, Shinde NV et al. Updates in the Treatment of Chemotherapy-Induced Peripheral Neuropathy. *Curr Treat Options Oncol*. 2022;23(1):29-42. doi:10.1007/s11864-021-00926-0
33. River J, McKenzie H, Levy D et al. Convergent priorities and tensions: a qualitative study of the integration of complementary and alternative therapies with conventional cancer treatment. *Support Care Cancer*. 2018;26(6):1791-1797. doi: 10.1007/s00520-017-4021-0
34. Tang L, Jia P, Zhao L et al. Acupuncture treatment for knee osteoarthritis with sensitive points: protocol for a multicentre randomised controlled trial. *BMJ Open*. 2018;8:e023838. doi:10.1136/ bmjopen-2018-023838

The article is a fragment of the scientific research work

«Development and justification of programs for prevention and treatment of patients with comorbid pathology of organs and systems» (deadline - 2022-2026, state registration number 0122U002416).

Conflict of interest:

The Authors declare no conflict of interest

Received: 23.02.2022

Accepted: 10.07.2022

ADDRESS FOR CORRESPONDENCE:

Olena V. Litvin

Research and Practical Centre of Preventive and Clinical Medicine

5 Verhnya St., 01000 Kyiv, Ukraine

phone: +380973997799

e-mail: litvinolena1970@gmail.com

ORCID ID AND AUTHORS CONTRIBUTION

0000-0002-5927-5565 – Olha Ye. Kovalenko (A, D)

0000-0093-2245-9333 – Olha Ye. Yuryk (E, F)

0000-0002-5002-046 – Olena V. Litvin (B)

0000-0001-6749-113 – Liliana V. Klymenko (A, E)

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