

## **Становище**

**от доц. Даниела Иванова Попова, доктор**

**относно: Дисертационен труд за присъждане на образователна и  
научна степен „доктор“**

**на тема: „Ролята на кинезитерапията за подобряване качеството  
на живот на жени с постурален цервикоторакален болков синдром“,  
представен от: Елена Желева**

**Научен ръководител: Проф. д-р Диана Димитрова, доктор**

Болката в шийния отдел на гръбначния стълб е симптом, който показва наличието на патология в структурите на шията. Всеки от нас, в един или друг момент от живота си е изпитвал болка в шията и гръдния дял на гръбначния стълб. Своевременното и адекватно лечение, включващо кинезитерапия, може да предотврати или сведе до минимум последващи усложнения, свързани с инвалидизация и загуба на трудоспособност, която понякога е доста продължителна. Кинезитерапията има голямо значение за редуциране и елиминиране на симптомите, респективно подобряване качеството на живот.

В този смисъл темата на представения за становище дисертационен труд е изключително актуална и с голяма медико-социална значимост.

Представеният от докторантката дисертационен труд е в обем от 163 страници. Правилно структуриран е, в пет основни раздела. Трудът отговаря на изискванията за подобен вид разработки. Онагледен е с 95 фигури, 35 таблици и 1 схема. Библиографията включва 178 литературни източника, от които само 61 на кирилица, 114 на латиница и 3 сайта.

**Литературният обзор** е в достатъчен обем и в него е представена същността, кинезиология и патокинезиология на нормалната стойка и постуралните нарушения. Изяснени са причините за появата на постурален

болков синдром и особеностите при жените, предразполагащи към развитието му. Изложени са различни концепции за физиотерапевтичното лечение при такива болни. Разгледани са миофасциалните и други мануални техники, както и техники за позиционно освобождаване и физиологичният им ефект върху тъканите. В края на литературният обзор се представят обобщение и изводи по представената информация. Изведена е вярна работна хипотеза.

Във втора глава е отразена методологията на изследването.

**Целта и задачите на проучването са формулирани ясно и точно.**

**Материал на изследването:** Изследването е проведено в периода 90 жени от 25 до 45 годишна възраст, разделени в три групи по 30 жени, една контролна и две експериментални. Авторската методиката е приложена в продължение на три седмици при E1 и E2, а при лицата от контролната група е приложена рутинна методика. При втората експериментална група към авторската методика е добавена допълнително и специализирана тренировка за мускулните вериги два до три пъти в седмицата.

**Инструментариум на изследването:** методите, използвани при настоящото изследване са адекватно и прецизно подбрани. Включени са: обективни и субективни показатели, сред които: стандартизиран тест SF 36, оценяване на болката по ВАС, тестове за оценка на активен обем на движение, тестове за статична и динамична силова издръжливост.

От статистическите методи са използвани: вариационен анализ и дискриптивен анализ. Статистическата обработка на резултатите е извършена с помощта на софтуерния продукт SPSS 13.0.

**Целта на кинезитерапевтичната методика,** приложена при пациентите от експерименталните групи е ясно и правилно формулирана.

**Задачите** са конкретизирани, 6 на брой. Представена е детайлно цялата авторска методика при двете експериментални групи с подробно описание на специализираните упражнения за миофасциалните вериги, прилагани при пациентките от втора ЕГ. Приложен е индивидуален подход към изследваните лица. Приложената авторска програма е с общо времетраене 50-60 мин. Започва се с лечебен масаж и миофасциални техники. Следват мекотъканна мануална мобилизация, позиционно освобождаващи техники и ПИР. В края на процедурата се акцентира върху образоването на пациента в изграждане на правилен навик за телодържане.

На базата на собствените данни от научното проучване са изведени 5 извода, които обобщават данните от проучването. Оформени са и 3 конкретни препоръки към пациентките, касаещи ДЕЖ.

**По-важните приноси** в докторския труд, без да омаловажавам останалите, с теоретичен и практико-приложен характер са:

- За първи път в страната са разработени и успешно приложени 2 оригинални кинезитерапевтични методики, за приложение на мануални техники и специални упражнения при постурален болков синдром в цервикоторакалната област.
- Проучването потвърждава възможността за редукция на болката и функционално подобрене на качеството на живот при пациентки с цервикоторакален болков синдром.
- Внедряването в практиката на тази методика, ще осигури добри резултати относно повлияването на симптомите на постуралния болков синдром. Съчетаването на мануални техники и упражнения за мускулните вериги е от ключово значение за постигане на трайни резултати и по-добро качество на живот на жените с този проблем.

Във връзка с дисертационния труд са представени **три публикации** на докторантката, в пълно съответствие с минималните национални изисквания.

**В ЗАКЛЮЧЕНИЕ:** Давам убедено своята **положителна оценка** на настоящия дисертационен труд, съответстващ на изискванията за такъв тип разработка и съдържащ научни резултати, които представляват принос в науката и практиката. В представения за становище докторат не установявам наличие на плагиатство и същевременно той отговаря на минималните национални изисквания за научна дейност за придобиване на образователната и научна степен „доктор“.

**В тази връзка, гласувам с положителен вот да бъде присъдена образователната и научна степен „доктор“ на Елена Желева в докторска програма „Кинезитерапия“, ПН 7.4 Обществено здраве.**

**16.10.2023 г.**

**Изготвил становището:.....**

**гр. София**

**/доц. Даниела Попова, доктор/**

## **Opinion**

**by Assoc. Prof. Daniela Ivanova Popova, PhD**

**re: Dissertation for the award of the educational and scientific degree**

**"Doctor"**

**on the topic: "The role of kinesitherapy in improving the quality of life  
of women with postural cervicothoracic pain syndrome",**

**presented by: Elena Zheleva**

**Scientific supervisor: Prof. Dr. Diana Dimitrova, Doctor**

Pain in the cervical spine is a symptom that indicates the presence of pathology in the structures of the neck. Each of us, at one point or another in our lives, has experienced pain in the neck and thoracic region of the spine. Timely and adequate treatment, including kinesitherapy, can prevent or minimize subsequent complications associated with disability and loss of work capacity, which is sometimes quite long. Kinesitherapy is of great importance for reducing and eliminating symptoms, respectively improving the quality of life.

In this sense, the topic of the dissertation presented for opinion is extremely current and of great medical and social significance.

The one presented by the PhD student dissertation is 163 pages long. It is properly structured, in five main sections. The work meets the requirements for this type of development. Illustrated with 95 figures, 35 tables, and 1 diagram. The bibliography includes 178 literary sources, of which only 61 are in Cyrillic, 114 are in Latin, and 3 sites.

**The literature review** is in sufficient volume and it presents the essence, kinesiology, and pathokinesiology of normal posture and postural disorders. The reasons for the appearance of postural pain syndrome and the characteristics of

women predisposing to its development have been clarified. Various concepts for the physiotherapy treatment of such patients have been presented. Myofascial and other manual techniques, as well as positional release techniques and their physiological effect on tissues, are reviewed. At the end of the literature review, a summary and conclusions on the presented information are presented. A correct working hypothesis has been derived.

The research methodology is reflected in the second chapter.

**The purpose and tasks of the study are** formulated clearly and precisely.

**Material of the study:** The study was conducted in the period 01.10.2015 - 01.10.2016 in the First Medical College Sofia. The study included a total of 90 women from 25 to 45 years of age, divided into three groups of 30 women, one control and two experimental. The author's methodology was applied for three weeks to E1 and E2, and for the individuals from the control group, a routine methodology was applied. In the second experimental group, specialized training for the muscle chains was added to the author's methodology two to three times a week.

**Instrumentation of the research:** the methods used in the present study are adequately and precisely selected. Included are: objective and subjective indicators, including: standardized SF 36 test, VAS pain assessment, active range of motion assessment tests, static and dynamic strength endurance tests.

Statistical methods were used: variation analysis and descriptive analysis. The statistical processing of the results was performed using the software product SPSS 13.0.

**The goal of the kinesitherapeutic methodology** applied to the patients from the experimental groups is clearly and correctly formulated.

**The tasks** are specified, 6 in number. The entire author's methodology for the two experimental groups is presented in detail, with a detailed description of the specialized exercises for the myofascial chains applied to the patients from the

second EG. An individual approach was applied to the examined persons. The attached author's program has a total duration of 50-60 minutes. It begins with a therapeutic massage and myofascial techniques. Soft tissue manual mobilization, positional release techniques, and PIR follow. At the end of the procedure, emphasis is placed on educating the patient in building a correct posture habit.

Based on the data from the scientific study, 5 conclusions were drawn that summarize the data from the study. 3 specific recommendations for female patients regarding ED have also been formulated.

**The most important contributions** in the doctoral work, without belittling the others, of a theoretical and practical-applied nature are:

- For the first time in the country, 2 original kinesitherapeutic methods were developed and successfully applied, for the application of manual techniques and special exercises for postural pain syndrome in the cervicothoracic region.
- The study confirms the possibility of pain reduction and functional improvement of quality of life in patients with cervicothoracic pain syndrome.
- The implementation of this methodology in practice will ensure good results regarding the influence of the symptoms of postural pain syndrome. Combining manual techniques and muscle chain exercises is key to achieving lasting results and a better quality of life for women with this problem.

In connection with the dissertation, **three publications of the doctoral student are presented**, in full compliance with the minimum national requirements.

**IN CONCLUSION:** I confidently give my **positive assessment** of the current dissertation work, corresponding to the requirements for this type of development and containing scientific results that represent a contribution to science and practice. In the doctorate submitted for opinion, I do not detect the presence of plagiarism, and at the same time it meets the minimum national requirements for a scientific activity for acquiring the educational and scientific degree "Doctor".

**In this regard, I vote with a positive vote to award the educational and scientific degree "Doctor" to Elena Zheleva in the doctoral program "Kinesitherapy", PN 7.4 Public Health.**

**16.10.2023**

**Prepared the opinion:.....**

**Sofia /**

**Assoc. Prof. Daniela Popova, doctor/**



## **Standpoint \_**

**by Assoc. Prof. Daniela Ivanova Popova, Ph.D.**

**Dissertation for the award of the educational and scientific degree  
"Doctor"**

**on the topic: "Application of myofascial techniques in chronic non-specific pain in the lumbosacral region",**

**Author: Vesela Rumenova Dimitrova**

**Scientific Supervisor: Assoc. Prof. Ljubomira Sazdova, Ph.D.**

Most people have been going through an episode of lumbar pain. Statistics indicate that the prevalence of low back pain reaches 40-80% of the population, and the annual incidence is approximately 5%. Suffering is socially significant, as 80% of workers encounter it at least once in their work. In 10-20% of patients of working age, acute pain becomes chronic. Fascia is a complex three-dimensional structure composed of separate layers, covering all tissues, and connecting them into a single whole. The fascial continuum transmits and receives information upon which the body's balance and postural control depend. If the fascia is damaged, stuck, or non-functional, the information it sends to the brain is altered so it cannot make the appropriate corrective changes in posture. The present study offers a different perspective on the causes of chronic back pain and explores the importance of myofascial pain as a major etiological factor.

Given the above, I believe that the topic of the present development is extremely relevant.

The dissertation presented by the Ph.D. student is 186 pages long. It is properly structured but is fragmented into several chapters that could be combined for clarity of the material presented. The work meets the requirements for this type of development. It is illustrated with 54 figures, 11 tables, and 19 appendices, in which a questionnaire on chronic low back pain is also presented. The bibliography includes 169 literary sources, of which only 21 are in Cyrillic, the rest in Latin.

**The literature review** is quite extensive and presents the modern concept of fascial tissue, its structure, and function. An analysis was made of the types of pain, and the etiological factors for the occurrence of chronic back pain, pointing out that myofascial pain is the main cause of chronic non-specific back pain - 95%. World and Bulgarian experiences in the treatment of chronic non-specific pain in the lumbosacral region with the methods of kinesitherapy are shared. Myofascial techniques and their physiological effect on tissues are reviewed. At the end of the literature review, a summary and conclusion. The research methodology is presented in the second chapter.

**The purpose and tasks** of the study are clearly and precisely formulated. The working hypothesis has been derived correctly. opinions on the information are presented.

**Study material:** The study was conducted with patients with non-specific chronic pain in the lumbosacral area, in the period of January 2019. - May 2021 on the territory of National Specialized Hospital for Physiotherapy and Rehabilitation "Ovcha Kupel" and Orthopedic Center "Kinov ", Sofia. The study included 60 people with complaints in the lumbosacral area of more than 12 weeks duration, divided into two groups: control and experimental, uniform in gender and age. Control measurements were taken at the beginning of the study, 6 weeks, and 6 months after the start of their treatment.

In connection with the dissertation, three publications of the doctoral student are presented, in full compliance with the minimum national requirements.

**Conclusion:** I confidently give my positive assessment of the current dissertation work, corresponding to the requirements for this type of development and containing scientific results that represent a contribution to science and practice. In the doctorate presented for opinion, I do not find the presence of plagiarism, and at the same time it meets the minimum national requirements for the scientific activity for obtaining the educational scientific degree "doctor".

- Control group – 30 patients following the traditional treatment prescribed by the doctors of physical medicine of the National Specialized Hospital for Physiotherapy and Rehabilitation, including electrotherapy and kinesitherapy;

- Experimental group – 30 patients, in which the author's method of kinesitherapy was applied.

Criteria for inclusion and exclusion from the study were specified.

**Instrumentation of the study:** the methods used in the present study are adequately and precisely selected. Included are: modified Kraus-Weber muscle endurance test, discriminative sensation test, thoracic and lumbar spine mobility, VAS pain assessment, shortened muscle assessment tests as well as stress and disability assessment questionnaires for patients with chronic low back pain. The following statistical methods were used: variation analysis; comparative analysis, and correlational analysis. The statistical processing of the results was carried out using the software products SPSS 10 and Microsoft Excel.

**The goal** of the kinesitherapeutic methodology applied to the patients from the experimental group is clearly and correctly formulated.

**The tasks** are specified, 8 in number, but in my opinion, they are many: some of them could be combined and reduced. The attached author's program lasts 50-60 minutes and is performed in 4 stages. It begins with techniques of impact on the superficial fascia, gradually moving on to working in-depth and treating the trigger points. The methods used are described in detail, after which the complex of specialized exercises aimed at improving the mobility of the thoracic spine and hip joints, overcoming muscle imbalance, and improving static strength endurance is presented. At the end of the procedure, emphasis is placed on educating the patient in building a correct posture habit.

Based on the data from the scientific study, 6 conclusions were drawn that summarize the data from the study.

The more important **contributions** in the doctoral work, without underestimating the others, of a theoretical and practical-applied nature are:

1. For the first time in the country, an original kinesitherapeutic methodology was developed and successfully applied, aimed at affecting the fascial tissue in order to influence the pain symptoms and improve the function of the spine in patients with chronic non-specific pain in the lumbosacral region.

2. It has identified interdependency factors and trends related to fascia as a possible source of pain in the indicated contingent were identified. Information about the fascial tissue is presented, which undoubtedly enriches the Bulgarian specialized literature.

3. Especially valuable for the practice is the education of the patients regarding the origin of the pain and the possibilities for its control, as well as training in a correct posture.

**Based on the above I vote with a positive vote to award the educational and scientific degree "doctor" to Vesela Rumenova Dimitrova in the doctoral program "Kinesitherapy", Professional direction 7.4 Public Health.**

**Sofia, 15.12.2022 Prepared the statement:**

**Assoc. Prof. Daniela Popova, Ph.D.**