

# Comparison of the effectiveness of Bowen therapy in relation to medical massage for nonspecific low back pain

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**Abstract**— Nonspecific low back pain syndrome occurs in a large number of people. There are many physiotherapeutic methods that reduce pain and improve the functional status of patients. One of these methods is Bowen therapy which is a lesser-known fascial therapy and is characterized by a holistic approach to the patient. The aim of this study was to evaluate the effectiveness of Bowen therapy in patients with symptoms of low back pain. 41 patients aged 32 to 75 years were examined (mean age was 52.1, SD  $\pm$  10.6, median 55). An interview was conducted with each patient and they completed two questionnaires (sociodemographic and VAS pain scales completed on the first day and last day of the study and a Roland-Morris questionnaire). All patients diagnosed with lumbar pain by a physiatrist, neurologist, or orthopedist were included in the study. Patients were classified into two groups where one underwent medical massage (medical back massage) and the other group Bowen therapy. The therapy lasted 15 days where therapies were done every 5 days and a total of 3 therapies on the first, eighth and fifteenth day. The duration in both groups was 30 minutes. After the interventions performed, improvement was noted in both groups, with a more intense effect of the intervention Bowen group. The results of the study showed that Bowen therapy has a positive effect on reducing pain and improving functionality in daily life activities in patients who have different types of pain problems and functional disabilities. Given the statistically significant differences in the average values of the measured variables in favor of the experimental group, the obtained results can be attributed to the effect of Bowen therapy. The health condition of these subjects improved, and more precisely, the pain intensity decreased.

**Index Terms**— alternative medicine Bowen technique, Bowen therapy, massage therapy, medical massage, therapeutic method

## 1 INTRODUCTION

Low back pain occurs in a large number of people and even 80% of people have a different pain intensity. In a situation where there is no pathology within the spine such as cancer, osteoporosis, trauma or fracture, this disease is treated as a nonspecific lumbar pain syndrome (NLBP) [1], [2]. There are many physiotherapeutic methods that reduce pain and improve the functional status of the patient. One of them is Bowen's technique - BOWTECH (TB), which is a lesser-known therapy characterized by a holistic approach to the patient and was designed in the 1950s by Thomas Ambrose Bowen [3]. Bowen's technique is described as a system of information which is sent to a patient's body from precisely defined points located on his body, then transmitted by the nervous system in the form of vibrations. The nervous system activates its ability to solve any body or mind problem, restoring it to balance and harmony. It is a non-invasive and very sensitive method of healing [4], [5]. In the last ten years or so, research that has focused on the Bowen technique has been diverse and few studies have offered generalized conclusions. A controlled study in England was conducted on 120 asymptomatic volunteers examining the effect of the Bowen technique on tendon muscle flexibility. As a result, it indicated that one therapeutic treatment increases the flexibility of muscle groups which lasts for a week without additional intervention [6]. The pilot study in New Zealand focused on the effect of the Bowen technique on a group of patients who suffered a stroke. A statistically significant improvement was shown in the high mobility test. The same is verifiable for general well-being, the sphere of social life and the power of a handshake [7]. There are several theories that describe the way the Bowen

technique affects the body. Some of them are related to embryonic development, autonomic nervous system, joint receptors, stretching reflex, segmental skin and visceral reflex, harmonious vibrations, resonant model, trigger and acupuncture points, meridians. Due to the fact that they do not yet have a scientific background, these theories are hypotheses for further research of this therapy [5]. The skin is innervated tissue and has various types of receptors that detect changes during the position of touch, pressure, vibration, temperature or pain. The most important functions of the skin are: communication of the external and internal environment of the body, thermoregulatory mechanisms, maintaining the balance of water and electrolytes, the immune response that protects against pathogens, as well as reactions with physical, chemical and thermal pathogens. The skin adheres to the subcutaneous and superficial fascia, and these in turn are associated with the deep fascia [5]. Thanks to this construction, the fascia also plays the role of a system for collecting, transmitting and processing information [8]. In addition, collagen, elastin, and reticulin are found in the extracellular space of the superficial fascia and also allow connections to the deep fascia and skeleton. Adipocytes and fibroblasts, on the other hand, are responsible for mechanotransduction and lead to a wide range of sensory sensations and communication signals. It is therefore suggested that the contact of the therapist's hand with the patient's skin initiates communication with structures that lie deeper.

## 2 THE EFFECT OF THE BOWEN TECHNIQUE

There are several theories about how Bowen's technique works. One suggests that Bowen "movements" stimulate peripheral nervous system proprioceptors and sensory fibers [9]. This encourages the body to re-establish balance and return to its natural state of health. Proprioceptors provide perception of the body's position and movement, and are found in connective tissue, muscles, tendons, ligaments, and fascia. Certain types of receptors, especially nociceptor, play a very important role in the effectiveness of Bowen's treatment [10]. Harmful receptors are particularly sensitive to aggressive stimuli that affect or may affect tissues. They are also sometimes called pain receptors, but this term is misleading because pain is interpreted at a higher level of the brain. Nociceptors are found in almost all tissues of the body, but they are very numerous in the fascia, the membrane of fibrous tissue that wraps, surrounds, supports, and lifts the muscles, tissues, and organs of the body [9]. The fascia creates a space between each group of muscles, individual muscles and individual fibers, up to the microscopic level, allowing optimal and healthy fluid movement in all muscles and all joints of the body [11]. When a bodily injury occurs, such as a toe fracture, the nociceptors transmit a reflex response, 70-120 m / s, along the associated fiber, all the way to the thalamus located in the brain. This information is then processed by the cortex and then returned through various fibers to the traumatized site. The healing process begins by contracting the muscles and initiating the inflammatory process in the area. With each Bowen movement, the fascia is briefly activated and "disturbed," but does not move by force. When the adhesion of the fascia decreases and the scar of the connective tissue becomes soft and contracted, the fascia reduces its contraction [12]. Musculoskeletal structures become able to increase their ability to move and use their full potential. In addition, nerves, blood vessels, and lymph nodes located in these relaxed tissues function optimally [8]. By stretching collagen fibers and changing the shape of connective tissue with Bowen's low-intensity movements, nociceptors in the fascia and connective tissue stimulate the transmission of non-aggressive impulses through the central nervous system, into the cortex. By recognizing this information, the cortex initiates the healing process. The message to remove inflammation and relax muscle fibers and connective tissue will be transmitted through the connected fibers [11].

### 2.1 An alternative explanation for the effects of Bowen therapy

There are several Bowen movements that activate the mechanisms of self-healing and these are the contraction reflex, proprioceptors of the joints, fascia, rebalancing of the autonomic nervous system, trigger points, acupuncture points and meridians, cellular meridians. In the contraction reflex, most movements are performed at the source, on the body of the muscle, where there are receptors that inform the nervous system about the state of tension, elongation or contraction of the **muscle tissue**. These receptors are stimulated during Bowen's "flicking" and "rolling" movement techniques. All movements performed around the joint directly affect the joint, capsule, and ligaments, which are strongly innervated by propriocep-

tors. Each Bowen movement is performed at the superficial level of the fascia and affects the relationship of the fascia and the nerves, muscles, or tendons that are mobilized. The fascia plays an important role in the muscle coordination, postural alignment, and structural and functional integrity. Bowen's technique has the most important and profound effect on rebalancing the autonomic nervous system where the body's self-healing mechanism rules. Many of Bowen's movements overlap or coincide with the position of the Trigger Points. Eliminating these Trigger points removes pain and **brings** joint mobility and muscle coordination. Most movements overlap with acupuncture points, and some cross as many as two or three meridians at once. Scientists have shown that some specific Bowen movements trigger the recovery of the body's cellular memory, by accessing the "original pattern" and reinstalling the parameters of an earlier state of well-being and balance. In general, the mechanism of action of Bowen's technique is based mainly on a number of free nerve endings and light touch receptors in the skin and superficial fascia. The pathways of the autonomic nervous system between the skin and the skeleton may explain the mechanism of the profound changes that occur after therapy [5].

### 2.2 Users of Bowen therapy

Bowen therapy is suitable and beneficial for everyone, from newborns to the elderly. It offers relief to athletes, pregnant women and people with special needs. It addresses the body at all levels: physical, chemical, mental and emotional and results in the treatment of acute, chronic, neurological or psychosomatic disorders. It has a very deep relaxing effect on the whole body and facilitates the activation of the self-healing mechanism. However, you do not have to be sick or injured to benefit from Bowen's treatment - the therapy has no proven contraindications in practice. The Bowen technique is a complementary way, in the sense that it intensifies and complements allopathic treatments without being affected by their effects. The mechanisms triggered by Bowen's treatment within the nervous system are very subtle, and the body continues to work for several days after sitting. For this reason, it is ideal to avoid other physical therapies for a few days before and after a Bowen session so that the body's response to Bowen treatment is not interrupted.

## 3 RESPONDENTS AND METHODS

The study group consisted of 41 patients, and the study was conducted at the "Life" Rehabilitation Center in 2018. Before the start of the study, all subjects signed a statement that they were willing to participate in the study, an interview was conducted with each patient and they completed two questionnaires (sociodemographic and VAS pain scales completed on the first day and last day of the study and Roland-Morris questionnaire). In the VAS-pain scale the patient should recognize his pain level on a scale from 0 to 10 ("0" means no pain, and "1" the weakest pain, ranges from 2-3 mild pain, 3-6 pain of medium intensity, 6 -9 severe pain and "10" - unbearable pain) [12]. The study included all patients diagnosed with low back pain by a physiatrist, neurologist, or orthopedist. Patients were divided into two groups where one underwent

medical massage (medical back massage) and the other group Bowen therapy. The therapy lasted for 15 days where therapies were done every 5 days and a total of 3 therapies on the first, eighth and fifteenth day. The duration of therapy in both groups was 30 minutes. The results are processed by methods of descriptive and inferential statistics. The category data are presented in absolute and relative frequencies, and the difference is tested by the Chi-square test. Prior to the presentation and analysis of quantitative data, the normality of the distribution is analyzed by the Shapiro-Wilk test. Data in which deviations from the normal distribution were found are presented with a median and interquartile range (25-75 percentile), and the significance level testing between them is performed by the Mann-Whitney U test. Quantitative data with normal distribution are presented by arithmetic mean and 95% confidence interval, and the significance of the difference between them is tested by t-test for independent samples. A comparison of the significance of the established pain reduction and disability within the groups is tested by the Wilcoxon test. All applied tests were two-sided. The significance level in all tests is  $p < 0.05$ . IBM SPSS Statistics 23 statistical software (Ar-monk, NY: IBM Corp.) was used in the data processing.

#### 4 RESULTS

In the intervention group in which the examined Bowen therapy (BT) was performed, there were 20 subjects (10 male and 10 female), and in the control group in which the classical medical massage (KMM) was performed, there were 21 subjects (10 male and 11 female). At the beginning of the study, the values of the variables age, pain, and functional disability were more optimal in the control group (KMM) compared to

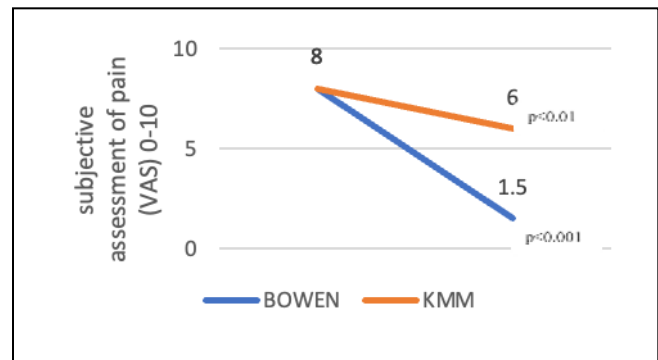


Fig. 1. Distribution of average values of self-assessment of pain intensity

A significant reduction in functional disability was also found in both groups (Fig. 2).

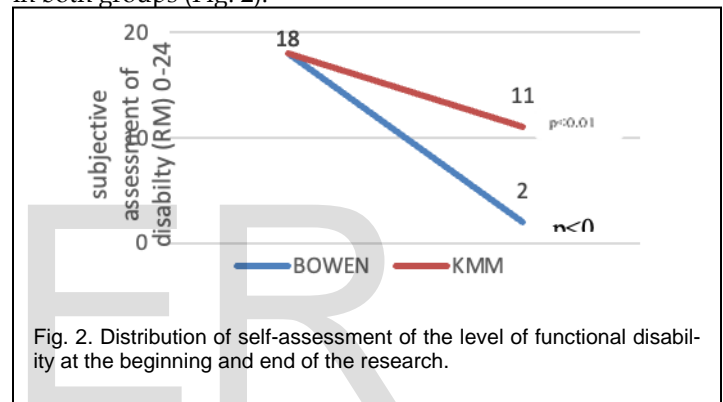


Fig. 2. Distribution of self-assessment of the level of functional disability at the beginning and end of the research.

Comparing the significance of the difference achieved in pain reduction and disability, the results of the analysis determined a more significant effect of Bowen therapy compared to classical medical massage (Table 2).

TABLE 1  
CHARACTERISTICS OF SURVEY RESPONDENTS BY GROUPS AT THE BEGINNING OF THE SURVEY

	Bowen (n=20)	KMM (n=21)	p
Male	10 (50)	10 (47.6)	0.879*
Female	10 (50)	11 (52.4)	
Age	53.8±11.1	50.5±10.2	0.267†
VAS 1	8 (7 – 9)	8 (7 – 9)	0.648†
RM 1	18 (17 – 19)	18 (15 – 18.5)	0.245†

\*KMM - Classic medical massage; VAS 1 – Visual analog scale of pain assessment; RM - Roland-Morris Disability Questionnaire; † Chi-square test † Mann – Whitney U test.

the intervention group (BT), but without significant differences (Table 1).

At the end of the study, after the end of the intervention, a significant reduction in pain intensity was found in the group that received Bowen therapy and the group that received classical medical massage as a treatment intervention (Fig. 1).

TABLE 2  
COMPARISON OF THE EFFECTIVENESS OF INTERVENTIONS

	M (95% CI)	KMM (n=21)	Mean difference (95% CI)	p*
<b>Pain</b>				
VAS 1-VAS 0	Bowen -5.9 (-7.1 to -4.7)	KMM -2.5 (-3.7 to -1.4)	-3.4 (-5 to -1.8)	<0.001
<b>Functional disability</b>				
RM 1-RM 0	Bowen -3.2 (-15.7 to -10.7)	KMM -5 (-7.3 to -2.7)	-8.2 (-11.5 to -4.9)	<0.001

\*M (Mean); CI (confidence interval); KMM - Classic medical massage; VAS Visual analog scale of pain assessment; RM Roland-Morris Disability Questionnaire; 0 - initial measurement; 1- measurement after therapy.

\*Independent t-test.

cal medical massage (Table 2).

## 5 DISCUSSION

The results of the study showed that Bowen therapy has a positive effect on reducing pain and improving functionality in everyday life activities in patients who have different types of pain problems and functional disabilities. Given the statistically significant differences in the average values of the measured variables in favor of the experimental group, the results obtained can be attributed to the effect of Bowen therapy. Multiple studies have resulted in evidence that massage therapies help manage anxiety, stress, and promote relaxation [9], [13], [14], [15]. Massage was effective in modulating the physiological response to stress and was maintained in reducing heart rate and blood pressure. Massage therapy has also provided moderate clinical benefit for managing symptoms, improving quality of life, and promoting positive well-being in patients with chronic diseases and terminal illnesses such as cancer, multiple sclerosis, and HIV / AIDS [16], [17],[18]. In addition to anxiety and stress, other positive outcomes of massage therapy include reduced pain, improved sleep, function, reduced symptoms of depression, and improved quality of life in general.

## 4 CONCLUSION

Pain in the lumbar spine is affecting more and more people in modern society. It is estimated that almost 80% of the population had at least one episode of pain and about 30-40% of the population had chronic pain and was one of the main reasons for patients visiting the doctor [1], [2]. Analyzing the current lifestyle of society, with a significant decrease in physical activity, it is obvious that the problem will increase. Bowen therapy is a specific form of therapy. The notion of treating a patient according to Bowen therapy differs significantly from commonly known methods. The biggest difficulty in designing significant research on the effectiveness of Bowen therapy is the fact that each patient needs to be approached individually. A Bowen therapy plan for one patient may be the ideal solution for an individual, and a completely different approach should be proposed for another. Many explanations for the effectiveness of Bowen therapy procedures are known, especially in back pain. They are associated with the treatment of fascia. The result of the procedure is to achieve alignment of the body in the pelvis, balance the forces of gravity, restore tissue integrity and reduce nerve sensitivity. The development of proprioception plays a major role here. In this study, there were noticeable results in the subjective assessment of the respondents. It can be concluded that subsequent treatments would still eliminate pain and improve the health of patients whose symptoms have not yet been fully resolved. Comparing the subjective opinion of patients, it can be concluded that, although most respondents see a significant improvement in health after the first treatment, their subjective assessment is

only the highest after the third treatment.

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