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RESEARCH ARTICLE

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Effectiveness of the Feldenkrais Method on Self-Perception of Anxiety, Fatigue and Depression in Fibromyalgic Patients

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ABSTRACT

The diagnosis and clinical characteristics of fibromyalgia are controversial and the therapeutic possibilities are increasingly of growing interest. Little is known about the effects of Feldenkrais method on symptomsof these patients. Therefore, we conducted a randomized pilot study on a small group of fibromyalgia patients, using the Feldenkrais method as a specific physical exercise, to evaluate the changes in fatigue, anxiety and depression self-perceived. Self-completion questionnaires were administered at the beginning and at the end of a 24-week trial period. The results are favorable for a reduction in fatigue and depression in patients with fibromyalgia.

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Introduction

Fibromyalgia syndrome is a common form of widespread musculoskeletal pain and fatigue (asthenia) that affects approximately 1.5 – 2 million Italians aged from 25 to 55 years. Women are more likely to develop fibromyalgia than men, with an incidence ratio of approximately 9:1 (F:M).

The term fibromyalgia means pain in the muscles and fibrous connective structures (ligaments and tendons). This condition is defined as a "syndrome" because there are clinical signs and symptoms that are present at the same time (a sign is what the doctor finds during the examination; a symptom is what the patient reports to the doctor).

The term "fibromyalgia" means pain (algos) coming from muscles (myo) and fibrous tissues (fibro), such as tendons and ligaments. Fibromyalgia is, therefore, a rheumatic disease that affects the musculoskeletal system, characterized by the presence of signs and symptoms such as chronic and widespread pain, increased muscle tension and stiffness in numerous locations of the musculoskeletal system [1].

In addition to the state of hyperalgesia, many patients present a number of other symptoms, including asthenia and chronic fatigue (chronic fatigue and debilitating tiredness), mood disorders such as anxiety and depression, and sleep disorders such as insomnia or non-restorative sleep, irritable bowel syndrome.

The coexistence of this set of disorders helps determine the most likely diagnosis, even if not all patients experience the entire panel of symptoms associated with fibromyalgia [2,3].

Furthermore, fibromyalgia is often associated with other disorders, such as psychiatric disorders and stress-related disorders (i.e., post-traumatic stress disorder) [4,5].

The exact cause of fibromyalgia is not known, but it is believed that various factors may be involved (biochemical, genetic, neurochemical, environmental, hormonal, psychological, involvement of small non-myelinated nerve fibers, etc.). Therefore, the pathogenesis of the disease is a much-discussed topic: definitive data do not yet exist, but many studies attempt to delve deeper into the multifactorial interaction underlying the disease [6].

In particular, researchers believe that fibromyalgia amplifies painful sensations (or reduces their inhibition), affecting how the brain processes pain signals. Symptoms sometimes begin after physical trauma, surgery, infections, or significant psychological stress. In other cases, signs of fibromyalgia accumulate gradually over time, without any single obvious triggering event.

The diagnosis and clinical characteristics are controversial and the therapeutic possibilities are of interest to continuous studies. At the moment, there is no cure for fibromyalgia, but various

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therapeutic options are available that allow you to control and alleviate the symptoms: medications (example: antidepressants and painkillers), physical exercise, general and specific motor activity and relaxation techniques (cognitive therapy -behavioral). Fatigue anxiety and depression are among of the frequent complaints of fibromyalgia adults and are strongly associated with loss of independence, decreased physical activity and functional decay [7].

The Feldenkrais Method®(FM) is based on the deep integration of movement, sensation, feeling and thought, and thus makes a concrete and effective contribution to man's quest for wellbeing, balance, flexibility and mobility [8,9].

The Feldenkrais Method® takes its name from its creator, Dr. Moshe Feldenkrais, who identified movement as a tool for developing self-awareness. Every change on the physical level is immediately reflected in our way of thinking, feeling and therefore living. Consequently, by improving movement, the person can improve all spheres of his existence, regardless of age.

The Feldenkrais Method® has solid scientific foundations and is based on: functional movements, ability to learn through movement at any age, listening carefully to the sensations that accompany the movement, curiosity as a fundamental driver for learning, maximum efficiency with minimum effort, development of self-awareness in relation to the surrounding environment [10].

Functional movements are all those movements guided by everyday actions, such as reaching out to pick up an object, turning to reverse or bending down to tie your shoes, etc. For instance, starting from the child's neuromotor development, all human movements are linked to specific actions and objectives. A newborn baby learns to roll over because he is attracted by a toy, just as an adult individual walk or runs to reach a place or out of the need to keep fit. In this regard, the first thing we learn while practicing a Feldenkrais® lesson is to pay attention to how we move. This quality of listening allows us to recognize what is really happening in us at that moment and to experiment with alternative ways to carry out the movement itself, thus acquiring the ability to choose the most effective option to achieve our goal.

Curiosity stimulates learning, guides children in discovering the world: attracted by sounds, colors and shapes they relate to the environment and objects through the senses and movement.

According to Moshe Feldenkrais, curiosity is a sign of health throughout life and he therefore considers it a fundamental element in all of his lessons. By awakening curiosity even in the simplest and most habitual movement, for which it is easy to lose interest, the student explores ways of perceiving and moving never experienced before, or forgotten, and therefore opens up to new possibilities. The principle of seeking maximum efficiency with minimum effort is fundamental in the Feldenkrais Method® and reveals its roots in martial arts. In practicing the lesson, the teacher invites the students not to force, as muscular effort hinders a clear perception of the changes that occur.

Thanks also to the Weber-Fechner law, which Dr. Feldenkrais often talks about, we know that moving without massively using muscle activation helps us develop greater sensitivity and perceptive ability. Thus, becoming more aware of superfluous or counterproductive movements, we save energy and more easily discover new ways of action, in line with our intentions.

Achieving more by doing less is a counter-current concept in the sporting, artistic and study environments in general, but by clearing the action of what is useless you gain in well-being and vitality and go straight to the goal.

Aim of the method is the development of self-awareness in relation to the surrounding environment, exploring functional movements with attention and listening develops full self-awareness in a process of continuous improvement that occurs both in Feldenkrais practice and in all aspects of our life: in everyday life, at work, in relationships with others, in dance, in sports, martial arts or the practice of other disciplines (for example: Yoga, Tai Chi, Pilates), other holistic medicine techniques can be used.

Aim

The aim of the present study is to examine whether FM could alleviate the self-perception of fatigue, anxiety and depression in individuals with fibromyalgia. The research design is a randomized pre\post study with experimental group who performs a specific Feldenkrais Method® training protocol.

Methods

Participants

Twelve patients affected by fibromyalgia since 13.25 ?11.64 years participated in this study (age 56.00? 8.00 years old; weight 75.58?15.7 kg; height 157.5? 5.85 cm; BMI 31.6? 5.46 Kg/m2).

Inclusion and Exclusion Criteria

Patients who presented psychiatric diagnoses or numerous serious comorbidities that could affect the perception of anxiety, fatigue and depression as independent variables were excluded from the study. Forty-three patients participated in the specific training protocol with the Feldenkrais Method®, but only 12 met the inclusion criteria.

All the 12 patients carried out a screening to collect information about previous and current diseases, a visit to test general health conditions and specific conditions of the musculoskeletal system.

Feldenkrais Method® Training Protocol

The length of FM intervention was of 24 weeks, with 2 ATM® (Awareness Through Movement®) group lessons of 1 hour per week, conducted by certified Feldenkrais teacher. The lessons were aimed at developing self-awareness and perception to make everyday gestures with less effort and fatigue releasing muscle tension andintegrating breathing into movements.

The lessons were mostly held on the floor on mats with the aid of small head cushions. Before having the participants lie down on the floor on the mats, each lesson began with the exploration of self-perception in the upright position in order to evaluate the weight/load distribution (feet and legs) and with walking in the room in order to evaluate the involvement of the pelvis, arms and head in relation to the use of the legs. At the end of each lesson, the same initial evaluation was proposed in order to give each participant the opportunity to make a comparison in terms of improvement (reduction of fatigue, lightening of the legs, increased flexibility and greater perception of self and breath).

Self-Perception of Fatigue, Anxiety and Depression

Participants were get started to begin the study protocol using self-assessment scales. The self-reported fatigue, anxiety and depression were assessed at baseline and at the end of 24 weeks training period.The tools used were the functional assessment of chronic illness therapy fatigue subscale (FACIT-F); Zung Self-Rating Anxiety Scale (SAS) and Zung Self-Rating Depression Scale (SDS).

The FACIT questionnaires are some of the more commonly used questionnaires in national and international research settings. Fatigue is one of the most frequent complaints of the elderly and is strongly associated with loss of independence and decreased physical activity and functional decline. Mild depression, anemia, insomnia, and poor nutrition have been associated with fatigue. However, many older persons report complaints of “fatigue” and “exhaustion” even when no underlying medical or psychiatric illness is present thus, the lack of an “underlying illness” makes the impact of unexplained fatigue even more crucial. The FACIT Fatigue Scale is a short, 13-item, easy to administer tool that measures an individual's level of fatigue during their usual daily activities over the past week. The level of fatigue is measured on a four-point Likert scale (4 = not at all fatigued to 0 = very much fatigued) [11].

In a 2007 study, the FACIT Fatigue Scale was found to have high internal validity and high test-retest reliability. The correlation between the FACIT and Fatigue Severity Scale (FSS) was -0.79 tool comparison. Thus, the FACIT has demonstrated reliability and sensitivity to change in clients with a variety of chronic health conditions and in the general population and in special populations such as the elderly and those living in rural areas [12].

The Zung Self-Rating Anxiety Scale (SAS) was designed by William W. K. Zung M.D. A professor of psychiatry from Duke University, to quantify a patient's level of anxiety [13].

The SAS is a 20-item self-report assessment device built to measure anxiety levels, based on scoring in 4 groups of manifestations: cognitive, autonomic, motor and central nervous system symptoms. Answering the statements, a person should indicate how much each statement applies to him or her within a period of one or two weeks prior to taking the test. Each question is scored on a Likert-type scale of 1–4 (based on these replies: "a little of the time", "some of the time", "good part of the time", "most of the time"). Some questions are negatively worded to avoid the problem of set response. Overall assessment is done by total score [14].

The total raw scores range from 20 to 80. The raw score then needs to be converted to an "Anxiety Index" score using the chart on the paper version of the test that can be found on the link below. The "Anxiety Index" score can then be to determine the clinical interpretation of one's level of anxiety:20–44 Normal Range, 45–59 Mild to Moderate Anxiety Levels, 60–74 Marked to Severe Anxiety Levels and 75 and above Extreme Anxiety Levels.

The Zung Self-Rating Depression Scale was designed by W.W.K. Zung MD to assess the level of depression for patients diagnosed with depressive disorder [15,16]. The score of this questionnaire ranges from 20–44 for a normal level, 45–59 Mildly Depressed level, 60–69 Moderately Depressed level and 70 and above Severely Depressed level.

Statistical Analysis

Data are shown as means and standard deviations. Normal distribution of the datawas verified with Shapiro–Wilk test. The difference between pre and postintervention was analyzed with paired T-test and the level of significance was set at $p < 0.05$.

Results

At the end of the study period, we evaluated the forms self-compiled by the patients, in order to evaluate the changes in the perception of anxiety, fatigue and depression.

We found a significant increase (p=0,0083) in FACIT-F score compared with baseline condition after 24 weeks training period (20.83±8.69 vs. 28.58 ± 8.81), while a decrease (p=0,33) in SDS score (47.33 ± 8.64 vs. 44.17 ± 7.93). Moreover, SAS score enhanced (p=0,45) in response to 24 weeks period compared with baseline (46.33 ± 10.29 vs. 48.33 ±11.71).

Discussion

The study was conducted on a numerically small sample, but also the population excluded from the research because it did not meet the inclusion and exclusion criteria, formally filled in the forms for the evaluation of fatigue, anxiety and depression with results comparable to those of the study population. Our preliminary results, confirm the results of recent previous studies that show how the Feldenkrais Method seems to be effective in decreasing fatigue and depression in patients with fibromyalgia and could contribute to improve their quality of life reducing anxiety [17].

We therefore believe that, as already empirically known, the use of holistic techniques and in particular of the Feldenkrais Method® can be a valid low-cost support to improve the quality of life of people suffering from fibromyalgia syndrome.

Conclusion

In conclusion, the results of our trial can be considered a pilot study in consideration of the small sample size due to strict inclusion and exclusion criteria, but despite the small statistical

significance, they offer interesting ideas for further investigations.

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