

IMPORTANCE OF KINETIC TREATMENT IN FIBROMYALGIA

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Summary: Fibromyalgia is a syndrome due to the way of disorganized, stressful and overloaded life determining tensions and extensive musculoskeletal pain, accompanied by fatigue, stiffness and sensitive areas of soft tissues.

This paper attempts to analyze treatment opportunities to improve the evolution and prognosis of the disease on a study group of 5 patients. The recovery methods included in treatment had as main goals: pain relief, local and general relaxation, preserving function, increasing mobility, increasing overall functionality. The main methods of applied treatment in which we achieved beneficial outcomes are sedative massage to decrease muscle tension, electrotherapy and thermotherapy, muscle stretching and active movement.

Final indicators VAS pain scale obtained were reduced leading to the end of treatment to minimum 2. Number of painful points from each patient decreased from baseline average of 9.8 to 4.4 final. Using the recovery methods it was obtained an improvement in symptoms and quality of life.

Fibromyalgia is a condition that causes widespread morbidity and treatment is complex and multidisciplinary.

Due to the way of disorganized, stressful and overloaded life appear tensions and extensive musculoskeletal pain, accompanied by fatigue, stiffness, hypersensitive soft tissue (tendons, muscles, ligaments and fascia).

Fibromyalgia was recognized in 1992 by the World Health Organization as a chronic syndrome characterized on palpation by the presence of painful points, known as "tender points", sleep disorders, fatigue, headache, morning stiffness, difficulty concentrating, muscle

imbalance, numbness, mood disorders, feeling of swollen hands and feet (1, 2, 3).

Most commonly fibromyalgia affects women W: M - 7: 1 and can occur at any age, predominantly 30-50 years.

Fibromyalgia can be regarded and as a disease of the nervous system and is caused by neurobiological abnormality that causes changes in the neurotransmitters which are responsible for pain and cognitive impairment. Patients with fibromyalgia have lower secretion of serotonin, which has a role in modulating information distressing anti-nociceptive action (4, 5, 6).

For the purpose of diagnosis were examined 18 muscles points observing on palpation a sensitive area like a knot or a taut rope, on the muscle fibers.

The pain of fibromyalgia is felt more than three months, affecting and decreasing functional status and the ADL - physically and mentally [7]. It also assesses the overall posture of the patient at rest, the spine alignment and structure and the mass and muscle tone [8].

Analysis of PET scan of the skeletal muscles in the lumbar spine area indicates a significantly reduced metabolic use of glucose, and an increased return flow of glucose from the tissue of the vascular space and a small amount of phosphates in patients with fibromyalgia [9, 10, 11].

Material and method

Because fibromyalgia is a condition rarely diagnosed in Romania, appropriate treatment is not instituted or is applied only after a long period of suffering of the patient.

Therefore, during 2015 we selected 5 patients with fibromyalgia who had symptoms of the disease to apply some specific methods of physical therapy to improve symptoms and increase quality of life.

Work we have undertaken in the area of Kinetotherapy treatments in the Complex K –Physical Therapy and Swimming, Stefan cel Mare University of Suceava "assessing the pain on VAS – pain scale, painful points or „, tender points", stress and quality of life.

The recovery included in treatment had as main goals: pain relief, local and general relaxation, preservation of function, rehabilitation mobility, increasing overall functionality.

Kinetic treatment has been divided into 3 stages:

- Stage I- 1-5 weeks – 3 sessions per week;
- Stage-II - 6-16 weeks – 2 sessions per week;

- Stage-III - 17-24 weeks – 1 session per week.

The recovery methods included in treatment had as main goals: pain relief, relaxation, preservation of function, rehabilitation mobility, increasing overall functionality.

Stage I (1-5 weeks, 3 sessions applied per week)

Objectives:

- Pain relief
- Preservation of function
- General relaxation

Methods and treatment procedures

- Thermotherapy applications on the cervical spine and scapular-humeral joint;
- Electrotherapy – Interferential Currents (IF), Ultrasound (US), Transcutaneous Electrical Nerve-Stimulation (TENS);[11]
- Massage to relieve pain and to release muscle tension on the superficial layer of cervical muscles, trapezium and paraspinals [12];
- Breathing exercises - to release tension;
- Relaxation exercises: Schultz Method [13];
- Stretching for painful muscles: rectus posterior, rectus lateralis, trapezium, rhomboids and gluteus maximum.
- Applications of Kinesio Tape



Figure 1. Applications clay packets



Figure 2. Application electrotherapy

Stage II (6- 16 weeks, two sessions per week)

Objectives

- Local and general relaxation
- Increase of mobility
- Restoring the Range of Motion (ROM)
- Increase in muscles strength

Methods and treatments

- Massage to release muscle tension.
- Passive mobilizations of the cervical spine, the scapular-humeral joint, respectively – the upper limb, while pressures are applied on the superficial and deep muscles layers,
- Relaxation exercises: Schultz Method
- Stretching exercises for painful muscles: pectorals, rectus posterior, trapezium, para-spinals, rhomboids, gluteus maximum[14]



Figure 3. Mobilization of the upper limb Figure 4. Stretching for rectus posterior muscle



Figure 5. Stretching for trapezium muscle.

Stage III (17 to 24 weeks - 1 session / week)

Objectives

- Fully restoring joint mobility
- Increase of muscle strength
- Restoring muscle tone
- Body re-adaptation to exercise

Methods and treatment

- Methods resembling the previous stage

- Active mobilizations of the upper body: mobilizations of the head and neck, of the upper body and upper limbs;
- Active stretching at the cervical, thoracic and para-vertebral levels.



Figure 6. Mobilization of the head with stretching



Figure 7. KinesioTape applications

Results and discussions

The results obtained from research were classified according to the assessment made for each patient, making the arithmetic mean of the results and calculating the standard deviation.

We used different rating scales: VAS, the presence of specific pain points of fibromyalgia, perceived stress scale, the scale of assessment of quality of life [15, 16]

Table 1 VAS scale

Name surname	VAS - scale		
	Initial	Inter mediate	Final
A. L	8	6	3
C. S	9	5	2
B.M	8	5	3
T. U	10	8	4
M.S	9	6	4
Average	8.8	6	3.2
Min	8	5	2
Max	10	8	4
S	0.83	1.22	0.83

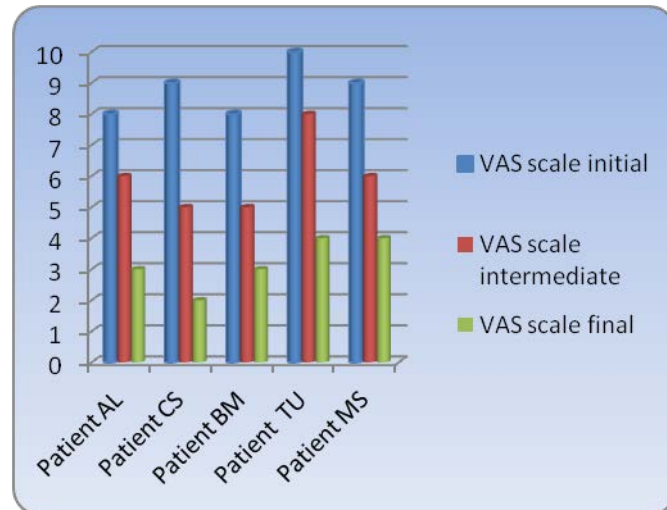


Figure 8 VAS scale

Following treatment there is a decrease in the average regarding initial evaluation $8.8 (\pm 0.83)$ compared with the final $3.2 (\pm 0.83)$. From the graph show that the patient C. S with initial value 9, and the final value 2, had the best response in pain relief, reaching almost to the bottom of the scale.

Table 2 Painful points

Name Surname	Painful points		
	Initial	Inter-mediate	Final
A. L	12	10	6
C. S	8	6	3
B.M.	7	5	2
T U	8	5	3
M.S	14	12	8
Average	9.8	7.6	4.4
Min	7	5	2
Max	14	12	8
S	3.03	3.20	2.50

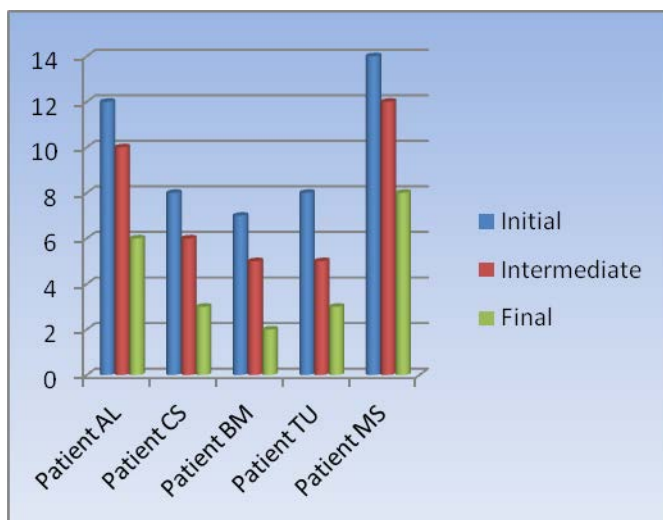


Figure 9 Painful points

It is noted that after treatment all patients had a good evolution. The more is observed for the patient named M. S the decrease of the maximum value from 14 to 8 at the final, which shows the effectiveness of the treatment methods and techniques included.

Table 3 Perceived stress scale.

Name Surname	Perceived stress scale		
	Initial	Inter mediate	Final
AL	26	20	16
C. S	27	21	18
B.M.	27	23	21
T U	26	22	19
M.S	26	23	20
Average	26.4	21.8	18.8
Min	26	20	16
Max	27	23	21
S	0.54	1.30	1.92

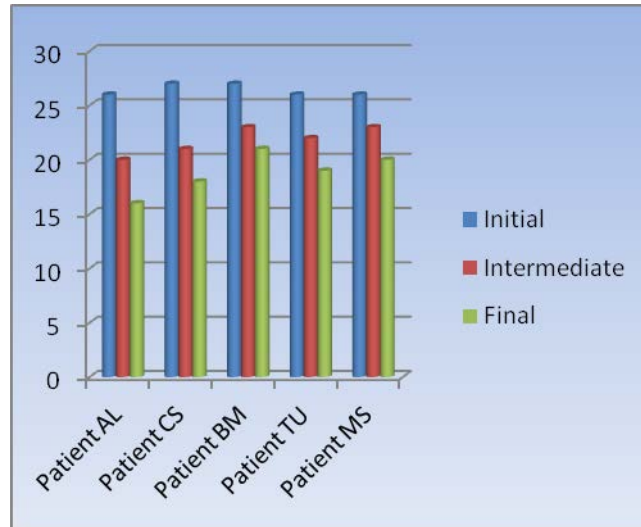


Figure 10 Perceived stress scale

Although at first the initial assessment values are close to the end of treatment there is a greater difference between patients, namely: the initial value is between 26 and 27, and the final range from 21 to 16. This explains how the individual patient response their treatment. Demanding certain activities in daily life can affect their score.

Table 4 Assessment Scale - Quality of life

Name Surname	Quality of life Assessment		
	Initial	Inter mediate	Final
A. L	6	16	17
C. S	4	16	22
B.M.	4	15	24
T U	5	15	25
M.S	7	15	26
Average	5.2	15.4	22.8
Min	4	15	17
Max	7	16	26
S	1.30	0.54	3.56

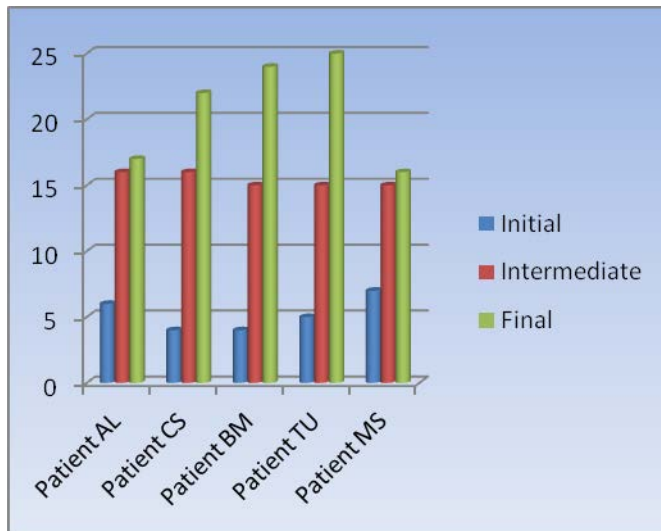


Figure 11 Quality of life

After evaluating the data it is observed that MS patients had the best evolution in terms of socio-professional reintegration into community life, reaching the value of 26, which showed an increased quality of life index. Also the minimum, maximum, average values respectively grasped after treatments which means that although the intermediate value coincides 3 of 5 patients, treatment methods used have increased the quality of life.

Conclusions

Finalizing this research conducted on the 5 cases we found the following:

- Fibromyalgia is a condition that causes widespread morbidity and the treatment is complex and multidisciplinary [15];
- The treatment program had the first goal in combating pain, which prompted combination of several techniques to achieve the desired effect.
- Movement therapy, massage therapy and stretching exercises improved the overall condition of the patient, physically and emotionally; thus diminishing more symptoms.
- The recovery methods included in treatment decreased the number of painful points from mean baseline 9.8 to 4.4 final, which proves the effectiveness of treatment;

- Each patient was recommended continuation of some specific relaxation exercises, muscle stretching exercises programs as home care program, in order to maintain results.
- Physical therapy in this study was one of the main methods for controlling the painful symptoms and a preparation method for other techniques;
- It is observed in patients with high pain perception on pain scale, with symptoms more pronounced, with a severe degree of impaired quality of life, a better outcome than those less affected, and the results are more visible;
- Although a large percentage of the population show symptoms of fibromyalgia, the condition is rarely diagnosed and treated in Romania compared to other countries; this explains that there are age II and-III of many people which present different co-morbidities [16].

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