

# Fibromyalgia syndrome treated with the structural integration Rolfing® method\*

*Síndrome fibromiálgica tratada com o método Rolfing® de integração estrutural*

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## ABSTRACT

**BACKGROUND AND OBJECTIVES:** Rolfing method is a procedure to integrate human body structure, which considers people's physical and emotional aspects. It consists in 10 deep manual interventions (myofascial release) applied to the elastic structure of the loose connective tissue (myofascial) and in re-education of movements. This study aimed at checking the effectiveness of the method to treat fibromyalgia patients in relieving pain and states of anxiety and depression.

**METHODS:** Participated in the study thirty patients of the Pain Center, Neurological Clinic, Clinicas Hospital, School of Medicine, University of São Paulo, who were submitted to 10 Rolfing sessions and have maintained their routine outpatient treatment. All patients were evaluated by the pain verbal numeric analog scale and by Beck's Depression and Anxiety Inventory, applied during initial interview, in the last session and three months after treatment completion.

**RESULTS:** Treatment was effective and has shown statistically significant difference in evaluated items.

**CONCLUSION:** Patients' improvement was correlated to Rolfing method intervention.

**Keywords:** Chronic pain, Complementary therapies, Fibromyalgia, Quality of life.

## RESUMO

**JUSTIFICATIVA E OBJETIVOS:** O método Rolfing é procedimento de integração da estrutura corporal humana, que considera os aspectos físicos e emocionais do indivíduo. Consiste em 10 intervenções manuais profundas (liberação miofascial) aplicadas na estrutura elástica do tecido conjuntivo frouxo (miofásia) e em reeducação dos movimentos. O objetivo deste estudo foi verificar a eficácia do método no tratamento de pacientes fibromiálgicos no alívio da dor e nos estados de ansiedade e de depressão.

**MÉTODOS:** Trinta pacientes do Centro de Dor da Clínica Neurológica do Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo foram submetidos a 10 sessões de Rolfing e mantiveram o tratamento ambulatorial de rotina. Todos foram avaliados de acordo com a escala analógica numérica verbal de dor e com o Inventário de Depressão e de Ansiedade Beck, aplicados durante a entrevista inicial, na última sessão e três meses após o término da aplicação do tratamento.

**RESULTADOS:** O tratamento foi eficaz e apresentou diferença estatisticamente significativa nos quesitos avaliados.

**CONCLUSÃO:** Os pacientes tratados apresentaram melhora que se correlacionou com a intervenção do método Rolfing.

**Descritores:** Dor Crônica, Fibromialgia, Qualidade de vida, Terapias complementares.

## INTRODUCTION

Fibromyalgia syndrome (FMS) is currently considered syndrome with generalized decrease in pain tolerance. Therapeutic interventions recognized as most effective are antidepressants and analgesics, rest, relaxation, heat and massage<sup>1</sup>. Massage is useful to treat fibromyalgia patients because it improves sleep disorders, psychic symptoms such as anxiety and depression, and pain intensity<sup>2</sup>. FMS pain may trigger reflex protective muscle spasm, which causes further pain and results in progressive movement limitation, stiffness and adoption of inadequate posture<sup>3</sup>.

In general, fibromyalgia patients have amplified body sensations and relationship of dependence on relatives and professionals. They report mood changes, non-restorative sleep and disproportional fatigue to the developed effort<sup>4</sup>. Conflicts trigger and worsen FMS<sup>1</sup>. As consequence, there is further

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distress and decreased quality of life<sup>5</sup>. Symptoms may be caused, worsened or maintained by emotional influence.

Rolifing is the method developed by North-American biochemist Ida Pauline Rolf during the 1960s in California (USA). It aims at balance and human postural alignment quality by means of manipulation and movements' orientation and enhancing. The method aims at improving body functions, organizing its structure and showing that it is possible to overcome pain.

Ida Rolf has considered that fascial adaptation mechanism acts by contraction: muscle tissue under tension shortens, thickens, stiffens and links to neighbor structures; bone connected to it is pulled and its natural balance point is changed. Since we move as a whole, each restriction affects the totality. So, movements become ineffective, there is excessive energy consumption and adjacent muscle groups are activated instead of remaining at rest<sup>6</sup>.

She noticed that when muscle tissue tone is balanced, the set presents less resistance as a consequence of connective tissue elasticity and plasticity. However, it is necessary to understand how each person moves and misaligns his/her own body from verticality to improve joint bones relations and musculoskeletal disorders.

According to Rolf's expectations<sup>6</sup>, when changing gestures, thoughts and ways to deal with daily life, fibromyalgia patients, subjects of this study, may develop mechanisms to control their symptoms, to adopt more positive posture with regard to the disease, thus not allowing pain to master their lives, this way recovering quality of life and conquering better social adjustment.

Ida Rolf believed that a balanced body makes human beings better. The belief that it is possible to overcome pain by adopting a new posture with regard to the disease has justified this study which aimed at evaluating the effect of Rolifing method on pain intensity and anxiety and depression status presented by fibromyalgia patients.

The Rolifing method, internationally recognized as complementary therapy, does not replace conventional therapies, but may be part of the multidisciplinary approach often indicated for chronic pain patients. It is worth highlighting that this method may be useful to treat other diagnoses and symptoms; however evaluation and approach should be carried out by specialists.

## METHODS

Participated in the study 30 female of age patients, diagnosed by neurologist according to medical criteria proposed by the American College of Rheumatology as having FMS, who were individually submitted to 10 Rolifing sessions at CDCN-HCFMUSP. All patients were randomly selected and evaluated in the beginning, at the end and three months after proposed treatment, and have maintained routine treatment previously prescribed by this outpatient setting.

Inclusion criteria were fibromyalgia patients able to understand and answer with autonomy to proposed tests and who had never received Rolifing treatment. Exclusion criteria were

severe psychic changes or illiteracy. All patients were under conventional outpatient treatment for at least one year and had not shown expected improvement. Because pain is a subjective symptom and patients were already been treated, the group itself was considered control. We decided to compare the group to it, where patients were the evaluators of their pain before and after application.

All patients were assisted by a psychologist, specialist in this method, were volunteers for the study, have signed the Free and Informed Consent Term (FICT) and have met research protocol.

## Evaluation tools

- Pain Verbal Numeric Analog Scale (PVNA);
- Beck Depression Inventory (BDI);
- Beck Anxiety Inventory (BAI).

PVNA has measured pain in a scale from zero to 10: patients were oriented to verbalize the point corresponding to the magnitude of their pain between the edges zero, that is, 'no pain' and 10, that is, 'unbearable pain'.

BDI and BAI have measured depression and anxiety intensity by means of self-applied questionnaire. These tests consider the subjective aspect of analyzed items and patients have evaluated their pain as well as emotional symptoms.

The Rolifing method is characterized by working with myofascial release in parts of the body and with movements' re-education, because each session has specific biomechanical goals. The process was completed in stages, during 10 individual sessions, once a week, lasting 30 minutes. In this process, the therapist, by means of tissue manipulation, has stimulated diaphragm respiratory freedom indicating relaxation and tensions relief. The therapist has pointed that the vertical axis had two directions (head rostrally and feet caudally) and that knees flexibility and balance come from the contact of feet with the ground.

Then, contralateral movements were improved to help aligning pelvis to the chest. Myofascial release concentrated on scapular and pelvic girdles, and movement on arms and legs motor coordination.

Then ischiotibial and paravertebral muscles were exercised, where focus was to make patients aware of their spinal flexibility, the stretching of posterior muscle chain and ground contact via legs and feet. Finally, the therapist has encouraged head balance with regard to neck and the axis as a whole. For such, manipulation aimed at differentiating head from neck, improving spatial orientation by means of new movements. Free movement was always reinforced so that patients could find what is most comfortable inside of them. The objective was to create conditions for them to adopt new posture and gestures and to incorporate them to their daily life. There has been no report of adverse effects.

## Statistical analysis

Non parametric Friedman test<sup>7</sup> was used. All variables were descriptively evaluated and quantitative variables related to minimum and maximum value, means and standard deviations were calculated to obtain treatment results.

**Table 1.** Sample characteristics

Variables	n	%
Marital status		
Single	8	26.7
Married	16	53.3
Divorced	3	10.0
Widow	3	10.0
Skin color		
White	23	76.7
Pardo	7	23.3
Education (years)		
Elementary (up to 8)	20	66.7
High school (up to 11)	5	16.7
College (more than 11)	5	16.7

This study was approved by the Ethics Committee for the Analysis of Research Projects, Clinical Board, HCFMUSP, under number 305/2004.

## RESULTS

Sample characteristics are shown in table 1. Symptoms improvement was maintained from treatment completion until at least three months after its suspension. There has been statistically significant difference at the first evaluation moment in all evaluated items; there has been no difference in the second moment, showing that the result was maintained, except for anxiety which continued improving even after treatment suspension (Tables 2 to 6).

**Table 2.** Pain intensity according to verbal numeric analog scale

Pain intensity	Before treatment		At treatment completion		Three months after treatment completion	
	n	%	n	%	n	%
No pain	0	0	5	16.7	4	13.3
Mild	0	0	6	20	8	26.7
Moderate	0	0	13	43.3	13	43.3
Severe	4	13.3	6	20	4	13.3
Unbearable	26	86.7	0	0	1	3.3

**Table 3.** Anxiety level according to Beck Anxiety Inventory

Anxiety level	Before treatment		At treatment completion		Three months after treatment completion	
	n	%	n	%	n	%
Minimum	0	0	12	40	21	70
Mild	2	6.7	12	40	5	16.7
Moderate	8	26.7	5	16.7	3	10
Severe	20	66.7	1	3.3	1	3.3

**Table 4.** Depression level according to Beck Depression Inventory

Depression level	Before treatment		At treatment completion		Three months after treatment completion	
	n	%	n	%	n	%
Minimum	3	10	17	56.7	23	76.7
Mild	4	13.3	6	20	5	16.7
Moderate	14	46.7	7	23.3	2	6.7
Severe	9	30	0	0	0	0

**Table 5.** Changes in pain intensity, depression and anxiety

Variables	Moments	Mean	SD	Median	Minimum	Maximum	n	p
Pain	Beginning	9.07	1.14	10.0	7	10	30	<0.001
	Treatment completion	2.80	1.79	3.0	0	5	30	
	Three months later	3.07	2.02	3.0	0	9	30	
Depression	Beginning	29.80	11.41	30.5	10	53	30	<0.001
	Treatment completion	11.43	9.27	8.5	0	31	30	
	Three months later	8.13	6.43	8.0	0	27	30	
Anxiety	Beginning	37.30	12.75	36.5	13	58	30	<0.001
	Treatment completion	13.87	10.01	11.5	1	53	30	
	Three months later	10.53	9.58	7.0	0	44	30	

**Table 6.** Multiple comparisons to evaluate differences among values observed for pain intensity, depression and anxiety

Variables	Comparison	Z value	p
Pain	Beginning versus treatment completion	8.03	<0.001
	Beginning versus three months later	8.12	<0.001
	Treatment completion versus three months later	0.09	0.927
Depression	Beginning versus treatment completion	7.30	<0.001
	Beginning versus three months later	8.85	<0.001
	Treatment completion versus three months later	1.55	0.121
Anxiety	Beginning versus treatment completion	7.12	<0.001
	Beginning versus three months later	9.31	<0.001
	Treatment completion versus three months later	2.19	0.028

## DISCUSSION

This study has indicated that treatment has contributed to the recovery of fibromyalgia patients. Rolfling method's proposal is to improve communication of musculoskeletal structures with the nervous system<sup>6</sup>. Ida Rolf has concluded that what prevented ideally free and natural movement was related to myofascial tissue, perception, neuromotor coordination and/or emotional meaning.

The Rolfling method is based on general organism response (homeostasis) and contemplates connective tissue continuity, thus treating individuals as a whole rather than treating symptoms alone. Its objective is that, via punctual intervention, tissue manipulation reaches the whole body, so as to recover balance also in regions distant from those manipulated. So, function and biomechanical stability may be enhanced by fascial manipulation and by sensory-motor education by reaching minimum stress and overload and maximum daily movements' effectiveness.

By relieving tensions, stimulating new body perception and the development of functional resources, the therapist teaches patients to cultivate the ability to separate established and already incorporated habits from new movement patterns causing less biomechanical tension<sup>8</sup>. Patients are active participants of the process so that one works with patients and not on patients.

The Rolfling method aims at patients improving their biomechanical action by learning more effective movements as a consequence of postural alignment<sup>8</sup>, thus finding new interests in themselves and the environment where they live, and learning new ways to move and to cope with pain. Body balance is also part of the well-being scenario<sup>6,9</sup>. It offers quality in spatial orientation and helps dealing with movement-induced instability. Even if symptoms were not totally resolved, patients were able to conquer new skills, which is an initial healing possibility. Jacobson<sup>10</sup>, in his review, reports findings of chronic pain improvement in patients treated with Rolfling. Touching may intensify therapeutic skills and patients' recovery. When regaining freedom of movements, they find their way to relax, to move and to cope with their own conflicts. So, this technique may help refining stress coping mechanisms and the resolution of problems generated by the chronic nature of the disease<sup>4</sup>.

Life strength motivating and mobilizing healthy individuals to pleasurable face their lives is in general absent in fibromyalgia patients. FMS is like the end of a process where patients see no chance of recovery. The contact with themselves is made through pain. Without resources to deal with this, they are depressed, imprisoned in their own pain. In this stage, chronic disease does not tend to self-healing, but rather increasingly to worsening.

Depressed patients have fear of changes, with pain, they paralyze inside themselves and loose creativity, that is, the human ability to create something new. Patients treated with the Rolfling method could get something new in the perception of them, as well as in pain perception and have acquired the possibility of daily life transformation and action. Through touching and new movements, they were awakened for a new awareness and reality of themselves. Patients were strengthened and new conquers have influenced also the emotional field.

Ida Rolf shared the ideas of Wilhelm Reich and also believed that chronic tension determining muscle pattern restricts movement and postural alignment, which may contain and be related to emotional and behavioral issues, in addition to stress<sup>10</sup>. Although findings related to psychological benefits have still not been sufficiently investigated, there are reports on decreased levels of anxiety and depression after Rolfling treatment<sup>10</sup>. However, clinical efficacy evidence is still very limited due to the scarcity of studies.

For the study group, treatment has provided improvement of analyzed symptoms and has shown that it is able to mobilize fibromyalgia patients when they understand that pain may mean a concrete reality of their self and body 'obstacles' overcoming. It is certain that antidepressants and analgesics help treating FMS! However, future studies are recommended to evaluate the effectiveness of the association of different drugs to the Rolfling method to see whether there is possibility of decreasing quantity and maintenance duration of such drugs, as well as to validate the hypothesis that this method may improve sensory processing and contribute to individuals' psychological health<sup>10</sup>.

## CONCLUSION

Treatment had positive, statistically significant effect on pain intensity, anxiety and depression. Patients presented changes

in initial condition which were correlated to Rolfing method intervention. However, the relationship between pain decrease and psychological benefits shall be further investigated.

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