

Impact of manual visceral therapy to improve the quality of life of chronic abdominal pain patients*

Impacto da terapia manual visceral na melhora da qualidade de vida de pacientes com dor abdominal crônica

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ABSTRACT

BACKGROUND AND OBJECTIVES: Abdominal pain secondary to functional chronic intestinal constipation (FCIC) affects a substantial number of people, especially females. This study aimed at evaluating the efficacy of manual visceral therapy in patients of a Pain Clinic to confirm this intervention as a tool to improve constipation and increase lumbar mobility and, as a consequence, better quality of life (QL).

METHOD: This is a clinical trial with convenience sample of 20 patients complaining of intestinal function changes and lumbar vertebral mobility restriction. Bio-socio-demographic characteristics were analyzed and the Rome III Criteria questionnaire, Shöeber test, middle finger to floor test and quality of life inventory SF-36 were used to evaluate constipation, lumbar mobility and QL, respectively, before and after receiving manual visceral therapy (MVT).

RESULTS: Patients, especially females, mean age of 38.42 ± 19.23, had significant improvement between evaluation and reevaluation, in four SF-36 domains (functional capacity, pain, general health and vitality – $p < 0.05$) and improvement of intestinal constipation and lumbar mobility.

CONCLUSION: MVT proposed and applied to individuals with chronic abdominal pain secondary to FCIC in this study was able to improve intestinal constipation and lumbar mobility, in addition to QL of participants.

Keywords: Abdominal pain, Musculoskeletal manipulations.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A dor abdominal secundária à constipação intestinal crônica funcional (CICF) afeta uma proporção substancial de pessoas, especialmente mulheres. O objetivo deste estudo foi avaliar a eficácia da terapia manual visceral (TMV) em pacientes que pertencem a uma Clínica de Dor, a fim de comprovar essa intervenção na melhora da constipação e no aumento da mobilidade lombar, e na consequente melhora da qualidade de vida (QV).

MÉTODO: Trata-se de um ensaio clínico, com amostra de conveniência de 20 pacientes com queixa de alteração na função intestinal e restrição da mobilidade vertebral lombar. Foram analisadas as características biossociodemográficas e utilizados o formulário Critério de Roma III, os testes de Schöber e do terceiro dedo ao chão e o questionário genérico de QV SF-36, para avaliação da constipação, da mobilidade lombar e da QV, respectivamente, antes e após receber a terapia manual visceral (TMV).

RESULTADOS: Pacientes, principalmente do sexo feminino, média de idade de 38,42, ± 19,23 apresentaram melhora significativa entre a avaliação e a reavaliação em quatro domínios do SF-36 (capacidade funcional, dor, estado geral de saúde e vitalidade – $p < 0,05$) e melhora da constipação intestinal e da mobilidade lombar.

CONCLUSÃO: A TMV proposta e aplicada nos indivíduos com dor abdominal crônica secundária à CICF deste estudo foi capaz de melhorar a constipação intestinal e a mobilidade lombar, bem como a QV dos participantes.

Descritores: Dor abdominal, Manipulações musculoesqueléticas.

INTRODUCTION

Abdominal pain origin is complex and there is not a single causality model¹. Several organic causes are related to abdominal pain and in many cases the pathophysiology is related to infectious, inflammatory processes or hollow organs distention/obstruction, in addition to parasitic diseases and intestinal constipation^{1,2}.

Functional chronic intestinal constipation (FCIC) is a syndrome caused by enterocolonic motility disorders and is highly prevalent in the world population aged above 40 years, with higher incidence among females³⁻⁵.

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Some studies^{6,7} have shown that cecal or cecum/ascending segment motility may be related to functional colonic diseases, being constipation their primary manifestation. In this context, constipation is a problem often neglected during primary attention and many possible causes and adequate diagnostic tests should be considered⁸.

FCIC are frequent in pain clinics because this is a common disorder in cancer patients under opioids for pain control⁹.

Face to this, the quality of life of this group is impaired due to abdominal distension and its consequences, regionally characterized by abdominal fullness sensation, continuous or stabbing pain, cramps, psychological discomfort, increased rectal compliance and decreased sensation of rectal content and, not uncommonly, with symptoms in other segments of the body, such as chest, where the expression is constrictive-type pain (splenic angle syndrome), and not the fact of feeling that their intestine is just constipated^{9,10}.

Pain clinics have several interventions¹¹, however the effectiveness of most of them has not yet been shown. As a consequence, pain treatment varies a lot. However, it is consensus that each case should be individualized and different resources may allow direct intervention on pain, disability and quality of life (QL). One of them is manual visceral therapy (MVT) which is evolving since antiquity in Greece in 400 b.C. and Rome in 110 a.C., and shows its importance for the treatment of different syndromes¹².

MVT effect is mechanical, helping “moving forward” the whole content and elongating abdominal muscles. A reflex response to superficial tissue manipulation results in involuntary contraction of such muscles. This stimulation increases bowel movements, helps emptying the stomach, helps glandular secretions, decreases colonic traffic time and increases evacuation frequency. It also relieves constipation-induced discomfort and pain^{12,13}.

This study aimed at evaluating the effects of MVT on FCIC patients aiming at decreasing pain, improving involved visceral functions and strengthening pelvic organs supporting muscles. This study is justified by the need to provide pain relief and visceral function normalization aiming at improving QL of such patients.

METHOD

This is a clinical and experimental trial presenting pre and post-evaluation without control group. Data were collected from January to October 2012 and, during this period, 20 patients meeting the criteria of belonging to a pain clinic were included, initially complaining of changes in intestinal function and restriction of lumbar vertebral mobility. Data were identified by the Rome III Criteria form¹⁴, which helps evaluating constipation and quantifying this disorder by means of positive criteria and scores. The evaluation consists of patients presenting two or more of such criteria in the last six months, characterizing the presence of intestinal constipation.

Criteria were considered positive when reaching the following cutoff points: (1) evacuation effort in at least 25% of defeca-

tions – answer equivalent to “frequently” (question A ≥ 2); (2) hardened or fragmented stools in at least 25% of defecations – answer equivalent to “frequently” (question B ≥ 2); (3) sensation of incomplete evacuation in at least 25% of defecations – answer equivalent to “sometimes” (question C ≥ 1); (4) sensation of anorectal obstruction/block in at least 25% of defecations – answer equivalent to “sometimes” (question D ≥ 1); (5) manual maneuvers to help in at least 25% of defecations – answer equivalent to “sometimes” (question E ≥ 1); and (6) less than three evacuations per week.

Exclusion criteria were female patients in their menstrual cycle, with gravid uterus or under treatment of internal organs. No laxatives to help evacuation were used throughout the treatment and opioids or antidepressants were not being used.

Individuals were characterized through the following variables: demographic (gender, age); socioeconomic (education); weight, abdominal circumference, use of laxatives before the treatment and regular physical activities. All participants have signed the Free and Informed Consent Term (FICT).

Before the technique, it was necessary to identify intervenient factors such as iliopsoas muscle spasm; pain at abdominal palpation; shortening and/or abdominal contractions. Palpation of iliopsoas muscle pathway aims at identifying possible tension nodes.

If such nodes are found, the muscle is released before performing the visceral technique since spasm of this muscle may mask the presentation or the decreased amplitude of lumbar movement. The MVT used in this study has followed the criteria below: tangential pushing, with digital pulp, with slow and gradual pressure, with 45° fingers inclination sliding them from the cecal region, going through ascending colon and then right flexure, transverse colon, left flexure, descending colon and sigmoid; this sequence was repeated approximately 15 times (Figure 1).

Individuals were submitted to nine 20-minute sessions, three times a week. Patients were evaluated in the first and last session. Lumbar mobility tests were performed in the beginning and end of each session.

Schöber¹⁵ and middle finger to floor¹⁶ tests were used to evaluate lumbar mobility where patient, in orthostatic position, anteriorly flex the body. The distance between middle finger and the floor is measured. Test is considered normal when the variation between the measurement in the neuter position and the new measurement in anterior body flexion is five or more cm.

Generic QL questionnaire SF-36 (Medical Outcomes Study 36 – Item Short-Form Health Survey)¹⁷ was used to evaluate, which is a multidimensional questionnaire easy to apply and understand. It consists of 36 items divided in eight domains: functional capacity, physical aspects, pain, general health status, vitality, social aspects, emotional aspects and mental health. Final score may vary from zero to 100 being zero the worst and 100 the best health status.

Results were evaluated by comparing initial and final forms answered by individuals. BioEstat 5.0 software was used for descriptive statistical analysis and ANOVA was the Analysis of Variance.

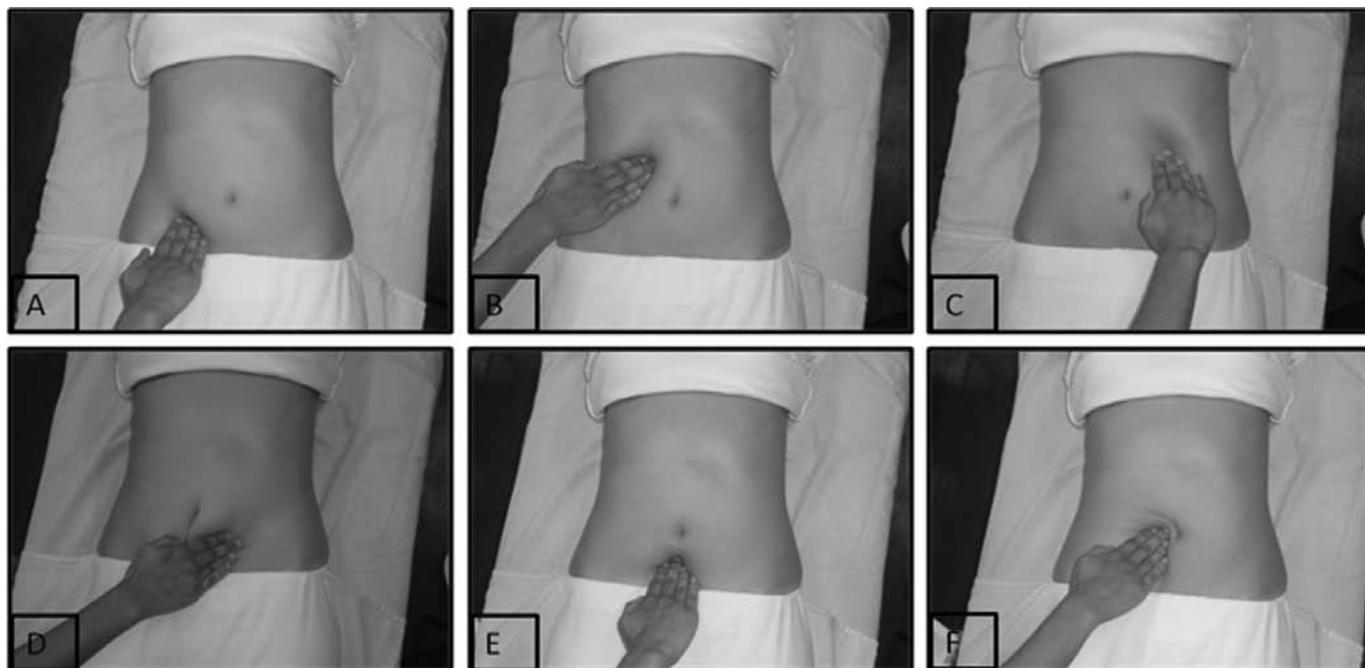


Figure 1 – Sequence of movements of the technique.

A – Cecum toward ascending colon; B – Right flexure toward transverse colon; C – Left flexure toward descending colon; D – Descending colon toward sigmoid; E, F – End of sequence at the sigmoid/rectum.

This study was approved by the Institution’s Medical Ethics Committee (CEP 5719/2011- FAMERP).

RESULTS

Mean age was 38.42 years (minimum of 18 and maximum of 65 years) and 79% (n = 15) were females. There has been no sample loss of the 20 evaluated individuals submitted to MVT sessions (Table 1).

With regard to the influence of MVT on the QL of individuals there has been statistically significant improvement (p <

0.05) in vitality, functional capacity, pain and general health status. Remaining variables had no statistically significant results (Table 2).

Considering the number of positive Rome III criteria, scores and frequency of evacuations (p < 0.0003), all items had statistically significant improvement, showing the efficacy of the therapy (Graph 1).

There has been decreased Rome III criteria prevalence in the reevaluation of individuals, as shown in table 3.

Schöber test has shown a statistically positive effect (p < 0.0001) considering that just one patient had equal results before and after treatment. The middle finger to floor test was also positive (p < 0.0001) in terms of the therapy influencing increased lumbar mobility (Graph 2).

The difference to evacuate (immediate result on the improvement of presented symptoms, helping evacuation) was reported as from the first week of treatment.

During the first sessions, flatulence, nausea, pain and immedi-

Table 1 – Characterization of sample individuals (n = 20)

Variables	Mean and Standard Deviation	%
Age (anos)	38.42 ± 19.23	
Weight (kg)	68.41 ± 15.09	
Abdominal circumference	82.73 ± 14.49	
Practice of physical activity		54.0

Table 2 – Results obtained in the eight domains of the SF-36 questionnaire

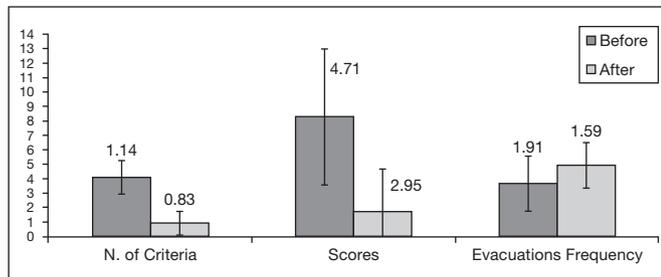
Domains	Initial Evaluation	Reevaluation	p value
Functional capacity	68.18 ± 24.52	86.82 ± 14.37	0.048*
Limitation by physical aspects	79.55 ± 24.54	84.09 ± 23.11	0.058
Pain	52.73 ± 15.21	76 ± 15.34	0.038*
General health status	62 ± 33.14	82.18 ± 21.78	0.048*
Vitality	45.45 ± 25.05	62.27 ± 20.05	0.028*
Social aspects	78.27 ± 21.83	81.73 ± 23.61	0.6737
Emotional aspects	78.73 ± 40.22	72.73 ± 34.32	0.071
Mental health	65.50 ± 22.13	72.80 ± 25.50	0.071

*significance level p < 0.05. † Student test.

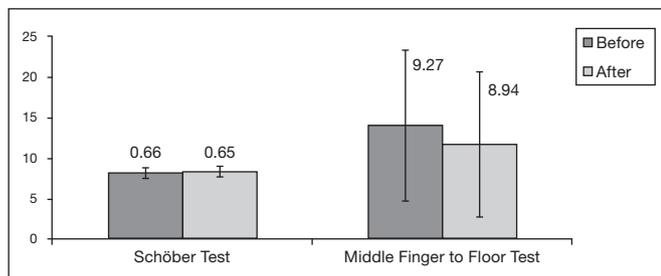
Table 3 – Prevalence of Rome III Criteria in volunteers, before and after treatment.

Criteria	Initial evaluation	Reevaluation	p value
	%	%	
Evacuating effort	45.45	0	0.035*
Hardened stools	81.81	0	0.001*
Sensation of incomplete evacuation	81.81	36.36	0.042*
Sensation of anorectal obstruction or block	81.81	36.36	0.042*
Manual maneuvers to help evacuation	45.45	0	0.035*
Less than 3 evacuations per week	63.63	18.18	0.042*

Student's *t* test. * significance level $p < 0.05$.



Graph 1 – Means and standard deviations (represented by vertical lines in columns) of data according to Rome III Criteria, before and after treatment.



Graph 2 – Comparative means of Schöber test and middle finger to floor test before and after manual visceral therapy.

ate desire to evacuate were reported. All symptoms have also improved until the third session according to the QL SF-36 questionnaire.

The presence or absence of satisfaction as to abdominal fullness sensation and easiness to perform the finger to floor test were also verbally described by patients during sessions.

DISCUSSION

This study has observed the positive influence of the program with regard to evaluated variables.

Several studies¹⁸⁻²⁰ confirm such results, reporting manual abdominal therapy as beneficial and confirming the feasibility of this technique to relieve symptoms in chronic pain patients. With regard to the higher prevalence of females, Oliveira²¹ considers that injuries to pelvic muscles and its innervations caused by gestations, gynecological surgeries and genital prolapses may be predictors of FCIC and, as a consequence, of pain. Between young females and females above 40 years of age (menopause),

it is understood the impairment of the pelvic floor and of sphincters due to anatomic and physiological changes.

As to the gradual increase in lumbar mobility and flexibility acquired after each session, other studies have observed the positive influence of MVT showing the efficacy of visceral maneuvers to improve intestinal functions with just five sessions lasting approximately 45 minutes^{19,22}.

In this study, QL has also improved in physical (functional capacity, pain and general health status) and mental (vitality) domains. Some authors^{23,24} highlight decreased abdominal pain, increased number of evacuations and improvement in QL of participants of the massage group and suggest that this technique could be offered as an option for FCIC management.

Few studies differ from our study reporting that the technique does not add significant differences if constant laxatives are not associated^{24,25}. So, new studies are recommended aiming at proving the efficacy of the therapy for FCIC symptoms, QL of individuals and increased lumbar mobility, in addition to evidencing its real importance and vigor for the treatment, observing the awareness that the individual is the primary health promoting agent.

CONCLUSION

Our data, within experimental conditions used, allow concluding that MVT proposed and applied to individuals with chronic abdominal pain secondary to FCIC has improved intestinal constipation and lumbar mobility, as well as QL of participants. Further studies are needed to increase sample size and improve the understanding of the magnitude of this technique effects on quality of life of these subjects.

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