fizjoterapia polska

POLISH JOURNAL OF PHYSIOTHERAPY

OFICJALNE PISMO POLSKIEGO TOWARZYSTWA FIZJOTERAPII

THE OFFICIAL JOURNAL OF THE POLISH SOCIETY OF PHYSIOTHERAPY

NR 5/2021 (21) KWARTALNIK ISSN 1642-0136

Influence of physiotherapy on exercise tolerance in patients after COVID-19

Wpływ fizjoterapii na tolerancję wysiłku u chorych po przebytym COVID-19

Gross motor impairments in autism

Zaburzenia motoryki dużej w autyzmie

mindray
healthcare within reach

ULTRASONOGRAFIA W FIZJOTERAPII

Mindray Medical Poland Sp. z o. o.
ul. Cybernetyki 9, 02-677 Warszawa

+48 22 463 80 80
info-pl@mindray.com
MindrayPoland
mindray.com/pl

medkonsulting

PROFESJONALNE URZĄDZENIA DIAGNOSTYCZNE I TRENINGOWE
KOMPLEKSOWE WYPOSAŻENIE SPRZĘTU DIAGNOSTYCZNEGO DLA KLUBÓW PIŁKARSKICH, OŚRODKÓW SPORTOWYCH I REHABILITACYJNYCH

TANITA
ZAUFANIE profesjonalistów

Światowy lider w dziedzinie analizy składu ciała metodą BIA

Kompleksowa analiza składu ciała wykonywana jest w około 30 sekund, a wyniki przedstawiane są na przejrzystym raporcie. Produkty profesjonalne TANITA wykorzystywane są przez ośrodki badawcze, centra diagnostyczne, kluby piłkarskie, placówki rehabilitacyjne, osoby pracujące ze sportowcami różnych dyscyplin na całym świecie.

Zobacz więcej na: www.tanitapolska.pl

Zaawansowana technologia diagnostyczna dla profesjonalistów, idealna w pracy z pacjentami

Systemy MICROGATE umożliwiają kompleksowe testy zdolności motorycznych i analizy chodu, wspomagając diagnozę, ocenę postępów oraz proces rehabilitacji. Modelowanie programów rehabilitacyjnych i kontrola procesu rehabilitacji są ułatwione dzięki obiektywnej ocenie sposobu ruchu, wykrywaniu problematycznych obszarów, ocenie biomechanicznych braków oraz ocenie asymetrii.

Parametry pomiarowe:

● fazy chodu lub biegu ● długość kroku ● prędkość i przyspieszenie
● równowaga i symetria ruchu ● wideo Full HD

.... i wiele innych w zależności od przeprowadzonych testów.

W połaczeniu z systemem urządzeniem GYKO, mamy możliwość oceny stabilności dynamicznej tułowia podczas chodu/biegu, analizę skoku, analizę stabilności posturalnej, analizę w zakresie ruchomości stawów (ROM), ocenę siły mięśniowej. oraz ewaluację pacjenta.

Zobacz więcej na: www.microgatepolska.pl

MICROGATE

OPTOGAIT

EXXENTRIC

Flywheel Training - trening siłowy i rehabilitacja z użyciem zmiennej bezwładność kół zamachowych.

kBox4 pozwala na wykonywanie skutecznych, standardowych ćwiczeń, a także zaawansowanych metod treningu ekscentrycznego i koncentrycznego, umożliwiając uzyskanie indywidualnych efektów – poprawienia ogólnego stanu zdrowia, wyników sportowych, rehabilitacji, oraz zapobiegania urazom.

Jedną z głównych zalet treningu z użyciem koła zamachowego jest możliwość skupienia się na ekscentrycznym przeciążeniu. Zwiększenie oporu poprzez skurcz ekscentryczny, jest skuteczną metodą poprawy siły i stabilności – aspektów treningu tak ważnych dla osób żyjących z niepełnosprawnością.

Seria dostępnych uchwytów i uprzęży sprawia, że na jednej platformie mamy możliwość przeprowadzenia treningu dla wszystkich partii mięśni.

Zobacz więcej na: treningekscentryczny.pl

MEDKONSULTING Tanita Polska - Wyłączny dystrybutor urządzeń Tanita w Polsce
T: +48 518 375 475 | 61 868 58 42 E: kontakt@medkonsulting.pl A: ul. Jana Ludygi-Laskowskiego 21 61-407 Poznań

Zawód Fizjoterapeuty dobrze chroniony

Poczuj się bezpiecznie

INTER Fizjoterapeuci
Dedykowany Pakiet Ubezpieczeń

Zaufaj rozwiązaniom sprawdzonym w branży medycznej.
Wykup dedykowany pakiet ubezpieczeń INTER Fizjoterapeuci, który zapewni Ci:

- ochronę finansową na wypadek roszczeń pacjentów – NOWE UBEZPIECZENIE OBOWIĄZKOWE OC
- ubezpieczenie wynajmowanego sprzętu fizjoterapeutycznego
- profesjonalną pomoc radców prawnych i zwrot kosztów obsługi prawnej
- odszkodowanie w przypadku fizycznej agresji pacjenta
- ochronę finansową związaną z naruszeniem praw pacjenta
- odszkodowanie w przypadku nieszczęśliwego wypadku

Nasza oferta była konsultowana ze stowarzyszeniami zrzeszającymi fizjoterapeutów tak, aby najskuteczniej chronić i wspierać Ciebie oraz Twoich pacjentów.

Skontaktuj się ze swoim agentem i skorzystaj z wyjątkowej oferty!

Towarzystwo Ubezpieczeń INTER Polska S.A.
Al. Jerozolimskie 142 B
02-305 Warszawa
www.interpolska.pl

inter UBEZPIECZENIA

KALMED
Iwona Renz, Poznań

ARTROMOT®
WYŁĄCZNY PRZEDSTAWICIEL
WWW.KALMED.COM.PL

DJO GLOBAL

SPRZEDAŻ I WYPOŻYCZALNIA ZMOTORYZOWANYCH SZYN CPM ARTROMOT®

Nowoczesna rehabilitacja CPM stawu kolanowego, biodrowego, łokciowego, barkowego, skokowego, nadgarstka oraz stawów palców dłoni i kciuka.

ARTROMOT-K1 ARTROMOT-SP3 ARTROMOT-S3 ARTROMOT-E2

ARTROMOT-H

ARTROMOT-F

ARTROSTIM FOCUS PLUS

Najnowsze konstrukcje ARTROMOT zapewniają ruch bierny stawów w zgodzie z koncepcją PNF (Proprioceptive Neuromuscular Facilitation).

KALMED Iwona Renz
ul. Wilczak 3
61-623 Poznań
www.kalmed.com.pl

tel. 61 828 06 86
faks 61 828 06 87
kom. 601 64 02 23, 601 647 877
kalmed@kalmed.com.pl

Serwis i całodobowa pomoc techniczna:
tel. 501 483 637
service@kalmed.com.pl

REHA TRADE SHOW 3

24.02.2022 PGE NARODOWY, WARSZAWA

JEDYNE TARGI I KONFERENCJA BRANŻY REHABILITACYJNEJ W POLSCE!

www.rehatradeshow.pl

PATRON MEDIALNY

REHA Biznes.pl

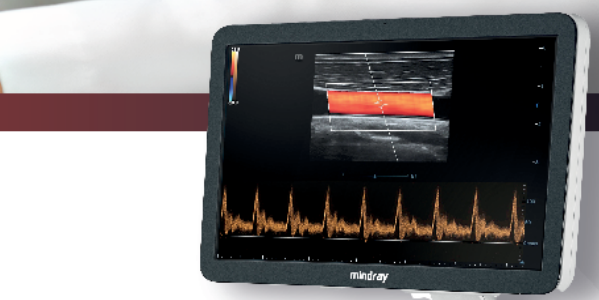
NAJNOWOCZEŚNIEJSZY, BIZNESOWY PORTAL DLA BRANŻY REHABILITACYJNEJ W POLSCE

ZOSTAŃ NASZYM PARTNEREM I DAJ SIĘ ZAUWAŻYĆ W BRANŻY!

mindray
healthcare within reach

ULTRASONOGRAFIA

W FIZJOTERAPII



Mindray Medical Poland Sp. z o. o.
ul. Cybernetyki 9, 02-677 Warszawa

+48 22 463 80 80
info-pl@mindray.com
MindrayPoland
mindray.com/pl

13-14.05.2022, EXPO Kraków

Reha INNOVATIONS

Zostań Wystawcą!

Fizjoterapia. Nowoczesna diagnostyka. Odnowa biologiczna

Fizjoterapia

Nowoczesna diagnostyka

Odnowa biologiczna

www.rehainnovations.pl

organizator:

Targi w Krakowie

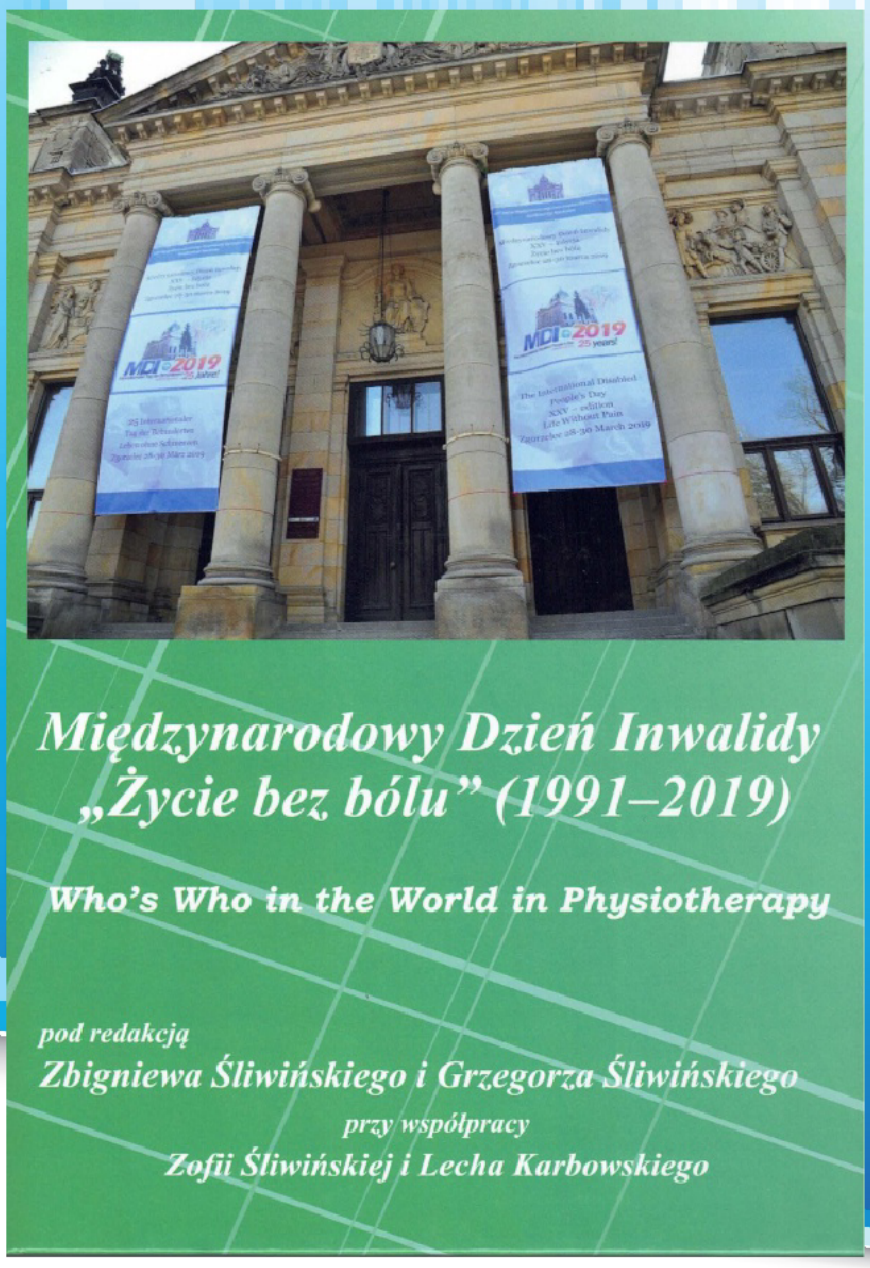
partnerzy:

MIFiZ

Fizjo Coach

miejsce wydarzenia:

EXPO KRAKOW



Indeks uczestników MDI z Polski i zagranicy

Przedmowa (Marek Żak i Leszek Romanowski)
Rozdział I - Towarzystwa naukowe i stowarzyszenia w obchodach Międzynarodowego Dnia Inwalidy
Rozdział II - Udział naukowców zagranicznych
Rozdział III - Udział naukowców polskich
Rozdział IV - Patronaty honorowe, udział polityków i samorządowców
Rozdział V - Patronaty naukowe
Rozdział VI - "Fizjoterapia bez granic" – studencka konferencja naukowa w ramach obchodów Międzynarodowego Dnia Inwalidy
Rozdział VII - Transgraniczny Uniwersytet Trzeciego Wieku w Zgorzelcu
Rozdział VIII - Artyści w obchodach Międzynarodowego Dnia Inwalidy
Rozdział IX - Najsłodsi sponsorzy obchodów MDI

fizjoterapia polska
nr 5/2021 (21)

Effect of visceral osteopathic manipulations on low back pain caused by visceral dysfunctions

Wpływ manipulacji osteopatycznych trzewnych na ból krzyża spowodowany dysfunkcjami trzewnymi

ALshimaa Mokhtar Darwesh[1(A,B,C,D,E,F)], Zahra Mohamed Hassan Serry[1(A,C,D,E,F)], Shawky Abd El-Hamid Fouad[2(A,B,D,E,F)], Heba Ahmed Ali Abdeen[1(A,B,D,E,F)]

[1]Cardiovascular/Respiratory Disorder and Geriatrics, Faculty of Physical Therapy, Cairo University, Giza, Egypt
[2]Internal Medicine, Faculty of Medicine, Cairo University, Giza, Egypt

Abstract

Purpose. To assess the efficacy of visceral osteopathy for low back pain (LBP) caused by visceral dysfunctions.

Methods. Randomized controlled trial. This research included forty participants ranged in age from 25 to 40 years old who were suffering from LBP due to visceral dysfunctions. They were split into two classes of the same size; Study group (A) received visceral osteopathic manipulations once a week for three weeks and Control group (B) received analgesic drugs only for three weeks. Visual analogue scale (VAS), Owestry disability index (ODI) and Modified Schober's test (MST) were evaluated for all participants in both groups before and after treatment.

Results: The comparison between both groups revealed significant decrease in VAS and ODI ($p < 0.05$) as well as significant increase in MST ($p < 0.05$) in favor of study group (A) post treatment.

Conclusion: Osteopathy is effective in pain management and functional status improvements in LBP patients.

Key words:

osteopathy, low back pain, visceral dysfunction, visual analogue scale, Owestry disability index, Schober's test

Streszczenie

Cel. Ocena skuteczności osteopatii trzewnej w leczeniu bólu krzyża spowodowanego dysfunkcjami trzewnymi.

Metody. Randomizowana kontrolowana próba. W badaniu wzięło udział czterdziestu uczestników w wieku od 25 do 40 lat, którzy cierpieli na bóle krzyża z powodu dysfunkcji trzewnych. Uczestnicy zostali podzieleni na dwie grupy o tej samej wielkości; Grupa badana (A) była poddawana manipulacjom osteopatycznym wisceralnym raz w tygodniu przez trzy tygodnie, a grupa kontrolna (B) otrzymywała leki przeciwbólowe tylko przez trzy tygodnie. Wizualna skala analogowa (VAS), wskaźnik niepełnosprawności Owestry (ODI) i zmodyfikowany test Schobera (MST) zostały zastosowane dla wszystkich uczestników w obu grupach przed i po leczeniu.

Wyniki: Porównanie obu grup wykazało istotny spadek VAS i ODI ($p < 0,05$) oraz istotny wzrost MST ($p < 0,05$) na korzyść grupy badanej (A) po leczeniu.

Wniosek: Osteopatia jest skuteczna w leczeniu bólu i poprawie stanu funkcjonalnego u pacjentów z bólem krzyża.

Słowa kluczowe

osteopatia, bóle krzyża, dysfunkcja trzewna, wizualna skala analogowa, wskaźnik niepełnosprawności

Introduction

Pain in the lower back is one of the most common challenges that industrialized communities face today. It has a detrimental effect on people's quality of living and physical activity levels, as well as increasing health-care prices and triggering work losses [1]. Chronic low back pain (LBP) is characterized as pain that lasts for more than three months or longer than the expected recovery period; it is one of the most common conditions in modern society [2]. Nonspecific chronic LBP accounts for 85 percent of all back pain but shows no underlying condition, such as spinal pathology, radicular syndrome, inflammation, or tumors [3]. There are many ways to treating LBP; the Back School, which consists of community fitness instruction, has proved its effectiveness in many clinical trials, and it is successful not only in enhancing the quality of life and reducing disability in LBP but also in improving mental well-being [4]. Osteopathy is a manual therapy which follows the principle that structure and function are closely integrated by assessing a person's musculoskeletal, neurological and visceral systems. It is currently practiced worldwide with a substantial user cohort especially amongst those seeking care for back pain [5].

Visceral osteopathy, which focuses on the intra-abdominal organs, is primarily represented in mechanical terms. Starting from the fact that intra-abdominal viscera spontaneously travel (for example, due to breathing), it is proposed that this movement can be disrupted in the same manner that articular mobility can. It is believed that these disturbances are physiopathologically important, and can induce, intensify or sustain musculoskeletal (e.g., LBP) or gastrointestinal problems (e.g., irritable bowel syndrome). As a result, osteopaths recommend that these mobility disturbances can be observed by palpation and handled by visceral manipulations. Currently, no scientific facets of visceral osteopathy have been recognized [6]. Therefore, this research was designed to test the effectiveness of visceral osteopathic manipulations on patients suffering from chronic LBP and how it can affect pain and their quality of life.

Subjects and methods

Design

The study was designed as a prospective, randomized, controlled trial. The permission and approval for the study was granted by the Cairo University, Faculty of Physical Therapy Research Ethics Committee before study commencement [No: P.T.REC/012/002207]. It was conducted between March 2019 and January 2021. It followed the Guidelines of Declaration of Helsinki on the conduct of human research.

Participants

Forty participants were recruited from the Low Back Pain Health Unit in Faculty of Physical Therapy, Cairo University, Giza, Egypt. They complained from non-specific LBP for more than 12 weeks, and their age was 25-40 years old. They didn't take any medication in the preceding six months. Individuals with tumors, pregnant mothers, acute ischemic bowel disorder, intestinal obstruction, or any surgical operation during the past six months were excluded.

Interventions

Study group (A) included 20 participants who received visceral osteopathic manipulations once a week for three weeks and Control group (B) included 20 participants who received analgesic drugs only for three weeks.

Visceral osteopathic manipulations

Each participant in study group (A) received visceral osteopathic manipulations, for 50 minutes per session, one session per week, for three weeks. The osteopathic manipulative techniques, including Suboccipital release, Sacral release, Diaphragmatic release, Mesentery release and Colonic release (ascending and descending colons & sigmoid) techniques were applied to study group according to the participants' needs.

For application of Suboccipital release technique, the participant's position was supine, while the therapist was seated at the head of the table. The participant's head was cradled with both therapist hands such that the tips of fingers were at the level of the cervico-occipital junction. The therapist's fingers were flexed so that fingertips were directed anteriorly and cephalic between the participant's occiput and atlas. This is the holding position for the remainder of the procedure. In this position therapist fingers provided a fulcrum between the participant's occiput and atlas and provided upward traction against the occiput. The weight of the participant's head was rested upon the tips of therapist flexed fingers. As the suboccipital tissue relaxed, the direction of the applied pressure was altered against areas of persistent tissue tension. The procedure was finished when the suboccipital soft tissues were relaxed. Average duration of the technique was 10 minutes [8].

For application of Sacral release technique, the participant's position was supine, and the therapist sat on the table, facing the head of the table and with the dominant hand to be employed for palpation and treatment closest to the table. The palpating hand and forearm were placed between the participant's thighs. The participant was instructed to flex the knee farther from the therapist, put the foot flat upon the table, and the pelvis was lifted off the table. The therapist hand slid beneath the participant's sacrum such that fingertips contacted the base of the sacrum and the sacral sulci bilaterally. The apex of the participant's sacrum held by the palm of the therapist hand. The participant was instructed to lower the pelvis onto the therapist hand and to straighten out the leg. The participant's weight was leaned on the therapist elbow. The therapist's hand was maintained in the same position, indirect methods were used and gentle force was applied to move the sacrum toward the freedom of motion, or direct methods were used and gentle force was applied to move the sacrum toward the restriction of motion. The selected indirect or direct position were held. After completion of procedure, the dysfunctional area was reassessed. Average duration of the technique was 10 minutes [8].

For application of diaphragmatic release technique, the participant's position was crock lying, while the therapist stood at side of the bed facing the head. The therapist's open palms were placed over the lower margin of the rib cage with thumbs lateral to the sternum an inch below the tenth rib. An activating force was applied through slow progressive pressure to gather

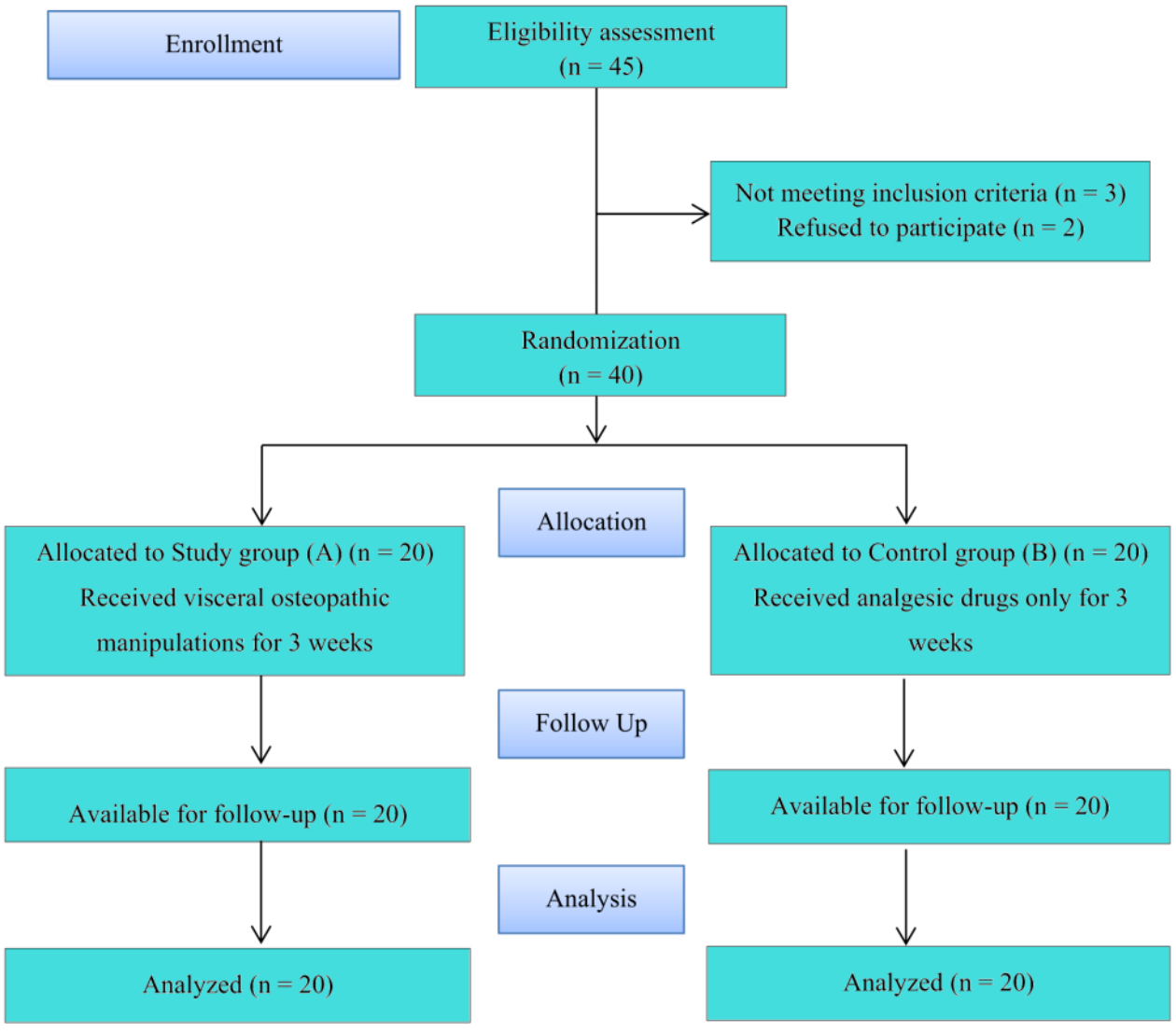


Table 1. Basic characteristics of participants in both groups

the fascia of the anterior abdomen and diaphragm by allowing the thumbs to sink in under the ribs and then pressed upward. As a progression, attention was payed to take up any slack with expirations and pressure was maintained through several respiratory cycles until optimal release was obtained [8].

The Mesentery release, also called normalization of the mesenteric root, aimed to mobilize the deep fascia, which corresponded with the attachment of the mesentery and superior mesenteric artery. The participant lied on the back; lower extremities were bent at the knee joints, and upper extremities along the trunk. The therapist stood on the left of the participant at the level of pelvis and put the palm's base under the hypothetical line where the duodenojejunal flexure come together with the ileocecal fold. In exhalation phase, pressure was applied in a horizontal direction to the line. During inhalation phase, applied was slightly reduced. The therapist repeated this action many times with the respiratory cycle, performing something like pumping of the strained tissues [9].

For application of Colonic manipulation technique for ascending and descending colons, the participant was in supine or lateral decubitus position (left lateral for the ascending and right lateral for the descending colon). The therapist's fingers were inserted between the lateral abdominal wall and the colon in order to alternately push it toward the umbilicus and let it come back, in a gentle rhythmic manner, also the therapist's thumbs were consider a part of pushing as a fulcrum. It helped to simultaneously spread of therapist's thumbs a part as push. Average duration of the technique was 10 minutes. Finally, the therapist applied Sigmoid colon technique, which was directed at the sigmoid colon and the left psoas muscle. The participant was supine with bent legs, while the therapist's fingers were placed on the left lateral psoas, 3-4 cm from the inguinal ligament, and draw the small intestine, sigmoid colon and it was mesocolon superomedially in the direction of the umbilicus. It was necessary to push fingers in first and then directed them superomedially. Average duration of the technique was 10 minutes [10].

Analgesic drugs

Each participant in control group (B) received analgesic drugs in the form of nonsteroidal anti-inflammatory drugs (NSAIDs) [11], once daily, for 3 weeks.

Outcome measures

Visual analogue scale (VAS)

It was used to assess pain severity before and after treatment for both groups (A & B). The participant determined the pain intensity on a 10 cm scale marked with points ranging from predetermined no pain and excruciating pain. Pain intensity was determined by measuring the marked area with a ruler [12].

Oswestry Disability Index (ODI)

It was used to measure LBP-related disability before and after treatment for both groups (A & B). The ODI is made up of ten elements that assess the intensity of which back pain has interfered with one's capacity to function in daily life. The ten parts deal with pain and everyday functions (such as pain level, personal hygiene, lifting, walking, sitting, standing, sleeping, sexual activity, and social activities). Each item was rated on a 6-point scale (0–5) with higher scores meaning higher level of disability related to LBP [13].

Modified Schober's test (MST)

Each participant in both groups (A & B) was tested for lumber mobility before and after the treatment using MST. The participant stood upright while the lumbosacral junction was marked with Venus's dimples. Marks were put 5 cm below and 10 cm above the junction to measure the MST. The individual was asked to bend forward as far as possible and the stretched distance of these two points was measured as the MST value [14].

Statistical analysis

Descriptive statistics and unpaired t-test were conducted for comparison of subject characteristics between groups. Normal distribution of data was checked using the Shapiro-Wilk test. Levene's test for homogeneity of variances was conducted to ensure the homogeneity between groups. Mixed design MANOVA was performed to compare within and between groups effects on VAS, ODI and MST. Post-hoc tests using the Bonferroni correction were carried out for subsequent multiple comparison. The level of significance for all statistical tests was set at $p < 0.05$. All statistical analysis was conducted through the statistical package for social studies (SPSS) version 25 for windows (IBM SPSS, Chicago, IL, USA).

Results

At baseline, both groups were similar regarding socio-demographic data (age, height, weight and body mass index (BMI)) and all outcome measures ($p > 0.05$) (Tables 1-2).

Randomization

Each participant was informed about the study's nature, purpose, and benefits, the right of refusal or withdrawal at any time, and the confidentiality of any obtained data. Participants were randomized into 2 equal groups (A & B) by a computer-based randomization program [7]. There was no dropping out of subjects from the study following randomization, Figure 1.

Table 1. Basic characteristics of participants in both groups

Characteristics	Group (A), n = 20	Group (B), n = 20	P-value
Age [years]	32.9 ± 4.9	32.35 ± 4.77	0.72^{NS}
Weight [kg]	70.55 ± 9.57	69.15 ± 12.54	0.69^{NS}
Height [cm]	161.9 ± 5.28	163.7 ± 4.49	0.25^{NS}
BMI [kg/m²]	26.9 ± 3.24	25.85 ± 4.98	0.43^{NS}

NS: P > 0.05 = non-significant, P = Probability

Table 2. VAS, ODI and MST for both groups

		Group (A) n = 20	Group (B) n = 20	P-value*
VAS [cm]	Pre-treatment	8.02 ± 0.97	7.65 ± 0.81	0.19^{NS}
	Post-treatment	1.25 ± 0.85	5.85 ± 1.09	0.001^{S}
	P value**	0.001^{S}	0.001^{S}	
ODI [%]	Pre-treatment	53.64 ± 12.3	50.96 ± 9.07	0.43^{NS}
	Post-treatment	13.41 ± 8.63	45.01 ± 7.66	0.001^{S}
	P value**	0.001^{S}	0.01^{S}	
MST [cm]	Pre-treatment	19.97 ± 1.22	19.87 ± 0.94	0.77^{NS}
	Post-treatment	21.7 ± 0.75	20.4 ± 0.94	0.001^{S}
	P value**	0.001^{S}	0.01^{S}	

** Inter-group comparison; ** intra-group comparison of the results pre- and post-treatment; NS: P > 0.05 = non-significant, S: P < 0.05 = significant, P: Probability*

The VAS showed a statistically significant decrease ($p < 0.05$) within both groups (A & B). The post-treatment comparison of both groups revealed a statistically significant decrease in VAS ($p < 0.05$) in favour of study group (A). The ODI showed a statistically significant decrease ($p < 0.05$) within both groups (A & B). The post-treatment comparison of both groups revealed a statistically significant decrease in ODI ($p < 0.05$) in favour of study group (A). The MST showed a statistically significant increase ($p < 0.05$) within both groups (A & B). The post-treatment comparison of both groups revealed a statistically significant increase in MST ($p < 0.05$) in favour of study group (A) (Table 2).

Discussion

The current research indicates that visceral osteopathic manipulations and craniosacral release decreased pain severity of LBP, as well as lumber mobility and everyday operation (including pain intensity, personal hygiene, lifting, walking, sitting, standing, sleeping, sexual activity, social activity, and traveling) by craniosacral, diaphragmatic, and mesentery release, colon release and sigmoid release.

This research tested the effectiveness of reduced LBP using VAS, ODI and MST, all of which demonstrated improvement after sessions. The present study's findings showed a substantial decrease in VAS (LBP severity) and ODI (pain intensity, personal factors, lifting, walking, sitting, standing, sleeping, sex life, social life, and travel), as well as a significant increase in MST (lumbar spine mobility) after osteopathic manipulative tactics.

In accordance with the current study's findings, Orrock and Myers [15] found that patients responded to visceral interventions, a vertebral segment can be induced for somato-visceral impact by implementing neurophysiological stimulation. In reality, one study found the reports on nonspecific lower back pain performed up to 2013 involved some osteopathic approaches (soft-tissue strategies, myofascial techniques, muscle-energy techniques, manipulation and mobilization techniques), and this analysis study reported that these methods had beneficial results.

Foreman [16], Giamberardino et al. [17], Giamberardino et al. [18] showed that there are three key pathways by which the altered movement interaction between organs and their supporting connective tissues could theoretically manifest as LBP: visceral referred pain, central sensitisation, and local fascial changes. Visceral abnormalities can be caused by one of these pathways, or exacerbation factor for LBP. LBP is a frequent cause for patients to see their doctor or physiotherapist. There is currently no evidence on the proportion of LBP patients who report to their prescribing practitioner or psychiatrist with visceral referred pain. According to anecdotal evidence, these patients' low back complaints lack a consistent mechanical pattern and can be accompanied by gastrointestinal, urinary, or gynecological symptoms [19].

The results of this research coincided with the findings of Attali et al. [20], who claimed that visceral procedures are a significant aspect of osteopathic practices. Visceral methods have generally been used primarily or for visceral issues in the literature. The findings of this research corroborate the findings of Nelson and Glonek [8], who reported that suboccipital release is a parasympathetic release facilitates a major release of the tension in the muscles, ligaments and connective tissue of the body. It also allows the brain and nervous system to operate in a more balanced, optimum manner. The findings of this research were consistent with those of Henley et al. [21], who investigated the interaction between OMT and the autonomic nervous system and discovered an important direct relationship between myofascial release technique and changes in autonomic nervous system function.

These findings were backed up by Moore et al. [22], who demonstrated that the association could be explained by both a mechanical and a neurological process. The abdominal mesenteries, mesocolon, and Toldt fascia connect the abdominal viscera to the lumbar area. The mesenteries are connective tissue formed by representing peritoneal layers that hold lungs, veins, lymphatic vessels, and nerve fibers from and to the viscera. In addition, the visceral and somatic innervation has a functional convergence on the spine column. Consequently, the state of an organ can influence the state of the somatic tissue [23].

In addition to change in the research group, it was discovered that the study group had a larger impact on resources, physical limitations, and the overall score of physical limitations from quality of life scores as compared to the control group. We assume that the methods we used on each patient during visceral applications increased blood supply in the patients [24].

Limitations

Our analysis contains the findings at the end of the third week, where a total of three sessions were used, one per week. The shortcomings of our research include a small number of participants and a lack of long-term follow-up in the study and control classes, as well as the failure to provide outcomes using various physiotherapy techniques, practical and quantitative assessment methods. Therefore, randomized controlled long-term follow-up studies, including larger numbers of individual participants, are needed on this subject.

Conclusion

At the conclusion of our research, it was discovered that osteopathic manipulative therapy decreased pain, improved function, and had a beneficial impact on quality of life in persons with chronic low back pain. The positive impact on quality of life demonstrated that visceral manipulations can be beneficial. The study's aim is to strengthen and disseminate these findings by extending them to a wider population with a longer follow-up period.

Adres do korespondencji / Corresponding author

ALshimaa Mokhtar Darwesh

E-mail: mokhtar195@hotmail.com

Acknowledgments

We would like to thank all participants who contributed to the completion of this work, especially the study participants.

Piśmiennictwo/ References

1. Hasanefendioglu EZ, Sezgin M, Sungur MA, Çimen ÖB, Incel NA, Sahin G. Health-related quality of life in patients with chronic low back pain: Effects of pain clinical and functional status on quality of life. Turk J Phys Med Rehab. 2012;318(58):93-98.
2. Andersson GB. Epidemiological features of chronic low-back pain. Lancet. 1999;354(91789178):581-585.
3. Balague F, Mannion AF, Pellise F, Cedraschi C. Non- specific low back pain. Lancet. 2012; 379(9814):482-491.
4. Henchoz Y, Kai-Lik So A, Henchoz Y. Exercise and nonspecific low back pain: a literature review. Joint Bone Spine. 2008;75(5):533–539.
5. Steel A, Peng W, Sibbritt D, Adams J. Introducing national osteopathy practice-based research networks in Australia and New Zealand: an overview to inform future osteopathic research. Scientific reports 2020;10(1):1-11.
6. Guillaud A, Darbois N, Monvoisin R, Pinsault N. Reliability of diagnosis and clinical efficacy of visceral osteopathy: a systematic review. BMC complementary and alternative medicine 2018;18(1):1-12.
7. Hamoda RE, Osman DA, Hamada HA, Radwan R, Yousef AM, Abdel Samea GA, Gharib HO. Effect of myofascial release on electro-physiological and clinical measures of pregnant women with carpal tunnel syndrome. Physiother Quart. 2019;27(1):18-24.
8. Nelson KE, Glonek T. Somatic Dysfunction in Osteopathic Family Medicine. 2nd ed. Philadelphia: Lippincott Williams and Wilkins; 2007, p. 236-240.
9. Majchrzycki M, Hoffmann M, Marszałek S. Selected Osteopathic Techniques in Low Back Pain Treatment. Dysfunctions of the Locomotor System; 2010, p.7-17.
10. Barral JP, Mercier P. Visceral Manipulation. Revised ed. Eastland Press Seattle; 2005, p. 123-130.
11. Kuritzky L, Samraj GP. Nonsteroidal anti-inflammatory drugs in the treatment of low back pain. J Pain Res. 2012;5:579-90.
12. Ylinen J, Salo P, Nykänen M, Kautiainen H, Häkkinen A. Decreased isometric neck strength in women with chronic neck pain and the repeatability of neck strength measurements. Arch Phys Med Rehabil. 2004;85(8):1303-1308.
13. Sheahan PJ, Nelson-Wong EJ, Fischer SL. A review of culturally adapted versions of the Oswestry Disability Index: the adaptation process, construct validity, test-retest reliability and internal consistency. Disabil Rehabil. 2015;37(25):2367-2374.
14. Cidem M, Karacan I, Uludag M. Normal range of spinal mobility for healthy young adult Turkish men. Rheumatol Int. 2012;32(8):2265-2269.
15. Orrock PJ, Myers SP. Osteopathic intervention in chronic 366 non-specific low back pain: A systematic review. BMC Musculoskelet Disord. 2013; 14:129.
16. Foreman RD. Mechanisms of visceral pain: from nociception to targets. Drug Discov. Today Dis. Mech. 2004;1(4):457-463
17. Giamberardino MA, Affaitati G, Lerza R, Lapenna D, Costantini R, Vecchiet L. Relationship between pain symptoms and referred sensory and trophic changes in patients with gallbladder pathology. Pain. 2005;114(1-2):239-249.
18. Giamberardino MA, Affaitati G, Costantini R. Chapter 24 Referred pain from internal organs. Handb Clin Neurol. 2006;81:343-61.
19. Chown M, Lynne W, Mark R, Sally A, Stott D, Archer M. A prospective study of patients with chronic back pain randomised to group exercise, physiotherapy or osteopathy. Physiotherapy 2008;94(1):21-28.
20. Attali TV, Bouchoucha M, Benamouzig R. Treatment of refractory irritable bowel syndrome with visceral osteopathy: short-term and long-term results of a randomized trial. J Dig Dis. 2013 Dec;14(12):654-61.
21. Henley CE, Ivins D, Mills M, Wen FK, Benjamin BA. Osteopathic manipulative treatment and its relationship to autonomic nervous system activity as demonstrated by heart rate variability: a repeated measures study. Osteopath Med Prim Care. 2008;2:7.
22. Moore KL, Dalley AF, Agur AMR. Clinically Oriented Anatomy. 7th ed. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2014.
23. Brugman R, Fitzgerald k, Fryer G. The effect of Osteopathic Treatment on Chronic Constipation – A Pilot Study. International journal of osteopathic medicine 2010; 13:17-23.
24. Kuchera ML, Kuchera WA. Osteopathic Considerations in Systemic Dysfunction. Revised 2nd ed. Columbus Greyden Pres; 1994.