

Results on Traditional Manual Therapy of Lower Back Pain

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Abstract

In the case of vertical vertebrates, the human musculoskeletal system, such as joints and muscles, is unique. In addition to acute and chronic forms of muscle spasms, such as tremors and injuries, there are also inactive forms of muscle spasms caused by long-term lack of movement. Lower back pain is one of the leading causes of disability, according to the World Health Organization's 10-year Global Burden of Disease 2010. We hypothesize that there is a significant difference in pre and post-treatment outcomes from clinical trials in the traditional manual therapy of lower back pain. The diagnosis was made by traditional medicine and radiologists, who had worked in the field for more than a decade and the treatment was performed using traditional Mongolian manual therapy, and the results were measured using a goniometer on pre and post-treatment radiographs. In addition, a WHO quality of life survey (WHO) was obtained from these patients before and three years after treatment to monitor their recovery. A total of 200 people were surveyed, and the gender ratio was 1:1. The average age of the surveyed men was 39.7 ± 16.7 with BMI 27.1 ± 4.4 , the average age of the women was 38.7 ± 11.4 with BMI 26.4 ± 4.6 , and the average age of the surveyed people was 39.2 ± 12.6 with BMI 26.9 ± 4.5 . Patients' pain relief was on average 3 days after treatment, but the improvement was measured by measuring the angle of inclination along the vertical vertebrae from 176.0 ± 2.67 cm before treatment to 179.4 ± 1.38 cm after treatment ($p=0.001$). When the quality of life assessment was repeated after 3 years, the overall value was less than 0.00 and improved, but the main changes were in physical health and appetite. Women have mostly improved their independence such as $17.23 (\pm 0.17)$ from $9.03 (\pm 0.41)$.

Keywords: Lower back pain; Traditional manual therapy; Quality of life assessment

Introduction

In the case of vertical vertebrates, the human musculoskeletal system, such as joints and muscles, is unique. In addition to acute and chronic forms of muscle spasms, such as tremors and injuries, there are also inactive forms of muscle spasms caused by long-term lack of movement. Although back pain is a common term, there are a number of clinical diagnoses. The US classification of the disease is called lower back pain, while the international classification is Lumbalgia (M54.41). However, due to the combination of lack of exercise, obesity, diabetes, and neurological pain, it is included in other categories and is referred to as symptomatic pain. In our country, we do not have data on the prevalence of the disease. Lower back pain is one of the leading causes of disability, according to the world health organization's 10-year global burden of disease 2010. Acute and recurrent low back pain is one of the most expensive and painful ailments to treat. There is a lot of research on the causes and conditions of this disease in the world, but in our country, the prevalence, disease, diagnosis and treatment have not been studied yet. Whether back pain is symptomatic or a specific condition is one of the issues that can arise between a client and an insurance company. This is because the disease is characterized by sudden onset of severe pain, recurrence, long duration of treatment, and high cost. Several studies have shown that economic costs were higher for diagnostic and analgesic use. However, there are two causes of this disease, active and inactive, but there is only one symptom, which is muscle stiffness and limited joint movement due to the situation. In other words, muscle stiffness is caused by sudden injuries and long-term lack of movement, and there is pain first in the muscles, then in the joints, and then in the nervous system. Although there are two main causes of

muscle spasms, the diagnosis should be made in the context of muscle contractions, in the sense that they are a response to a muscle that exceeds its ability to adapt and contract. In other words, in the case of back pain, it is necessary to check the movement of the back muscles, their location and attachment, and to take into account the possible loss of movement and the characteristics of the joints. In this sense, the diagnosis of back pain, which belongs to the group of traditional tactile methods, is the most important for the diagnosis of palpation, palpation, and movement to determine the extent and symmetry of the movement. Although modern medical imaging techniques are important for evidence, they alone are not sufficient to detect functional changes. Massage, acupoint therapy, manual therapy, chiropractic, osteopath, stretching, ointments, weights, acupuncture, hot springs and balneo therapies are widely used to relieve pain, relax and soothe muscle spasms, and restore joint asymmetry. There were no studies on treatment plans or duration of treatment. Therefore, we hypothesize that there is a significant difference in pre- and post-treatment outcomes from clinical trials in the traditional manual therapy of unilateral biliary tract disease [1].

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Materials and Methods

The survey covered a total of 60 patients (30 men, 30 women and 17-70 years old) who came to the hospital from March to November 2017 and an additional 140 people who received new treatment in 2020 [2].

Research criteria

Subtraction criteria: Excluded clients who were not allowed to participate in the study, who were diagnosed with communicable or non-communicable diseases, who were resistant to or regularly used painkillers and who underwent surgery for spinal injuries or other reasons.

Eligibility criteria: Clients who were admitted to the study, whose diagnosis was confirmed by physical examination and X-ray and who did not stop treatment.

Ethical consent/statement

This study was discussed and approved by Otoch Manramba University Ethics Committee (No.2017.16). The research is in full compliance with the Helsinki Declaration. The questionnaires were completed after the participants were fully informed of their goals and outcomes and signed consent and there was no pressure or conflict of interest in the diagnosis or treatment [3].

Diagnosis and treatment process

The diagnosis was made by traditional medicine and radiologists, who had worked in the field for more than a decade, and the treatment was performed using traditional manual therapy, and the results were measured using a goniometer on pre and post-treatment radiographs. In addition, a WHO quality of life survey (WHO) was obtained from these patients before and three years after treatment to monitor their recovery.

Quantitative research tools and statistical processing

Angular deviations along the vertical vertebrae of the vertebrae, torsion from the vertical vertebrae to the transverse vertebrae, and lowering between the vertebrae were measured in images of at least 50% of the same size taken from the vertical and lateral lumbar vertebrae.

According to the 6 main directions of the ACS (Table 1), the results were answered by giving 1-5 points to each of the 4 questions after the diagnosis and 3 years after the treatment [4].

Table 1: Quality of life assessment model.

S. no	Direction	The question
1	Physical health	Energy and fatigue
		Pain and discomfort
		Sleep and rest
		General physical function
2	Bodily image and appearance	Negative feelings
		Positive feeling
		Self-esteem
		Independence
3	Level of independence	Mobility
		Activities of daily life
		Drug and medical dependence
		Work capacity
4	Social relations	Personal relationships
		Social welfare
		Sexual activity
		Environment
5	Financial resources	Freedom, security and protection
		Health and social care: Access and quality

6	Opportunities for acquiring new information and skills	Home conditions
		Economic resources
		Vacation/leisure opportunities and enrollment
		Hygiene conditions (pollution/noise/traffic/weather)
		Transportation
		Mind/religion/personal beliefs

Statistical analysis was performed using SPSS version 20.0 (IBM Corp., Armonk, NY, USA). Quantitative norms were tested using the Shapiro-Wilk test. Explanatory statistics the age, sex, height, weight, and body mass index of the survey participants were calculated. Before and after treatment, the arithmetic mean was compared for each group and for the aggregate and a confidence interval, p, was obtained. Also, standard errors were calculated to verify the figures [5].

of the women was 38.7 ± 11.4 , and the average age of the surveyed people was 39.2 ± 12.6 , with a minimum of 16 and a maximum of 70 years. By age group, 18 percent of men are 41-45 years old and 22 percent of women are 36-40 years old. 61.0% of the total respondents were 31-50 years old (Table 2) [6].

Results

A total of 200 people were surveyed, and the gender ratio was 1: 1. The average age of the surveyed men was 39.7 ± 16.7 , the average age

Table 2: Age and sex of the respondents.

Age group	Male n (%)	Female n (%)	Total
>20	15 (15.0)	9 (9.0)	24 (12.0)
21-25	3 (3.0)	6 (6.0)	9 (4.5)
26-30	6 (6.0)	5 (5.0)	11 (5.5)
31-35	12 (12.0)	16 (16.0)	28 (14.0)
36-40	13 (13.0)	22 (22.0)	35 (17.5)
41-45	18 (18.0)	18 (18.0)	36 (18.0)
46-50	14 (14.0)	9 (9.0)	23 (11.5)
51-55	6 (6.0)	7 (7.0)	13 (6.5)
56-60	6 (6.0)	4 (4.0)	10 (5.0)
61>	7 (7.0)	4 (4.0)	11 (5.5)
Total	100 (100.0)	100 (100.0)	200 (100.0)
Average age	39.7 ± 16.7	38.7 ± 11.4	39.2 ± 12.6
CI 95%	36.9-42.3	36.5-41.0	37.4-40.9

Note: Each result represents a statistical mean. \pm : Standard division; CI: Confidence Interval

The mean Body Mass Index (BMI) of the respondents was 26.9 ± 4.5 , the average for men was 27.1 ± 4.4 , and for women it was 26.4 ± 4.6 , which differed from the BMI (Table 3) ($P=0.023$) [7].

Table 3: BMI of the surveyed people.

BMI			P value*
	Average	IC 95%	0.023
Male	27.1 ± 4.4	26.5-28.3	

Female	26.4 ± 4.6	25.5-27.3	
Total	26.9 ± 4.5	26.3-27.5	
Note:* One-Sample T test mean difference 1.01 (CI 0.14-1.88)			

Outbreaks appear to be exacerbated during work-life balance or writing, seasonal warming, and heat-to-cold transition (Figure 1) [8].

As a result of 10 days of traditional manual therapy, the scoliosis was healthy, very late at 180 degrees, with a change of at least 3 degrees.

The rotation was corrected by 4-5 mm and the distance between the vertebrae was increased by 0.2-0.3 mm (Table 4) [9].

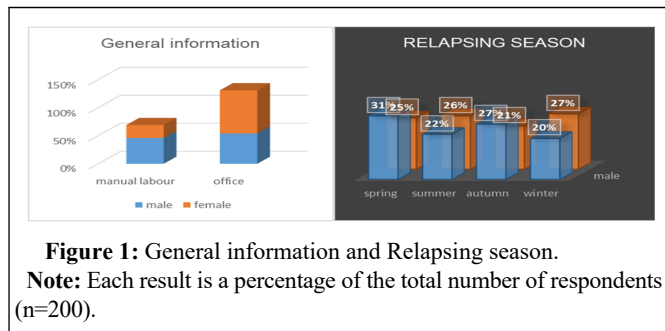


Table 4: Measurements of treatment changes.

		Before treatment		After treatment	
		95% CI	SEM	95% CI	SEM
Measure the deviation (degrees)	Male	175.34 (174.54-176.13)	0.395	179.18 (178.69-179.67)	0.245
	Female	176.76 (176.08-177.43)	0.333	179.62 (179.37-179.86)	0.124
Measurement of rotation (cm)	Male	1.53 (1.46-1.59)	0.032	1.95 (1.92-1.97)	0.011
	Female	1.61 (1.54-1.68)	0.034	1.96 (1.94-1.98)	0.009
Measure the settlement (cm)	Male	0.66 (0.61-0.71)	0.025	0.95 (0.93-0.97)	0.009
	Female	0.70 (0.65-0.75)	0.025	0.96 (0.94-0.98)	0.009
Note: Statistical average of 95% confidence interval; range and SEM: standard error.					

Immediately after diagnosis and follow-up, 3 years after the completion of treatment and follow-up, the AFL was rated from 9.95 (± 2.6) to 17.30 (± 0.16) for men and 9.8 (± 3.08) for men. 16.60 (± 0.19) [10].

show an absolute change in the first three groups, job ability, motivation and independence (Table 5) [11].

For women, however, independence was changed from 9.03 (± 0.41) to 17.23 (± 0.17). The P values show that the aggregate results

Table 5: Assessment of quality of life.

	Factor	Male	Female	Total	P value
Before treatment	PH	9.95 (± 2.6)	10.3 (± 0.5)	9.60 (± 2.43)	0.125
	BIA	9.8 (± 3.08)	10.07 (± 2.6)	9.93 (± 2.99)	0.67
	Lol	9.27 (± 0.47)	9.03 (± 0.41)	9.27 (± 2.58)	0.62
	SR	13.13 (± 1.54)	14.33 (± 1.58)	13.73 (± 1.11)	0
	FR	13.42 (± 1.81)	13.20 (± 1.58)	13.42 (± 1.69)	0.55
	OfIS	16.0 (± 1.55)	17.10 (± 0.23)	16.22 (± 1.40)	0.14
After treatment	PH	17.30 (± 0.16)	17.1 (± 0.23)	17.20 (± 1.10)	0

	BIA	16.60 (± 0.19)	17.23 (± 0.17)	16.92 (± 0.06)	0.003
	Lol	10.70 (± 6.64)	17.23 (± 0.17)	10.7 (± 0.97)	0.003
	SR	16.67 (± 0.99)	16.27 (± 1.16)	16.77 (± 1.07)	0
	FR	15.47 (± 0.10)	15.90 (± 1.24)	15.68 (± 1.18)	0
	OfIS	16.27 (± 1.19)	17.37 (± 1.15)	17.12 (± 1.19)	0

Notes: PH: Physical Health; BIA: Bodily Image and Appearance Interest; Lol: Level of Independence Independence; SR: Social Relations; FR: Financial Recources Financial competence; OfIS: Opportunities for aqiring new information and skills-skills and opportunities.

Discussion

In our research, we found that an average level of 10 days of traditional manual therapy, the scoliosis was healthy, very late at 180 degrees, with a change of at least 3 degrees. The rotation was corrected by 4-5 mm and the distance between the vertebrae was increased by 0.2-0.3 mm (Figure 2). In a previous study in 2010-2011 in Turk using the manual therapy the average scores were changed 2 degrees, 3-4 mm, respectively. It is difficult to compare the results of this study to one just mentioned because different measurement instruments and therapy were used. The rate of cured people identified in our study was very effective than the results of other countries which are used different treatments [12-14].

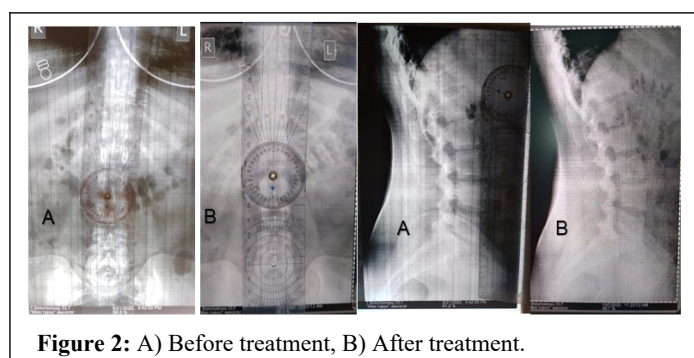


Figure 2: A) Before treatment, B) After treatment.

Conclusion

- In terms of age, overweight, active and inactive muscle spasm due to the disease was characterized by a decrease in the distance between the joints of the spine, limited mobility, scoliosis and rotation.
- Patients pain relief was on average 3 days after treatment, but the improvement was measured by measuring the angle of inclination along the vertical vertebrae from 176.0 ± 2.67 cm before treatment to 179.4 ± 1.38 cm after treatment ($p=0.001$).
- When the quality of life assessment was repeated after 3 years, the overall value was less than 0.00 and improved, but the main changes were in physical health and appetite. Women have improved their independence.

Limitation of Study

Although our research achieved its goals, there were some limitations. Firstly, our research was conducted only on a small population of patients. Second, most participants of the quality life study (30%) had less than 3 years of records and likely influenced results. Third, we didn't determine how many participants completed

the ProQOL after treatment. Our survey design was a one-time cross-sectional snapshot study. The participants of this survey were the mostly workers who are working at the stressful and busy environmental conditions of Ulaanbaatar, Mongolia. Also, in future studies we intend to collect longitudinal data so that we estimate the risks of developing compassion fatigue, work and seasonal influence, measurement of muscular-skeletal movement, procedure evaluation of traditional manual therapy.

Conflict of Interest

The authors state no conflict of interest.

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