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Efficacy and Patient Satisfaction in Cases of Back Pain Treated Using Either Acupuncture or Chuna: A Comparative Study

Sang Jun Jeong, Jae Hee Yoo, Hong Je Ko, Jeong Cheol Shin, Min Kyung Kwak, Tung Shuen Wei *

Department of Acupuncture & Moxibustion Medicine, College of Oriental Medicine, Dongshin University, Naju, Korea

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ABSTRACT

Background: The purpose of the present study was to evaluate efficacy and patient satisfaction of acupuncture or Chuna therapy for back pain.
Methods: Amongst all the patients with back pain who had been treated at Sun-cheon korean medicine hospital, Dong-shin university, only patients that had received either acupuncture or Chuna manual therapy between September 1 and October 31, 2017 were selected and their medical charts retrospectively analyzed. A questionnaire was used in the investigation that consisted of a numeric rating scale (NRS), the Oswestry low-back pain disability index (ODI), general, emotional, conversational, and technical satisfaction. The questionnaire was completed before treatment and at weekly intervals (approximately). Treatment efficacy was analyzed using the first and last questionnaires. The last questionnaire was also used to establish patient satisfaction. The data were analyzed using SPSS for Windows version 21.0.
Results: The NRS, Current degree of pain (ODI-1), and total ODI were significantly decreased in both the acupuncture and Chuna groups. The differences in NRS, ODI-1, and total ODI changes between treatment groups were not significant. There were no statistically significant differences between the acupuncture and Chuna groups in terms of general, emotional, conversational, and technical satisfaction.
Conclusion: Acupuncture treatment significantly reduces NRS and ODI in patients who have back pain without structural transformation, and Chuna therapy significantly reduces NRS and ODI-1 in patients who have back pain with structural transformation. These results indicate that further studies should be conducted in more patients and over a longer period.

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Introduction

Back pain usually refers to pain that occurs around the lumbar or sacral vertebra [1]. To support body weight, the lumbar vertebrae must withstand more pressure and strain than other vertebrae. They also have a wide range of motion and show more muscle development than other areas, so damage and degeneration are more likely in the lumbar vertebrae. Back pain occurs in acute and chronic forms, and 80% – 90% of acute back pain is of unknown cause [2]. Of the patients with chronic back pain around 85% have non-specific backaches and appear normal under diagnostic imaging. Meanwhile, fractures, spinal stenosis, or herniated intervertebral discs account for 12% of patients' back pain, whilst 3% of cases result from cancers, infections, or inflammatory diseases [3]. Thus, in most cases of back pain, it is difficult to determine the cause using Western medicine. For this reason, many individuals with back pain seek treatment using Korean medicine. In fact, more than 20% of patients who visit Korean Medicine Hospitals suffer from back pain, and treatment of back pain accounts for a large portion of the Korean medicine market [4].

To treat back pain, Korean medicine doctors use cooling and heating therapy [5], herbal medicine [6,7], burning acupuncture therapy [8], and moxibustion [9]. Moreover, various new treatments for back pain are currently being developed, including pharmacoacupuncture [10-12] and acupotomy [13], which uses more advanced knowledge of anatomy. Among these treatments, acupuncture [14-16] and Chuna therapy [17-19] are widely used.

The demand for Korean medicine in the treatment of musculoskeletal disorders is growing. People with back pain have high expectations of Korean medicine and so research into efficacy and patient satisfaction in the treatment of back pain using

*Corresponding author.
Department of Acupuncture & Moxibustion Medicine, College of Oriental Medicine, Dongshin University, Naju, Korea
E-mail: tiger-tung@hanmail.net

acupuncture or Chuna therapy is needed. This study constituted a retrospective medical chart review of patients with back pain to investigate the efficacy of acupuncture or Chuna therapy and evaluate patient satisfaction.

Materials and Methods

Ethical approval

Since the data used excluded identifiable information, the institutional review board of Sun-cheon korean medicine hospital, Dong-shin university waived the need for approval. The IRB number is DSU 17-09.

Objective

The charts of patients with back pain who had visited Sun-cheon korean medicine hospital, Dong-shin university between September 1 and October 31, 2017 were reviewed retrospectively.

In the acupuncture treatment group, patients received acupuncture therapy using acupuncture needles inserted 3 cm at acupuncture points; Synsu (BL23) and Jisil (BL52), and maintained for 15 minutes.

In the Chuna therapy group, patients were treated using lumbar distraction manipulation [20] and lumbar-sacrum joint traction manipulation in the prone position [20] for 10 minutes.

The treatments were performed by a Korean medicine doctor who had more than 1 year of experience in providing the treatment. In all cases, cupping therapy and physical therapy were combined and used in both the acupuncture and Chuna therapy groups.

Only charts in which all questionnaires had been completed both before, and after the treatment were screened. 17 cases were excluded; 4 cases were abandoned during the questionnaire, 10 cases were answered only before the procedure, 3 cases were rote responses. Finally, the charts of 30 patients treated using acupuncture and 30 treated using Chuna therapy were selected and analyzed (Fig. 1).

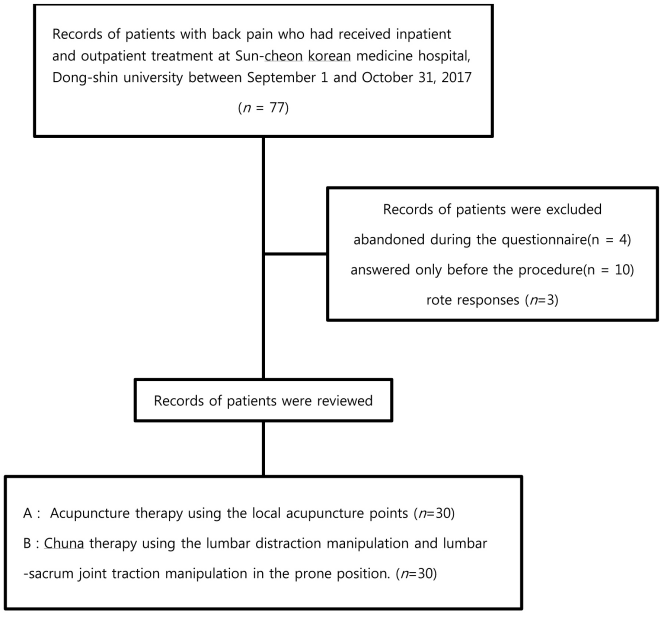

Fig. 1. Process for selecting the charts of patients with back pain.

Timeline of questionnaire completion

The questionnaire for evaluating treatment efficacy was completed before the first treatment. Immediately after the final treatment, the questionnaire that evaluated efficacy and satisfaction was completed. The first and last questionnaires were used to determine final outcome.

General questionnaire

In a previous study, Kim et al [21] compared various categories of patient satisfaction in each treatment group with 9 questions regarding gender, age, marital status, religion, occupation, average monthly income, and educational background. However, in this present study we excluded marital status, religion, outpatient time, and waiting time because these factors were judged to be meaningless for the purposes of this study. The questions about monthly average income were also excluded, because they were considered sensitive. Thus, 4 categories were surveyed: gender, age, occupation, and educational background. The occupation category was not ultimately used because it lacked statistical value. The diagnosis was recorded directly by the Korean Medicine doctor (practitioner) who treated the patient.

Satisfaction questionnaire

The satisfaction questionnaire was created by modifying the questionnaire of Dimatteo and Hays [22], to fit the purposes of the present study. The questionnaire comprised of 26 questions with 4 categories: 4 general satisfaction questions about the treatment itself, 8 emotional satisfaction questions about the practitioner, 5 conversational satisfaction questions, and 7 technical satisfaction questions about the practitioner's capabilities. Three negative questions were included to avoid rote responses.

Numeric rating scale

Originally, the numeric rating scale (NRS) was used to numerically express the degree of a patient's current pain from 0 (no pain) to 10 (most severe pain imaginable) [23]. However, the patients were asked to record their overall discomfort, rather than their pain, using this scale since the degree of pain is reported through Oswestry low-back pain disability index-1 (ODI-1). This encompassed not only pain, but also muscle weakness, limited range of motion not caused by pain, and so on.

Oswestry low-back pain disability index

The functional status of the patients was measured using the Oswestry low-back pain disability index (ODI) [24], which measures the impact of back pain in daily life (Table 1). In each question, the patients were asked about their daily disability from 0 to 5, with higher scores indicating more severe dysfunction. Nine questions were asked, excluding questions about sex life.

Statistical processing

The collected data were processed using SPSS for Windows version 21.0. To confirm homogeneity in gender, age, educational background, treatment duration, and diagnosis between the treatment methods, a Chi-square test was performed, which analyzed how categorical variables affected categorical data.

Changes in the scales (NRS and ODI) were evaluated using repeated measures analysis, which is used when 2 or more

Table 1. Oswestry Low-back Pain Disability Index [24].

Question 1. Current degree of pain 0. The pain occasionally occurs and is very mild. 1. The pain is mild and does not change much. 2. Pain occurs occasionally and is moderate. 3. Pain is moderate and does not change much. 4. Pain occurs occasionally and is very severe. 5. The pain is very severe and does not change much.	
Question 2. Self-care such as bathing and dressing 0. You can take care of yourself normally without pain. 1. There is some pain, but there is usually no need to change the way you wash or dress. 2. Washing and dressing increases the pain but does not change the way you wash or dress. 3. It is necessary to change the method because washing and dressing increases the pain. 4. In some cases you cannot wash and dress without someone helping because of the pain. 5. You cannot wash and dress without help.	Question 3. Lifting 0. You can lift a heavy object without pain. 1. You can lift heavy objects, but the pain gets worse. 2. You cannot lift heavy objects from the floor without pain, but you can lift heavy objects if they are in a comfortable position, such as above the table. 3. You cannot lift heavy objects, but you can lift light or medium weight objects if they are in a comfortable position, such as above the table. 4. You can lift only the lightest things. 5. You cannot lift or move anything at all.
Question 4. Walking 0. You can walk any distance. 1. Due to the pain, you cannot walk more than 1 km. 2. Because of the pain, you can't walk more than 500m. 3. Due to the pain, you can't walk more than 100m. 4. You must use a cane or crutches to walk. 5. You lie most of the time and can barely crawl to the bathroom.	Question 5. Sitting 0. You can sit in any chair as much as you want. 1. You can sit in a comfortable chair as much as you want. 2. You can't sit for more than an hour because of the pain. 3. You cannot sit more than 30 minutes because of pain. 4. You cannot sit for more than 10 minutes because of the pain. 5. You cannot sit at all because of the pain
Question 6. Standing 0. You can stand as much as you want without pain. 1. You can stand as much as you want, but it gets worse. 2. You cannot stand for over an hour because of the pain. 3. You cannot stand for more than 30 minutes because of pain. 4. You cannot stand for more than 10 minutes because of the pain. 5. You cannot stand at all because of the pain.	Question 7. Sleeping 0. You cannot sleep because of pain. 1. You do not get to sleep sometimes because of the pain. 2. You cannot sleep over 6 hours because of the pain. 3. You cannot sleep over 4 hours because of the pain. 4. You cannot sleep more than 2 hours because of the pain. 5. You cannot sleep at all because of the pain.
Question 8. Social life 0. You have a normal social life without pain. 1. You have a normal social life, but the pain gets worse. 2. You are limited in activities such as sports because of the pain, but your social life is not severely affected. 3. You often do not go out because of the pain. 4. Social life is restricted to the home due to the pain. 5. The pain makes it impossible to have a social life at all.	Question 9. Travel 0. You can move anywhere without pain. 1. You can move anywhere, but the pain gets worse. 2. Pain is severe, but you can move for about 2 hours. 3. You cannot move for more than an hour because of the pain. 4. It is only possible to move less than 30 minutes if necessary, due to pain. 5. You don't move except when you are treated, due to the pain.

measurements are carried out on the same sample. These were further analyzed using split-plot designs that considered between-group factors and within-group factors.

Patient satisfaction was compared between the treatment groups using the independent-sample t test, which tests the mean difference between 2 groups. With regards to general, conversational, and technical satisfaction, the 2 treatment groups were compared in terms of gender, age, educational background, and treatment duration, for which we used 2-way analysis of variance, which determines whether dependent variables have a significant effect on independent variables when there is 1 dependent variable and 2 independent variables. Values of $p < 0.05$ were considered significant.

Results

Personal data

Distribution of gender, age, educational background, treatment duration, and diagnosis in the 2 treatment groups was collated (Table 2). The patient demographics were similar in both the acupuncture or Chuna treatment methods, with no significant differences in gender, age, education level, and treatment frequency (Table 2) significant differences ($p < 0.05$) in diagnosis were observed between the groups (Table 3).

Distribution and improvement in numeric rating scale in each group

In the acupuncture group, the NRS score was significantly reduced from 6.37 ± 1.97 before treatment, to 3.07 ± 2.27 after treatment ($p < 0.01$). Similarly, in the Chuna group, a significant reduction was observed in NRS score from 6.50 ± 1.89 to 3.47 ± 2.18 after treatment ($p < 0.01$; Table 4). The NRS changes did not differ significantly between treatments (Table 5). These results showed that both acupuncture and Chuna treatment significantly reduced pain in both patient groups, with no significant difference in effectiveness between treatments.

Distribution and improvement in the Oswestry low-back disability index-1 in each group

In the acupuncture group, the mean ODI-1A score before treatment was 3.23 ± 1.41, and was significantly reduced to 1.37

± 1.19 after treatment ($p < 0.01$; Table 6). In the Chuna therapy group, ODI-1A was 2.70 ± 1.21 before treatment, with a significant improvement to 1.77 ± 1.45 after Chuna therapy ($p < 0.01$; Table 6). The effectiveness of ODI-1 reduction was similar between treatments (Table 7).

Table 2. General Characteristics of the Patients.

General characteristics	Category	Acupuncture frequency	Chuna frequency
Gender	Male	19 (63.33)	13 (43.33)
	Female	11 (36.66)	17 (56.66)
	Total	30 (100)	30 (100)
Age (y)	< 45	14 (46.66)	17 (56.66)
	> 45	16 (53.33)	13 (43.33)
	Total	30 (100)	30 (100)
Educational background	High school graduate	16 (53.33)	16 (53.33)
	College graduate	14 (46.66)	14 (46.66)
	Total	30 (100)	30 (100)
Treatment period (wk)	< 1	8 (26.66)	7 (23.33)
	1 – 2	10 (33.33)	9 (30.00)
	2 – 3	10 (33.33)	9 (30.00)
	3 – 4	2 (6.66)	3 (10.00)
	> 4	0 (0)	2 (6.66)
	Total	30 (100)	30 (100)
Impression	Lumbar sprain	20 (66.66)	9 (30.00)
	Spinal stenosis / HIVD	4 (13.33)	7 (23.33)
	Lumbago	6 (20.00)	14 (46.66)
	Total	30 (100)	30 (100)

Data are presented as *N* (%).
HIVD, Herniated intervertebral discs.

Table 3. Chi-square Test for Treatment Type and Patient Impression.

	Value	Degrees of freedom	Asymptotic *p**
Chi-square test	8.191†	2	0.017‡
Likelihood	8.399	2	0.015‡
Effective case number	60		

*2-sided test.
†0 cell (0%) is a cell that has an expected frequency of less than 5. The minimum expected frequency is 5.50.
‡The mean difference is significant at the 0.05 level.

Table 4. Paired *t* test Results for Numeric Rating Scale Before and After Treatment.

	NRS-1*	NRS-2†	*p*
Acupuncture	6.37 ± 1.97	3.07 ± 2.27	< 0.01‡
Chuna therapy	6.50 ± 1.89	3.47 ± 2.18	< 0.01‡

Data are presented as mean ± SD.
NRS, numeric rating scale.
*NRS-1: NRS before treatment.
†NRS-2: NRS after final treatment.
‡The mean difference is significant at the 0.01 level of confidence.

Distribution and improvement in total Oswestry low-back disability index in each group

In the acupuncture group, the total ODI-A score was 19.10 ± 10.12, before treatment and was significantly reduced to 11.73 ± 8.85

Table 5. Variance Analysis of Changes in Numeric Rating Scale Before and After Treatment Depending on Treatment Method.

Source	Sum of squares	Degrees of freedom	Mean square	*F*	*p*
Between-group	373.300	59			
Method	2.133	1	3.133	0.333	0.566
Error	371.167	58	6.399		
Within-group	433.999	60			
Time	300.833	1.00	300.833	131.553	0.000
Time* Method	0.533	1.00	0.533	0.233	0.631
Error	132.633	58	2.287		
Total	807.299	119			

Table 6. Paired t test Results of ODI-1 Before and After Treatment.

	ODI-1A*	ODI-1B†	*p*
Acupuncture	3.23 ± 1.41	1.37 ± 1.19	< 0.01‡
Chuna therapy	2.70 ± 1.21	1.77 ± 1.45	< 0.01‡

Data are presented as mean ± SD.
ODI, Oswestry low-back pain disability index.
*ODI-1A: ODI-1 before treatment.
†ODI-1B: ODI-1 after final treatment.
‡The mean difference is significant at the 0.01 level.

Table 7. Variance Analysis of Changes in Oswestry Low-back Pain Disability Index-1 Before and After Treatment Depending on Treatment Method.

Source	Sum of squares	Degrees of freedom	Mean square	*F*	*p*
Between-group	135.466	59			
Method	0.133	1	0.133	0.057	0.812
Error	135.333	58	2.333		
Within-group	132.000	60			
Time	58.800	1	58.800	51.156	0.000
Time*Method	6.533	1	6.533	5.684	0.020
Error	66.667	58	1.149		
Total	267.466	119			

Table 8. Paired t test of total Oswestry Low-back Pain Disability Index Before and After Treatment.

	ODI-A*	ODI-B†	*p*
Acupuncture	19.10 ± 10.12	11.73 ± 8.85	< 0.01‡
Chuna therapy	15.30 ± 8.28	13.03 ± 10.18	< 0.01‡

Data are presented as mean ± SD.
ODI, Oswestry low-back pain disability index.
*ODI-A: Total ODI before treatment.
†ODI-B: Total ODI after final treatment.
‡The mean difference is significant at the 0.01 level.

for the ODI-B score after treatment ($p < 0.01$; Table 8). In the Chuna therapy group, total ODI-A was 15.30 ± 8.28 before treatment, with a significant reduction to 13.03 ± 10.18 for the ODI-B score after Chuna therapy ($p < 0.01$; Table 8). The effectiveness of ODI-A to ODI-B reduction was similar between treatments (Table 9).

Satisfaction in each group

The mean ± standard deviation of general, conversational, emotional, and technical satisfaction were calculated for each group, and a t test was performed on 2 independent samples. Amongst the 24 questions, there were no statistical differences between the 2 acupuncture and Chuna treatment groups. The same result was obtained in all 4 satisfaction categories (Table 10).

In contrast, analysis of variance indicated that there was a significant difference in emotional satisfaction between the treatment methods in terms of treatment duration ($p < 0.045$). However, Scheffee's analysis showed that there was no difference

Table 9. Variance Analysis of Changes in Total Oswestry Low-back Pain Disability Index Before and After Treatment Depending on Treatment Method.

Source	Sum of squares	Degrees of freedom	Mean square	*F*	*p*
Between-group	8,035.292	59			
Method	46.875	1	46.875	0.336	0.564
Error	8,038.417	58	139.369		
Within-group	3,045.500	60			
Time	696.008	1	696.008	18.738	< 0.01
Time*Method	195.075	1	195.075	5.252	0.026
Error	2,154.417	58	37.145		
Total	11,080.792	119			

Table 10. Average, Standard Deviation and Independent Sample *t* test Results about Satisfaction.

General aspects (4 questions)	Acupuncture	Chuna	*p*
Would you like to introduce it to a friend?	3.50 ± 0.57	3.23 ± 0.90	0.176
Do you want to be treated by another practitioner?	2.83 ± 0.79	2.86 ± 0.97	0.885
Is your practitioner kind?	3.60 ± 0.50	3.56 ± 0.63	0.820
Are you satisfied with your treatment?	3.47 ± 0.57	3.30 ± 0.88	0.387
Total	13.40 ± 1.89	12.97 ± 2.79	0.484
Conversational aspect (5 questions)			
Are you satisfied with the description of the practitioner?	3.37 ± 0.76	3.23 ± 0.77	0.505
Is the practitioner giving encouraging?	3.23 ± 0.69	3.07 ± 0.83	0.314
Does the practitioner explain the effect in detail?	3.00 ± 0.95	3.20 ± 0.88	0.402
Does the practitioner listen to you thoroughly?	3.30 ± 0.70	3.37 ± 0.67	0.708
Does the practitioner inquire enough about your symptoms?	3.23 ± 0.82	3.43 ± 0.68	0.307
Total	16.17 ± 3.12	16.30 ± 3.55	0.878
Emotional aspect (8 questions)			
Does the practitioner try to comfort you?	3.53 ± 0.51	3.47 ± 0.68	0.669
Does the practitioner speak rudely?*	3.53 ± 0.51	3.37 ± 0.61	0.257
Do you think the practitioner wants to receive your money?*	3.60 ± 0.50	3.43 ± 0.57	0.232
Does the practitioner reassure you about your illness?	3.27 ± 0.70	3.23 ± 0.73	0.856
Does the practitioner always respect you?	3.33 ± 0.61	3.34 ± 0.61	0.833
Does the practitioner value your feelings?	3.23 ± 0.73	3.30 ± 0.70	0.719
Are you satisfied with the attitude of the practitioner?	3.60 ± 0.50	3.47 ± 0.63	0.366
Are you satisfied with the quantity and quality of the treatment?	3.40 ± 0.56	3.17 ± 0.83	0.209
Total	27.50 ± 3.64	26.80 ± 4.70	0.489
Technical aspects (7 questions)			
Did the practitioner fully understand your symptoms?	3.40 ± 0.67	3.33 ± 0.71	0.711
Do you think the treatment techniques are excellent?	3.33 ± 0.66	3.13 ± 0.90	0.330
Are you satisfied with your treatment plan?	3.20 ± 0.76	3.17 ± 0.83	0.872
Does the practitioner try to improve your symptoms?	3.40 ± 0.50	3.40 ± 0.62	1.000
Are you worried when you are being treated?*	3.23 ± 0.73	3.23 ± 0.73	1.000
Do you think the practitioner has sufficient knowledge?	3.30 ± 0.65	3.30 ± 0.65	1.000
Are you satisfied with the practitioner's ability to treat you?	3.43 ± 0.57	3.17 ± 0.79	0.139
Total	23.30 ± 3.83	22.73 ± 4.49	0.601

Data are presented as mean ± SD.
*3 negative questions to avoid rote responses.

in emotional satisfaction between the acupuncture and Chuna therapy.

Discussion

In the modern era of healthcare, patients have become better informed due to access to readily available, high quality medical information, enabling them to seek out treatments that may be new, or carry less risk, or involve less painful treatments. Patients do not routinely settle for treatments that they are offered by their doctor without questioning that treatment. In addition, it has been reported that patients who feel a greater satisfaction with their treatment, experience improved recovery [25]. Therefore, studies into patient satisfaction of treatment are pertinent [23]. Yoo performed a study into patient satisfaction with acupuncture treatment [26], whilst Kim focused on patient satisfaction with Chuna therapy [21]. These single studies highlight the need for further studies to evaluate patient satisfaction. This study investigated efficacy and patient satisfaction with acupuncture and Chuna treatment for back pain, which affects a large number of patients and can be an indication for either therapy.

To evaluate homogeneity between the groups, the Chi-square test showed that there was no difference between the treatment groups in terms of age, educational background, and treatment duration, but that there was a significant difference in terms of diagnosis, with proportionally more patients in the acupuncture group diagnosed with lumbar sprain (67% vs 30%), whereas the Chuna group had 47% of patients reporting lumbago, compared with 20% in the acupuncture group. Accordingly, the treatment groups differed in terms of diagnosis, so it was difficult to directly compare patient satisfaction.

In terms of general, emotional, conversational, and technical satisfaction, there were no significant differences between the treatment groups. Moreover, with regards to general, emotional, conversational, and technical satisfaction, the treatment groups were compared in terms of gender, age, educational background, and treatment duration. The results indicated that emotional satisfaction was affected by treatment duration. However, the post-analysis showed no difference between the 2 groups. None of the other comparisons of satisfaction were of statistical significance.

Most results in the present study were not significantly different between the 2 treatment groups, probably because the 60 patients with back pain were not randomly assigned to the acupuncture and Chuna therapy groups. Instead, each patient was assigned to a treatment group depending on whether they needed Chuna therapy. As a result, it is likely that each patient thought that they had received sufficient care. Furthermore, it may be that some patients believed that the questionnaires would affect the treatment and they elevated their satisfaction scores accordingly. With regards to the difference in emotional satisfaction between the 2 treatment groups in terms of treatment duration, post-analysis revealed that this difference was not significant. We believe that the apparent difference had arisen because only 2 patients had received treatment for over 4 weeks.

The NRS and ODI, recorded before and after treatment, were used to investigate the efficacy of acupuncture and Chuna therapy. In studies by Choi [27], Lee [28], and Lee [29], NRS was used to evaluate back pain, so this was applied accordingly in the present study. The NRS was originally used to assess subjective pain. However, in the present study, since pain was assessed using the ODI-1, the patients were asked to record their overall discomfort, rather than their pain, using the NRS. The ODI, which evaluates the effects of back pain in daily life, was used in the present study to investigate the functional status of the patients; it has been used in various studies [28-31], as a universal assessment of back pain.

The NRS, ODI-1, and total ODI showed significant improvements in the acupuncture and Chuna therapy groups. To compare the efficacy of acupuncture and Chuna therapy using 3 scales, analysis of variance was used. The results showed that there were no statistical differences between groups.

In NRS, the mean differences before and after treatment were 3.30 (Acupuncture) and 3.03 (Chuna therapy). In ODI-1, the mean differences before and after treatment were 1.86 and 0.93, respectively. In total ODI, the mean differences before and after treatment were 7.37 and 2.27, respectively.

If the difference in mean values before and after treatment is interpreted as indicating treatment efficacy, the NRS, ODI-1, and total ODI all indicated that both therapies had significant efficacy in the management of pain and overall discomfort. The changes in mean NRS score showed that the efficacy of treatment were almost identical for acupuncture and Chuna therapy for treatment of overall discomfort caused by back pain. However, while the improvements in overall discomfort were similar for both treatments, the differences in discomfort caused by pain reduction, indicated that Chuna therapy improved discomfort caused by problems other than pain, while acupuncture is more effective in improving discomfort by pain.

Importantly, the 2 treatment groups consisted of patients with back pain who had different medical conditions. In selecting the Chuna therapy group, we reviewed the charts of patients who had received lumbar distraction manipulation or lumbar–sacrum joint traction manipulation in the prone position. These techniques are used for rotational displacement of the lumbosacral spine, or problems in the intervertebral space. It follows that patients with lumbar dislocation had become participants of Chuna therapy, and that the acupuncture group consisted of patients who had back pain without lumbar displacement, which may have introduced bias to the results.

Therefore, it would appear that acupuncture had a significant effect on back pain, especially discomfort from pain without structural changes, and that Chuna therapy had a significant effect on back pain, with structural deformity. It is important to pay attention to this because Chuna is likely to reduce the discomfort caused by problems other than back pain.

The limitations of the present study were as follows: Firstly, the number of patients sampled was relatively small. Secondly, when the patients were sorted into the acupuncture and Chuna therapy groups, no randomization was applied. Instead, a Korean medicine practitioner decided which treatment the patient should receive according to the presence of structural changes. Such are the limitations of a retrospective chart review. Thirdly, the questionnaire may have reflected the patient's concerns that they would be adversely affected by the content they wrote. Fourthly, it may be that the results regarding patient satisfaction and treatment differed because 7 practitioners were involved in the study, not 1.

Considering these limitations, more systematic studies should be carried out that randomly assign a larger number of patients and eliminate unnecessary bias to reduce the number of variables. Moreover, studies of acupuncture and Chuna therapy for back pain that compare patients with and without structural deformity are needed.

Conclusion

To compare satisfaction and treatment efficacy in patients with back pain treated using acupuncture and Chuna therapy, the NRS, ODI, and satisfaction questionnaires were completed by patients who were treated in 5 departments of Sun-cheon korean medicine

hospital, Dong-shin university in September and October, 2017. The results were then analyzed in a chart review.

1. The NRS was significantly reduced in both the acupuncture and Chuna therapy groups, but there was no significant difference in NRS variation between treatments.
2. ODI-1 was significantly reduced in both the acupuncture and Chuna therapy groups, but there was no significant difference in ODI-1 variation between treatments.
3. Total ODI was significantly reduced in both the acupuncture and Chuna therapy groups. Although there seemed to be a difference in the amount of reduction, it was not statistically significant.
4. There were no significant differences between the acupuncture and Chuna therapy groups in terms of general, emotional, conversational, and technical satisfaction.
5. With regards to general, conversational, and technical satisfaction, the 2 treatment groups were compared in terms of gender, age, educational background, and treatment duration. There were differences in satisfaction between the 2 treatment groups, but no statistical significance.
6. With regards to emotional satisfaction, the 2 treatment groups were compared in terms of gender, age, educational background, and treatment duration. There were significant differences in satisfaction between the 2 treatment groups depending on treatment duration, but Scheffee's analysis showed that this was statistically insignificant, presumably because there were too few patients.

Conflicts of Interest

The authors have no conflicts of interest to declare.

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