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The Efficacy of Acupuncture in Treating Neck, Shoulder, Waist and Leg Pain and Its Impact on TCM Syndromes and Painful Joint Function

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Abstract: *Purpose:* When treating patients with neck, shoulder, waist and leg pain, analyze the application value of acupuncture and evaluate its impact on patients' TCM syndromes, pain, and joint function. *Methods:* According to the guidance of the random number table method, patients with neck, shoulder, waist and leg pain admitted to the hospital from January 2024 to October 2025 were divided into groups, specifically including: control group and experimental group. After counting the patients in the two groups, there were a total of 90 cases; in the treatment phase, the conventional protocol was used for the control group, and the acupuncture protocol was used for the experimental group. 45 cases were included in each group. The final efficacy was evaluated and compared. The specific contents include: VAS scores of patients with neck, shoulder, waist and leg pain, TCM syndrome scores, joint function scores and treatment effectiveness. *Results:* (1) Before treatment, there was no statistical significance in the comparison of VAS scores and TCM syndrome scores (swelling, functional limitation) in patients with neck, shoulder, waist and leg pain, $P>0.05$; after treatment, the above indicators improved significantly, and were lower in the experimental group, $P<0.05$; (2) Joint function was investigated, and patients with neck, shoulder, waist and leg pain had no statistical significance in the CASCS score, C Comparing the MS score, JOA score, and LKS score, the experimental group VS the control group was higher, $P<0.05$; (3) In terms of total effective rate, the calculated data of the control group was 80.00% (36/45), and the experimental group was 95.56% (43/45). The comparison results showed that the patients with neck, shoulder, waist, and leg pain in the experimental group were higher, $P<0.05$. *Conclusion:* In the clinical treatment stage, the application of acupuncture has significant advantages in many aspects. For patients with neck, shoulder, waist and leg pain, it can help reduce disease symptoms, improve joint function, and increase the total effectiveness, and is worthy of vigorous promotion.

Keywords: patients with neck; shoulder; waist and leg pain; acupuncture treatment; VAS score; TCM syndrome score; total effective rate

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1. Introduction

Neck, shoulder, waist and leg pain is a common clinical disease, and the triggering factors are relatively complex. The core indicators include: muscle strain, cervical spondylosis, lumbar disc herniation, osteoporosis, rheumatoid arthritis, long-term desk work, bad posture, etc. [1]; in traditional Chinese medicine, According to the survey, neck, shoulder, waist and leg pain can be classified into the category of "Bi syndrome". The causes and pathogenesis include: strain and trauma, Qi

and blood deficiency, liver and kidney insufficiency, invasion of wind-cold-dampness evil, blood stasis and blockage, etc. Once the disease occurs, it will seriously affect the patient's quality of life and physical health [2]. The above pathological phenomena require great clinical attention and analysis in the treatment field. Conventional programs mainly focus on drug intervention. Although the effect is obvious, long-term use can easily induce a series of adverse reactions, leading to poor prognosis. Acupuncture programs, as traditional Chinese medicine therapies, can effectively stimulate relevant acupoints, thereby achieving the goal of "general rule without pain" and better guaranteeing the patient's prognosis [3]. In view of this, this article will analyze the patients with neck, shoulder, waist and leg pain who visited our hospital from January 2024 to October 2025, aiming to explore the implementation value of the acupuncture program. The details are reported as follows.

2. Clinical data and methods

2.1. General information

This article selects patients with neck, shoulder, waist and leg pain treated in our hospital as the research subjects. The inclusion time is from January 2024 to October 2025. In the follow-up management stage, 90 eligible patients need to be grouped in time. The guiding principle is: random number table method. The grouping results are: control group and experimental group. The detailed information is as follows. Control group: 45 cases were included. In terms of gender distribution, the number of female patients and the number of male patients were 20 and 25. In terms of age, they ranged from 33 to 75 years old, with an average value of (54.09±1.28) years. After statistics of the course of the disease, they ranged from 1 month to 7 months, with an average duration of (4.03±0.25) months; Experimental group: 45 cases were included. In terms of gender distribution, the number of female patients was 22 and the number of male patients was 23. In terms of age, it ranged from 35 to 74 years old, with an average value of (54.48±1.16) years. After statistics of the course of the disease, it ranged from 1 month to 6 months, with an average duration of (3.51±0.11) months. After statistics of the above research data (gender distribution, age, disease duration), there was no difference between patients with neck, shoulder, waist and leg pain, $P>0.05$.

Inclusion criteria: (1) permission from the hospital ethics committee; (2) neck, shoulder, waist and leg pain has been diagnosed, and the personal information of the screened patients is complete; (3) patients with neck, shoulder, waist and leg pain have no drug contraindications; (4) patients with neck, shoulder, waist and leg pain and their families have read in detail and signed the consent document regarding the purpose, content, and potential risks of this study.

Exclusion criteria: (1) People with cancer; (2) Patients with neck, shoulder, waist, and leg pain who have immune deficiency and blood system diseases; (3) Patients with neck, shoulder, waist, and leg pain who have mental disorders or cognitive impairment and have lost basic communication abilities; (4) People with severe abnormalities in liver and kidney function; (5) Patients with neck, shoulder, waist, and leg pain who dropped out of the study midway due to the influence of subjective and objective factors

2.2. Method

Control group: A conventional treatment regimen was adopted, and a survey was conducted among patients with neck, shoulder, waist and leg pain, mainly drug intervention, namely: celecoxib capsules, oral medication, single dose: 200 mg, once a day, observation time: 1 month; drug information: celecoxib capsules, manufacturer: Pfizer Pharmaceuticals Co., Ltd., approval number: National Drug Approval No. J20080059.

Experimental group: Adopt acupuncture treatment, the main contents are: (1) Acupoint selection. ① Neck: Mainly Dazhui, Fengchi, Jingjiaji, Jianjing, and Quchi points; ② Shoulders: Jianliao, Jianjing, Jianzhen, Quchi, Waiguan; ③ Waist: Yaoyangguan, Bladdershu, Shenshu, Dachangshu, Huantiao, Weizhong, Chengshan, Zusanli, Yinlingquan; ④ Legs: Huantiao, Taixi, Qiuxu, Jiaji. (2) Operation process. Analysis of patients with neck, shoulder, waist and leg pain. During clinical treatment, staff need to disinfect the above-mentioned acupuncture points. Secondly, assist the patient to adjust the correct posture, insert with the help of filiform needles, and then implement acupuncture treatment. During this process, the main method is to use flat tonic and flattening techniques and observe the patient's reaction. If there is soreness, numbness,

swelling and pain, the needle should be retained. Body time: 20 minutes. During the needle retention period, the staff can select a moxa stick to connect to the needle handle, ignite it and observe the patient's reaction. During this process, the staff needs to clearly instruct the patient not to move the body at will to avoid burns. This operation is done once a day, 5 times a week. Observation time: 1 month.

2.3. Evaluation indicators

(1) Among patients with neck, shoulder, waist and leg pain, compare the difference in VAS scores between the two groups, namely: pain visual analogue scale. When surveying this index, the total score is 10 points. The higher the measured data, the more severe the patient's pain.

(2) Compare TCM syndrome scores, including: swelling and functional limitation. The level of measured data is inversely proportional to the severity of the patient's disease symptoms;

(3) Compare joint function scores. The main contents include: CASCS score (cervical spondylosis score scale), CMS score (shoulder joint function score), JOA score (Japanese Orthopedic Association Lumbar Spine Function Assessment), LKS score (knee joint score). After the above index survey, the total scores are: 100 points, 100 points, 29 points, and 100 points respectively. The level of the measured data is directly proportional to the recovery of the patient's joint function.

(4) Compare the effectiveness of treatment. The specific levels and evaluation standards are [4]: Significantly effective level: The patient's disease symptoms have basically disappeared and joint functions have returned to normal; Generally effective level: The patient's neck, shoulder, waist and leg pain symptoms have significantly improved, with less impact on life and work, and joint functions have significantly improved; Ineffective level: After treatment, the patient's indications in all aspects have not changed, and there is a trend of worsening. In terms of total effective rate, the clinical calculation method is: total number of significantly effective and generally effective patients/45×100.00%.

2.4. Statistical data

SPSS 25.0 software analyzes the data and conducts a survey among patients with neck, shoulder, waist and leg pain. VAS scores, TCM syndrome scores, and joint function scores can be summarized in the category of measurement data. T test is used, and the treatment effectiveness can be summarized in the category of counting data. Chi-square test is used. The above information is organized, and the representative forms are ($\bar{x} \pm s$) and (%) respectively. When P<0.05, it proves that the difference between the groups is statistically significant.

3. Results

3.1. VAS score

Statistics on VAS scores of patients with neck, shoulder, waist and leg pain showed that there was no difference before treatment, P>0.05; after treatment, the experimental group was lower than the control group, P<0.05. See **Table 1** for details.

Table 1. Comparison of VAS scores between the control group and the experimental group ($\bar{x} \pm s$)

Group	Before treatment (point)	After treatment (point)
Control group (n=45 cases)	6.39±1.32	2.57±0.55
Experimental group (n=45 cases)	6.41±1.28	1.91±0.16
T	0.073	7.729
P	0.942	0.000

3.2. Traditional Chinese Medicine Syndrome Score

Before treatment, there was no statistical significance in the traditional Chinese medicine syndrome scores (swelling, functional limitation) of the two groups of patients with neck, shoulder, waist and leg pain, P>0.05; after treatment, the scores in the experimental group were lower, P<0.05. See **Table 2** for details.

Table 2. Comparison of TCM syndrome scores between the control group and the experimental group ($\overline{x} \pm s$)

Group	Swelling (point)		Limited functionality (point)	
	Before treatment	After treatment	Before treatment	After treatment
Control group (n=45 cases)	2.68±0.11	1.28±0.13	2.44±0.31	1.98±0.47
Experimental group (n=45 cases)	2.71±0.09	0.95±0.06	2.48±0.25	1.01±0.11
T	1.416	15.461	0.674	13.480
P	0.161	0.000	0.502	0.000

3.3. Joint function score

Comparing the CASCS score, CMS score, JOA score and LKS score, patients with neck, shoulder, waist and leg pain in the experimental group were higher, P<0.05. See **Table 3** for details.

Table 3. Comparison of joint function scores between the control group and the experimental group ($\overline{x} \pm s$)

Group	CASCS score	CMS score	JOA score	LKS score
Control group (n=45 cases)	73.82±5.96	70.12±6.15	20.05±3.34	73.55±6.75
Experimental group (n=45 cases)	80.38±4.11	78.53±5.05	25.17±3.21	80.41±5.26
T	6.078	7.090	7.414	5.378
P	0.000	0.000	0.000	0.000

3.4. Treatment effectiveness

Compared with the control group, the total effective rate of treatment for patients with neck, shoulder, waist and leg pain in the experimental group was higher, P<0.05. See **Table 4** for details.

Table 4. Comparison of treatment effectiveness between the control group and the experimental group (%)

Group	Significantly effective	Generally effective	Invalid	Total effectiveness (%)
Control group (n=45 cases)	21(46.67)	15(33.33)	9(20.00)	36(80.00)
Experimental group (n=45 cases)	23(51.11)	20(44.44)	2(4.44)	43(95.56)
X^2	-	-	-	5.075
P	-	-	-	0.024

4. Discussions

Neck, shoulder, waist and leg pain has a high clinical incidence, long cycle, and is easy to relapse. For patients, it brings great trouble to their own lives[4]. According to the investigation of disease symptoms, such patients show: pain, acidity,

limited activity, and swelling in the neck and shoulders, upper limbs, lower back, and lower limbs. If it continues to progress, it will seriously threaten the physical and mental health of the patient if it is not effectively controlled [5].

The results of this study show: (1) Statistics of VAS scores showed that before treatment, there was no difference in patients with neck, shoulder, waist and leg pain, P>0.05; after treatment, compared with the control group (2.57±0.55 points), the experimental group had this item The score (1.91±0.16 points) was lower, P<0.05; (2) Comparing the swelling score and functional limitation score in the traditional Chinese medicine syndrome score, there was no difference before treatment, P>0.05; after treatment, the experimental group was more Low, P<0.05; (3) Comparing the CASCS score, CMS score, JOA score and LKS score, patients with neck, shoulder, waist and leg pain in the experimental group were higher, P<0.05; (4) In terms of total effective rate, the two The statistical data of patients with neck, shoulder, waist and leg pain in the two groups after different intervention programs were: 80.00% (36/45), 95.56% (43/45). The comparison results showed that the experimental group was higher, P<0.05. After analysis of the reasons, it was concluded that during the treatment phase for patients with neck, shoulder, waist and leg pain, celecoxib capsules in the conventional regimen are non-steroidal anti-inflammatory drugs. For patients, they can better relieve pain symptoms and promote the absorption of inflammatory factors in the body, thereby improving the patient's joint mobility. However, during long-term use, this drug can easily cause irritation to the patient's gastrointestinal tract, liver and kidney function, thereby inducing adverse reactions, and the overall effect is poor. As a traditional Chinese medicine physiotherapy technology, acupuncture program can accurately select relevant acupoints on the patient's neck, shoulders, waist, and legs during the specific intervention process, and then use flat-tonifying and flat-reducing techniques to move the needles to better regulate the circulation of qi and blood in the patient's body. At the same time, during the acupuncture intervention process, patients with neck, shoulder, waist, and leg pain can It is said that it can also effectively regulate the imbalance of yin and yang, dredge meridians, and improve organ function [6-7]; in addition, the combination of moxibustion can warm the meridians and dispel cold, promote qi and blood circulation, and promote yang and subsidence, which can further enhance the efficacy of acupuncture, thereby improving the patient's inflammatory response, alleviating disease symptoms, and improving joint function [8].

To sum up, in the treatment stage of neck, shoulder, waist and leg pain, the application of acupuncture is effective. For such patients, it can better reduce the symptoms of pain, swelling, and functional limitation, improve the patient's joint mobility, and increase the total effective rate. It has significant clinical promotion value.

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Disclosure statement

The author declares no conflict of interest.

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