

# Efficacy observation on acupuncture-moxibustion at Ciliao (BL 32) for primary dysmenorrhea due to cold-dampness

## 针灸次髂穴对寒湿凝滞型原发性痛经的疗效观察

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### Abstract

**Objective:** To observe the clinical efficacy of acupuncture plus moxibustion at Ciliao (BL 32) for primary dysmenorrhea (PD) due to cold-dampness.

**Methods:** A total of 58 cases with PD due to cold-dampness were randomly allocated into an observation group ( $n=29$ ) and a control group ( $n=29$ ). Patients in the observation group were treated with acupuncture and suspended moxibustion at Ciliao (BL 32), whereas patients in the control group were treated with routine acupuncture alone. After three courses of treatment, the clinical efficacy was evaluated and compared between the two groups.

**Results:** After treatment, the symptom scores were significantly reduced in both groups ( $P<0.05$ ), but there were no significant between-group differences in clinical efficacy and symptom scores ( $P>0.05$ ).

**Conclusion:** With fewer points and less pain, acupuncture-moxibustion at Ciliao (BL 32) can obtain similar effect as routine acupuncture therapy for PD due to cold-dampness.

**Keywords:** Acupuncture Therapy; Moxibustion Therapy; Acupuncture-moxibustion Therapy; Point, Ciliao (BL 32); Dysmenorrhea

**【摘要】目的：**观察针刺配合艾灸次髂穴对寒湿凝滞型原发性痛经(primary dysmenorrhea, PD)的临床疗效。**方法：**将 58 例寒湿凝滞型 PD 患者随机分为观察组和对照组，每组 29 例，观察组采用针刺加悬灸次髂穴，对照组仅用常规针刺。两组均治疗 3 个疗程后评价疗效。**结果：**治疗后，两组症状评分均较治疗前降低，差异有统计学意义( $P<0.05$ )；两组在临床疗效和症状评分上均无显著差异( $P>0.05$ )。**结论：**针灸次髂穴对寒湿凝滞型 PD 疗效显著，与常规针刺治疗的疗效无明显差异，但具有取穴少，患者痛苦小的优点。

**【关键词】**针刺疗法；灸法；针灸疗法；穴，次髂；痛经

**【中图分类号】**R246.3 **【文献标志码】**A

Primary dysmenorrhea (PD) is defined as cramping pain in the lower abdomen occurring just before or during menstruation, in the absence of other organic reproductive diseases. In addition to abdominal pain, patients may also present with low back soreness or pain, spastic pain, distending pain of the breast, headache, dizziness, nausea, vomiting, stomachache, diarrhea, a pale complexion, and cold limbs. In severe cases, shock or faint may also be present<sup>[1]</sup>. Epidemiological survey has shown that PD affects 33% of women in China. It's also reported that PD affects approximately 50% of adolescent girls<sup>[2]</sup>.

## 1 Clinical Materials

### 1.1 Diagnostic criteria

This was based on the diagnostic criteria in *Gynecology and Obstetrics in Chinese Medicine*<sup>[3]</sup> and *Criteria of Diagnosis and Therapeutic Effects of Diseases and Syndromes in Traditional Chinese Medicine*<sup>[4]</sup>: Lower abdominal pain during, before or after (within 1 week) period that occur for at least 3 months and exclusion of organic reproductive conditions (ultrasound, gynecological examination for married women and digital rectal examination (DRE) for unmarried women).

### 1.2 Pattern identification in traditional Chinese medicine (TCM)

Signs and symptoms of PD due to cold dampness: Cold pain in the lower abdomen during, before or

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after periods that alleviates with warmth; delayed period, scanty menstruation with dark blood or clots, a pale complexion, cold limbs, cold intolerance, a dark tongue with a white coating and a deep tense or wiry pulse<sup>[5]</sup>.

### 1.3 Pain scoring criteria

This was based on the *Clinical Guidelines for Treating Dysmenorrhea with Chinese Medicine*<sup>[6]</sup>. Pain within 1 d scored as 0.5 point and a point of 0.5 was added for each additional day of pain (Table 1).

**Table 1. Pain scoring criteria (point)**

Symptoms/signs	Score
Lower abdominal pain during, before or after periods	5
Unbearable pain	1
Significant abdominal pain	0.5
Restlessness	1
Shock	2
A pale complexion	0.5
Cold sweats	1
Cold limbs	1
Pain that require bed rest	1
Pain that affects life and work	1
Pain that cannot be alleviated by analgesic methods	1
Pain that can be alleviated by analgesic methods	0.5
Associated low back pain	0.5
Associated nausea/vomiting	0.5
Associated bearing-down sensation of the anus	0.5
Pain within a day	0.5 (+0.5 for each additional day)

Grading of pain<sup>[6]</sup>: Severe pain  $\geq 14$  points; moderate pain  $>8$  points, but  $<14$  points; and mild pain  $\leq 8$  points.

### 1.4 Inclusion criteria

Those who met the above diagnostic criteria in Chinese and Western medicine as well as pattern identification in Chinese medicine; aged between 12 and 35 years; having PD for at least 3 months and having not taken any types of pain-killers; having signed the informed consent and were willing to participate in this trial.

### 1.5 Exclusion criteria

Dysmenorrhea due to pelvic inflammation, endometriosis and uterine fibroids; having complications of severe primary conditions in cardiovascular, liver, kidney and hemopoietic systems or mental disease; having taken medication or received other therapies during this trial; and those who didn't meet the inclusion criteria or follow the treatment protocol and those with incomplete data.

### 1.6 Statistical method

The SPSS 13.0 version software was used for statistical analysis of data. The *t*-test was used for measurement data, which were expressed as mean  $\pm$  standard deviation ( $\bar{x} \pm s$ ). The Chi-square test was used for enumeration data. A *P* value of less than 0.05 indicated a statistical significance.

### 1.7 General data

Of 92 PD cases treated in Acupuncture and Moxibustion Department, Hubei Provincial Hospital of Traditional Chinese Medicine between January 2014 and January 2015, a total of 58 cases with PD due to cold dampness were randomly allocated into an observation group ( $n=29$ ) and a control group ( $n=29$ ). There were no dropout cases in either group. Also, there were no significant between-group differences in age, duration and pain intensity ( $P > 0.05$ ), indicating that the two groups were comparable (Table 2).

**Table 2. Between-group comparison in baseline data**

Group	<i>n</i>	Mean age ( $\bar{x} \pm s$ , year)	Mean duration ( $\bar{x} \pm s$ , day)	Intensity of pain (case)		
				Severe	Moderate	Mild
Observation	29	17.69 $\pm$ 3.26	3.86 $\pm$ 1.87	5	18	6
Control	29	19.10 $\pm$ 3.03	3.57 $\pm$ 1.43	5	20	4

## 2 Treatment Methods

### 2.1 Observation group

Point: Ciliao (BL 32).

Method: The patient took a side lying position. After local sterilization with 75% alcohol, the point was inserted using a filiform needle of 40 mm in length,

followed by a twirling manipulation upon arrival of qi.

Moxibustion: Moxibustion was performed during needle retaining. The practitioner held an ignited moxa stick around Ciliao (BL 32) (1-2 cm away from the skin) until the patient felt warm.

The needle was retained for 30 min and manipulated once every 10 min. The treatment was

done once a day. The treatment course started from 1 week before the period and ended on the first day after period. The patient was treated for 3 successive courses.

## 2.2 Control group

Points: Guanyuan (CV 4), Zhongji (CV 3), bilateral Zusanli (ST 36), Sanyinjiao (SP 6) and Diji (SP 8)<sup>[7]</sup>.

Method: The patient took a supine lying position. After local sterilization with 75% alcohol, the points were inserted using filiform needles of 40 mm in length, followed by a twirling manipulation upon arrival of qi.

The needles were retained for 30 min and manipulated once every 10 min. The treatment was done once a day. The treatment course started from 1 week before the period and ended on the first day after period. The patient was treated for 3 successive courses.

## 3 Observation on Efficacy Results

### 3.1 Efficacy criteria

This was based on the efficacy criteria for dysmenorrhea in the *Guiding Principles for Clinical*

*Study of New Chinese Medicines*<sup>[8]</sup>.

Recovery: After treatment, the symptom score restored to 0; absence of abdominal pain or associated symptoms during, before or after periods and no relapse within 3 menstrual cycles.

Marked effect: After treatment, the symptoms scores were reduced by more than 1/2; significant alleviation or absence of abdominal pain or associated symptoms and an ability to work without taking medication.

Improvement: After treatment, the symptom scores were reduced to 1/2-3/4 of the pre-treatment scores; alleviation of abdominal pain or associated symptoms and an ability to work by taking medication.

Failure: Abdominal pain and associated symptoms remain unchanged.

### 3.2 Treatment results

#### 3.2.1 Between-group comparison in clinical efficacy

The total effective rate was 82.8% in the observation group, versus 86.2% in the control group. There was no significant between-group difference ( $P > 0.05$ ), indicating similar clinical efficacy in the two groups (Table 3).

**Table 3. Between-group comparison in clinical efficacy (case)**

Group	<i>n</i>	Recovery	Marked effect	Improvement	Failure	Total effective rate (%)
Observation	29	7	7	10	5	82.8
Control	29	6	7	12	4	86.2

#### 3.2.2 Between-group comparison in symptoms scores before and after treatment

After treatment, the symptom scores in both groups were significantly decreased ( $P < 0.05$ ); and there was no significant between-group difference ( $P > 0.05$ ), indicating similar improvements in signs and symptoms in the two groups (Table 4).

**Table 4. Between-group comparison in symptom scores before and after treatment ( $\bar{x} \pm s$ , point)**

Group	<i>n</i>	Before treatment	After treatment
Observation	29	10.98±2.85	4.53±1.78 <sup>1)</sup>
Control	29	11.17±2.69	4.98±1.58 <sup>1)</sup>

Note: Intra-group comparison before and after treatment, 1)  $P < 0.05$

## 4 Discussion

In TCM, PD falls under the category of 'abdominal pain during menstruation'. It was first recorded in *Jin Gui Yao Lue (Essential Prescriptions from the Golden Cabinet)*. Dysmenorrhea often occurs as a result of obstruction of or cold retention in the Thoroughfare

Vessel or malnourishment of the uterus and Thoroughfare Vessel. Cold dampness is a common pattern of dysmenorrhea. Contributing factors include being caught in the rain/wading into the water, external contraction of wind-cold, overeat of cold/raw food, and constitutional yang deficiency or deficiency-cold of the Thoroughfare Vessel and Conception Vessel. In Western medicine, prostaglandins (PG) are released during menstruation, due to the destruction of the endometrial cells. Release of prostaglandins and other inflammatory mediators in the uterus cause the uterus to contract, resulting in uterine hypoxia and subsequently, PD. It's known that PD is associated with increased endometrial secretion of menstrual prostaglandin, especially the prostaglandin F (PGF). Increased release of PGF may induce intense or even spastic uterine contraction and result in pain<sup>[9-10]</sup>.

Ciliao (BL 32) is located in the lumbosacral region and closely associated with the kidney, urinary bladder and Governor Vessel. As a result, needling this point is effective for gynecological and urogenital problems. In terms of anatomical position, Ciliao (BL 32) is located in the 2nd posterior sacral foramen innervated by the posterior branch of the 2nd sacral nerve. Stimulating

the sacral nerve helps to reduce the PGF contents in endometrium and blood, alleviate uterine contraction, improve blood supply to uterine smooth muscle and thus relieve pain<sup>[11]</sup>. Since moxibustion warms yang, unblocks meridians and stops pain, needling plus moxibustion at Ciliao (BL 32) can obtain a significant efficacy.

This study has indicated that acupuncture-moxibustion at Ciliao (BL 32) is better than routine acupuncture for fewer points and less pain in treating PD.

#### Conflict of Interest

The authors declared that there was no conflict of interest in this article.

#### Statement of Informed Consent

Informed consent was obtained from all individual participants included in this study.

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