

# 비급성 요통에 대한 위수혈 자락관법의 효과 탐색: 예비 무작위 대조군 시험

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## An Investigation on the Effects of Wet Cupping on Wisu (BL21) for Non-acute Low Back Pain: A Pilot Randomized Controlled Trial

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**Objectives** This study was designed to investigate the effects of wet cupping on Wisu (BL12) in non-acute low back pain patients.

**Methods** We recruited 30 participants for this study. Fifteen patients were randomly assigned to the Wisu (BL21) treatment group (WT group) and 15 were assigned to the non-acupoint treatment group (NT group). Both groups were treated with the pricking-cupping bloodletting method three times. Values at baseline and follow-up were analyzed by Wilcoxon signed rank test and the differences between the two groups were determined by Wilcoxon rank sum test. p-values less than 0.05 were considered significant. The primary outcome was the visual analogue scale (VAS), and secondary outcomes were the Oswestry disability index (ODI), Rolland-Morris disability questionnaire (RMDQ), Euroqol-5 dimension questionnaire (EQ-5D) and finger-to-ground distance (FTGD). These outcomes were measured on the day of first treatment before the procedure and on follow-up 7 days after the last treatment.

**Results** Significant changes were identified in the VAS for pain and ODI in each group after wet cupping treatment on Wisu ( $p < 0.05$ ). However, no significant changes were found between groups. Meanwhile, RMDQ and EQ-5D were significantly decreased only in the NT group ( $p < 0.05$ ) without any differences between groups. FTGD was decreased in both groups, but not significantly.

**Conclusions** Wet cupping with both Wisu treatment and non-acupoint had significant effects on non-acute low back pain, although there were no differences between the two groups. A large-scale study is needed to identify the effect of wet cupping on Wisu. (J Korean Med Rehabil 2018;28(4):21-32)

**Key words** Low back pain, Wet cupping, Wisu, BL21(Weishu)

## Introduction>>>>

According to data from the third Using of Korean Medicine Treatment and Investigation on Consumption Realities by the Korean Ministry of Health and Welfare, treatment for musculoskeletal and connective tissue disease accounts for 50.2% of patient visits to a Korean Medicine doctor. Of these diseases, aside from acute presentations, low back pain was the main symptom (6.6%)<sup>1)</sup>. Because of the high incidence of low back pain patients, clinical researchers have conducted numerous studies to address this issue<sup>2,3)</sup>, especially studies on acupuncture<sup>4,5)</sup>. Even though other techniques of Korean Medicine like cupping, moxibustion, pharmacupuncture, and chuna manipulation therapy are widely used by Korean Medicine doctors, they lack large-scale clinical trials with comparisons to acupuncture.

Wet cupping, a cupping therapy, is a procedure in which the target point of patient's body is punctured with triangular acupuncture, lancet or automatic puncturing gun, and then the area is covered and negatively pressured with a cup to squeeze out blood<sup>6)</sup>. Wet cupping is known to improve nonspecific low back pain<sup>7,8)</sup>, hypertension<sup>9)</sup>, brachial pain<sup>10)</sup>, carpal tunnel syndrome<sup>11)</sup>, chronic neck pain<sup>12,13)</sup>, oxygen saturation in chronic obstructive pulmonary disease<sup>14)</sup>, and ulcers related to Behcet's disease<sup>15)</sup>, among other conditions. Of these studies, this technique is usually performed at the site of pain or the acupoint, which is selected by visceral pattern identification (臟腑辨證)<sup>16)</sup>. Ouchpoints (阿是穴) such as Shinsu (腎俞, BL23), Kihaesu (氣海俞, BL24), Taejangsu (大腸俞, BL25) have been proven to have an anti-nociceptive effect on low back pain<sup>7,17)</sup>. Wisu (胃俞, BL21) has not yet been studied for treating low back pain, although this point is related to the treatment point that Maigne<sup>18)</sup> and Choe<sup>19)</sup> suggested for curing low back pain. Furthermore, no studies have analyzed differences in the effects according to different treatment locations. In this study, wet cupping was performed for non-acute low back pain patients on either

Wisu or a designated non-acupoint to compare the effect.

This study recruited participants who had non-acute low back pain and randomized them into either a Wisu treatment group (WT group) or non-acupoint treatment group (NT group). Wet cupping was conducted on the designated area according to groups and the degree of pain, physical function and quality of life were evaluated to see the feasibility of treating Wisu as a treatment point for low back pain.

This protocol was registered on clinical research information service (CRIS) (registration number: KCT0002286)

## Materials and Methods>>>>

### 1. Participants

#### 1) Inclusion criteria

We recruited 30 participants aged 18 to under 65 from the 1st of April to the 30th of September, 2016. We included participants who had a value of over 40 mm on the 100 mm visual analogue scale (VAS) for low back pain in the week before screening, appeared normal on neurological testing, and consented not to have other treatments that could affect the results of this study according to the investigator's judgment.

This study was approved by the institutional review board (IRB) of Kyung Hee University Korean Medicine Hospital (approval number: KOMCIRB-160215-HR-007).

#### 2) Exclusion criteria

Patients were excluded based on the following criteria:

- (1) The cause of low back pain is not idiopathic, but due to a specific severe disease such as spine fracture or infection of spine, inflammatory spondylitis, malignant tumor, etc.
- (2) History of spinal surgery or surgery scheduled during participation in this study
- (3) More severe pain at sites other than the low back

- (4) Pregnant or lactating
- (5) Low back pain due to menstruation
- (6) Other chronic diseases that interfere with the efficacy or results of the study
- (7) Unable to agree or cooperate with the study procedure due to cognitive impairment
- (8) Injury related to lawsuit or compensation
- (9) Currently taking corticosteroids, narcotics, muscle relaxants, or herbal medicine for low back pain or other drugs that researchers consider inappropriate
- (10) Any circumstances that researchers judge inadequate

## 2. Methods

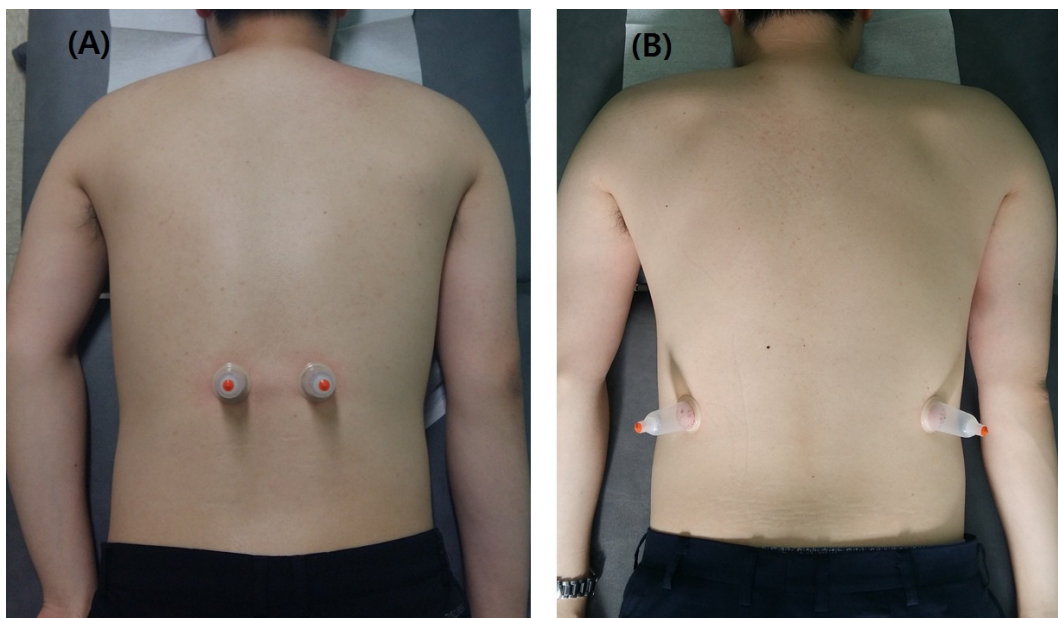
This study had two arms, the WT group and NT group. Block randomization was conducted using R 3.2.5 for Windows (The R Foundation) and the block size was six. Thirty participants were randomized to two groups.

VAS, Oswestry disability index (ODI), Roland-Morris disability questionnaire (RMDQ), Euroqol-5 dimensions questionnaire (EQ-5D), and finger-to-ground distance

(FTGD) were measured by an evaluator on the first visit.

The Wisu acupoint was designated according to the World Health Organization Guideline for Acupuncture Point Locations<sup>20</sup>, which is considered the international standard. A non-acupoint was selected as the midpoint between Wich'ang (胃倉, BL50) and the posterior axillary line (Fig. 1). Wet cupping was performed by a Korean Medicine doctor with more than 2 years of clinical experience. Participants in both groups were operated with the medical lancet (28 G, Dongbang Medical, Seoul, Korea) by being punctured 20 times within the diameter of each cup, and then disposable suction cups (internal diameter 28 mm, Dongbang Medical, Seoul, Korea) were put on each point and pressured negatively using the suctioning tool with three full presses. After five minutes, the cups were removed and the area was disinfected.

Medical infrared (IR3000, Haedong Medical, Ulsan, Korea) was used to irradiate the treatment surface of the participant's body for a distance of about 30 cm. It was turned on at the start of wet cupping and turned off 10 minutes after removal of the cups, for a total of



**Fig. 1.** Pictures of treatment points of wet cupping. Conducting wet cupping on each treatment point (A) Wisu (BL21) treatment group and (B) Non-acupoint treatment group.

15 minutes. Wet cupping was repeated three times over an approximately 72-hour period. On follow-up, a week after the 3rd treatment, VAS, ODI, RMDQ, EQ-5D, and FTGD were evaluated. A 24-hour difference was allowable at each visit.

### 3. Measurements

#### 1) Primary outcome

VAS: The left end is '0 (No pain)' and right end is '10 (worst possible, unbearable, excruciating pain)'. Participants mark the spot corresponding to the degree of current low back pain. To see how much the pain decreases, participants were asked on follow-up to indicate the spot that compared to the very first value (baseline).

#### 2) Secondary outcome

##### (1) ODI

ODI evaluates 10 kinds of disabilities of daily living due to low back pain in terms of intensity of pain, personal hygiene, lifting, walking, sitting, standing, sleeping, sexual life, social life and travelling by questionnaire. Each category has 6 selections and a higher score indicates a more severe disability.

##### (2) RMDQ

Functional disability by low back pain is evaluated through this scale. There are 24 questions total. Respondents select either "yes" or "no" for each question. A higher score indicates a worse disability.

##### (3) EQ-5D

EQ-5D is used to evaluate health outcome and includes the 5 categories of 'mobility,' 'self-care,' 'usual activities,' 'pain/discomfort' and 'anxiety/depression.'

##### (4) FTGD

A participant stands on a firm box of 30 cm height with the medial side of the feet touching each other and without knee flexion. The patient is then instructed to flex the patient's body downward as much as possible. Then, the distance between the fingertip of the middle

finger and upper surface of the box is measured. If the fingertip is located higher than the box, the value is positive and vice versa.

### 4. Statistics

SPSS 18.0 for Windows (IBM Corp., Armonk, NY, USA) was used for statistics. Data are expressed as mean  $\pm$  standard deviation (SD), median and interquartile range (IQR). Chi-square test was performed to determine the gender ratio between the WT and NT groups and Wilcoxon signed rank test was conducted to see the change between baseline and follow-up in each group. To compare groups at the same point of time, Wilcoxon rank sum test was used. A p-value lower than 0.05 indicated significance.

Dropouts were dealt with using "intention to treat analysis" such that the last measured data were equally applied to the subsequent evaluation.

## Results>>>>

### 1. Participant flow chart and initial assessment of the subjects

Forty-four participants were screened in this study. Fourteen were excluded because they either had VAS under 40 mm (n=7) or had other more severe symptoms than lower back pain (n=3) or refused to participate after explanation of the procedure (n=4). Thirty subjects were randomly allocated to the WT or NT group. A participant flow chart (Fig. 2) shows the procedure for assignment; 15 participants were assigned to each group and three dropouts were verified, with one subject in the WT group and the other two in the NT group. The WT group dropout was participating in another ongoing study and therefore was ineligible for this study. Two subjects in the NT group failed to attend the scheduled day and so they were removed.

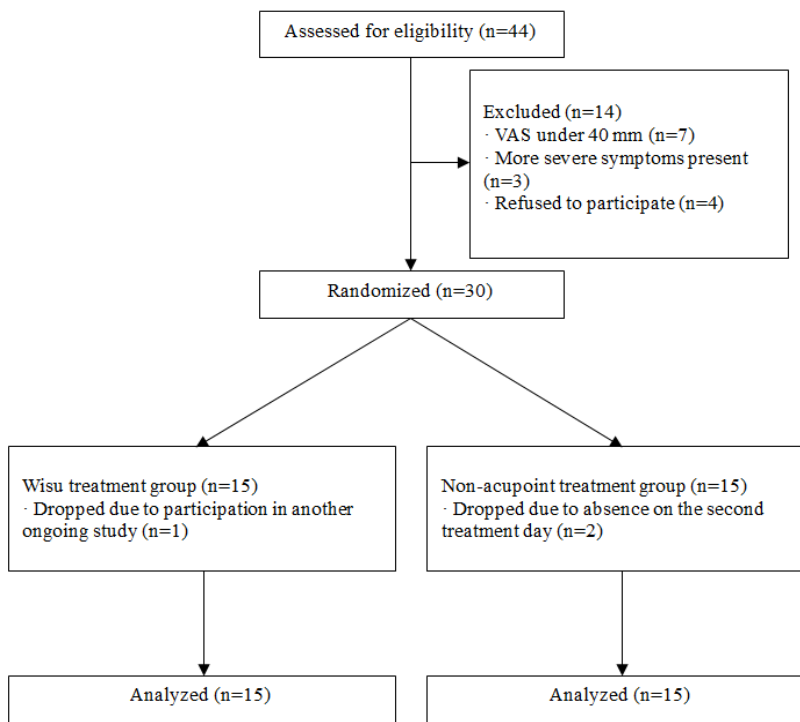
These 3 dropouts were processed with “intention to treat analysis” so each group had 15 participants for analysis.

There were no statistically significant differences in sex, age, height, or weight between the two groups at baseline ( $p>0.05$ ) (Table I).

No significant difference was found between the two groups at baseline for VAS, ODI, RMDQ, EQ-5D or FTGD ( $p>0.05$ ) (Table II).

## 2. Change in VAS

Both the WT and NT groups showed a significant decline in VAS score. The WT group had a significant decrease from the baseline value of  $47.40\pm 10.04$  mm to the follow-up value of  $33.20\pm 14.36$  mm ( $p<0.05$ ). The NT group VAS score decreased from  $51.27\pm 11.32$  mm to  $35.93\pm 17.56$  mm ( $p<0.05$ ). There were no significant differences between groups at the same time point ( $p>0.05$ ) (Table III, Fig. 3).



**Fig. 2.** Participant flow chart. VAS: visual analogue scale.

**Table I.** General Characteristics of the Subjects

	WT group	NT group	p-value
n	15	15	-
Age (years)	37.00±15.52, 27.00, 24.00-55.00	35.00±12.82, 31.00, 24.00-50.00	0.838
Height (cm)	165.97±8.93, 165.00, 159.00-173.00	166.57±9.76, 167.00, 158.00-177.00	0.935
Weight (kg)	63.96±12.09, 59.00, 54.00-75.00	66.62±14.37, 64.30, 55.00-84.00	0.567
Sex			0.715
Male	6	8	
Female	9	7	

Values represent mean ± standard deviation, median, interquartile range.

WT group: Wisu (BL21) treatment group, NT group: non-acupoint treatment group.

**Table II.** Baseline Evaluation of Subjects

	WT group	NT group	p-value
VAS	47.40±10.04, 45.00, 43.00-47.00	51.27±11.32, 45.00, 44.00-55.00	0.367
ODI	21.13±7.01, 20.00, 15.60-26.00	19.94±5.88, 20.00, 14.00-26.00	0.806
RMDQ	3.87±3.34, 3.00, 2.00-7.00	3.20±2.21, 3.00, 1.00-5.00	0.775
EQ-5D	0.76±0.12, 0.81, 0.72-0.81	0.78±0.07, 0.81, 0.71-0.86	0.744
EQ-5D VAS	60.27±18.99, 60.00, 45.00-80.00	61.00±18.57, 70.00, 45.00-70.00	0.870
FTGD	23.67±127.83, 20.00, -35.00-160.00	67.33±83.60, 50.00, -10.00-135.00	0.412

Values represent mean ± standard deviation, median, interquartile range.

WT group: Wisu (BL21) treatment group, NT group: non-acupoint treatment group, VAS: visual analogue scale, ODI: Oswestry disability index, RMDQ: Rolland-Morris disability questionnaire, EQ-5D: Euroqol-5 dimensions questionnaire, FTGD: finger-to-ground distance.

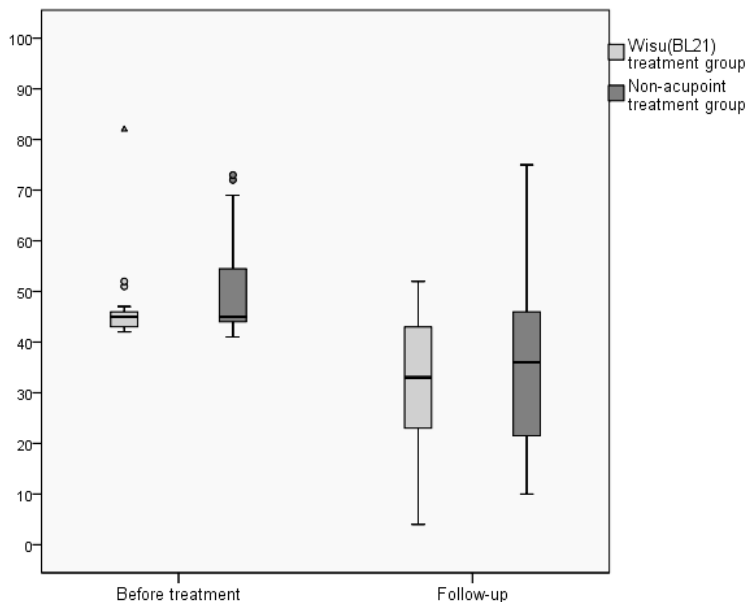
**Table III.** Comparison between Groups and Change in VAS

VAS for	WT group (n=15)	NT group (n=15)	p-value
Baseline (1st visit)	47.40±10.04, 45.00, 43.00-47.00	51.27±11.32, 45.00, 44.00-55.00	
Follow-up (4th visit)	33.20±14.36, 33.00, 18.00-44.00	35.93±17.56, 36.00, 21.00-50.00	0.775
p-value	0.003*	0.001*	-

Values represent mean ± standard deviation, median, interquartile range.

VAS: visual analogue scale, WT group: Wisu (BL21) treatment group, NT group: non-acupoint treatment group.

\*p < 0.05 was considered statistically significant.



**Fig. 3.** Box plots of VAS. The lines across each of the boxes indicate the median. The upper and lower surfaces of the boxes are the third quartile and first quartile, respectively. Lines beyond the upper and lower surfaces are the maximum and minimum values excluding extremes and outliers, respectively. The small triangle is “extreme,” which represents 3-fold greater interquartile range. “Outliers” are expressed as small circles with the values from 1.5- to 3-fold interquartile range. Y axis shows VAS (mm). VAS: visual analogue scale.

### 3. Change in ODI

ODI significantly decreased from baseline to fol-

low-up in the two groups, separately. The WT group decreased from 21.13±7.01% to 14.21±8.26% and the NT group from 19.94±5.88% to 12.45±8.31%, representing

significant reductions ( $p < 0.05$ ). No significant difference was detected in ODI between the two groups ( $p > 0.05$ ) (Table IV).

#### 4. Change in RMDQ

There were no significant differences in RMDQ from baseline ( $3.87 \pm 3.34$ ) to follow-up ( $2.73 \pm 2.82$ ) in the WT group ( $p = 0.064$ ), while there was a significant decrease from  $3.20 \pm 2.21$  to  $1.87 \pm 1.73$  ( $p < 0.05$ ) in the NT group. No significant difference was found between the two groups ( $p > 0.05$ ) (Table V).

#### 5. Change in EQ-5D

The EQ-5D of the WT group increased from  $0.76 \pm 0.12$  at baseline to  $0.81 \pm 0.10$  on follow-up, which was not a significant change ( $p = 0.059$ ). In the NT group, EQ-5D increased significantly from  $0.78 \pm 0.07$  to  $0.83 \pm 0.06$  ( $p < 0.05$ ). There were no significant differences between the two groups ( $p > 0.05$ ) (Table VI).

#### 6. Change in FTGD

FTGD decreased in both groups, but the decrease was not statistically significant at any of the time points ( $p > 0.05$ ) (Table VII).

**Table IV.** Comparison between Groups and Change in ODI

ODI for	WT group (n=15)	NT group (n=15)	p-value
Baseline (1st visit)	21.13 $\pm$ 7.01, 20.00, 15.60-26.00	19.94 $\pm$ 5.88, 20.00, 14.00-26.00	
Follow-up (4th visit)	14.21 $\pm$ 8.26, 14.00, 6.70-20.00	12.45 $\pm$ 8.31, 12.00, 6.00-20.00	0.567
p-value	0.000*	0.000*	-

Values represent mean  $\pm$  standard deviation, median, interquartile range.

ODI: Oswestry disability index, WT group: Wisu (BL21) treatment group, NT group: non-acupoint treatment group.

\* $p < 0.05$  was considered statistically significant.

**Table V.** Comparison between Groups and Change in RMDQ

RMDQ for	WT group (n=15)	NT group (n=15)	p-value
Baseline (1st visit)	3.87 $\pm$ 3.34, 3.00, 2.00-7.00	3.20 $\pm$ 2.21, 3.00, 1.00-5.00	
Follow-up (4th visit)	2.73 $\pm$ 2.82, 2.00, 1.00-4.00	1.87 $\pm$ 1.73, 1.00, 0.00-4.00	0.539
p-value	0.064	0.004*	-

Values represent mean  $\pm$  standard deviation, median, interquartile range.

RMDQ: Rolland-Morris disability questionnaire, WT group: Wisu (BL21) treatment group, NT group: non-acupoint treatment group.

\* $p < 0.05$  was considered statistically significant.

**Table VI.** Comparison between Groups and Change in EQ-5D

EQ-5D for	WT group (n=15)	NT group (n=15)	p-value
Baseline (1st visit)	0.76 $\pm$ 0.12, 0.81, 0.72-0.81	0.78 $\pm$ 0.07, 0.81, 0.71-0.86	
Follow-up (4th visit)	0.81 $\pm$ 0.10, 0.86, 0.77-0.86	0.83 $\pm$ 0.06, 0.86, 0.81-0.86	0.744
p-value	0.059	0.008*	-

Values represent mean  $\pm$  standard deviation, median, interquartile range.

EQ-5D: Euroqol-5 dimensions questionnaire, WT group: Wisu (BL21) treatment group, NT group: non-acupoint treatment group.

\* $p < 0.05$  was considered statistically significant.

**Table VII.** Comparison between Groups and Change in FTGD

FTGD for	WT group (n=15)	NT group (n=15)	p-value
Baseline (1st visit)	23.67±127.83, 20.00, -35.00-160.00	67.33±83.60, 50.00, -10.00-135.00	
Follow-up (4th visit)	13.00±118.05, 20.00, -50.00-100.00	42.67±92.27, 40.00, -25.00-105.00	0.389
p-value	0.260	0.061	-

Values represent mean ± standard deviation, median, interquartile range.

FTGD: finger-to-ground distance, WT group: Wisu (BL21) treatment group, NT group: non-acupoint treatment group.

## Discussion>>>>

The standard clinical practice guidelines in Korean Medicine are developed with regard to major diseases due to the recent need to make Korean Medicine scientific and standardized. More and more studies are demonstrating the effects of various tools of Korean Medicine. Wet cupping therapy is a broadly used method among Korean Medicine doctors<sup>21)</sup>.

Non-acute low back pain patients in this study had more than 4 weeks of onset<sup>22)</sup>. Acute low back pain lasting 4 or fewer weeks tends to simultaneously improve and there may be a distinct pathogenic mechanism<sup>23)</sup>. Therefore, we limited participants to non-acute patients.

There have been several hypotheses regarding the pathophysiology of low back pain. One is that the sensory nerve branch of the posterior primary branch of the T12 spinal nerve is entrapped by a contracted erector spinae muscle at the level of the thoracolumbar junction, which is near the Wisu acupoint, causing low back pain in the area of the innervating iliac crest. This is related to thoracolumbar syndrome defined by Maigne<sup>18)</sup> who thought the cause of pain on the upper gluteal area was a dysfunction of the T12 bone, as well as Choe<sup>19)</sup>, who insisted that contraction of the erector spinae near T12 arouses low back pain and most low back pain follows this mechanism. So, Wisu is considered a treatment point for low back pain.

The concept of using Wisu for treatment of low back pain is not new to Korean Medicine. Wisu is a transport point that controls the function of the stomach (胃). In

『Dongeuibogam (東醫寶鑑)』<sup>24)</sup>, one of the representative classics of Korean Medicine, the relationship between the stomach and low back pain is described. The following statements show the belief that phlegm underlies all diseases: “Phlegm comprises nine out of ten diseases (十病九痰);” “internal and external diseases exhibit numerous symptoms but all is from phlegm (其爲內外疾病 非止百端 皆痰之所致也);” or “all the disease of human being comes from phlegm (人之諸疾 悉出於痰).” The most important cause of phlegm is the condition of the spleen-stomach (脾胃). Most herbal medicinal formations have the main constituent of *Pinellia ternata* (半夏) from the chapter of “treatment for phlegm (痰飲通治藥)” and this medicine has meridian entry to the spleen-stomach. Dysfunction of the spleen-stomach causes problems with the body fluid cycle, which is the main cause of phlegm<sup>25)</sup>. This explains why Wisu can be chosen for low back pain.

Until now, the primary method for low back pain evaluation was the VAS. ODI shows functional disability and it is appropriate for severe cases. For mild symptoms, RMDQ is more appropriate<sup>26)</sup>. To assess change in the quality of life, we added EQ-5D. Moreover, we measured FTGD to obtain data on the range of motion of the lumbar spine.

The results from baseline and follow-up analyses are as follows. VAS and ODI showed significant effects in both the WT and NT group ( $p < 0.05$ ). RMDQ and EQ-5D decreased insignificantly in the WT group ( $p > 0.05$ ) and significantly in the NT group ( $p < 0.05$ ). FTGD did not show a significant difference in either group ( $p > 0.05$ ). There were not any significant differences between the



two groups ( $p > 0.05$ ).

The pain scale, the primary outcome of this study, showed improvement in both the WT and NT group, but there was no significant difference. This result may come from nociceptive stimulation<sup>27)</sup>, removal of oxidative agents<sup>28)</sup>, and release of nitrous oxide<sup>29)</sup>, which allow wet cupping to provide analgesic effect in spite of the difference in treatment points. In addition, the Wisu acupoint conforms to the region of erector spinae and designated non-acupoint to latissimus dorsi, anatomically. Treatment of these areas helps blood circulation of the corresponding muscles and relaxes contracted muscles, accordingly improving the condition of both groups. We authors think that both chemical and anatomical mechanism contributed to releasing low back pain with wet cupping.

There were no significant change on RMDQ, EQ-5D and FTGD in WT group. However, this is a small-size pilot study so it is not proper to judge that those indicators are not improved by wet cupping on Wisu from this single research.

This study was designed to see if wet cupping on Wisu is more effective than on a non-acupoint. The effect size of wet cupping on Wisu and the number of subjects in a large-scale clinical trial will be calculated. The appropriate setting for a control group should also be considered. In acupuncture studies, unpunctured, more superficially punctured, and non-acupoint punctured<sup>3)</sup>, are typically set as placebos. For dry cupping, sham cupping is currently being developed as a placebo<sup>30)</sup>. Preexisting methods for a control group for wet cupping include no treatment<sup>17,31)</sup>, heat therapy<sup>11)</sup>, and bloodletting with a lancet, but not cupping<sup>14)</sup>. This is the first study to use different treatment points as a control. In the future, selecting a more effective treating area and improving the method of wet cupping is necessary to differentiate the effect between active and control group. Furthermore, developing a proper placebo model is also needed. For example, just stimulating the skin with a tool that does not puncture the

skin, followed by dry suctioning on that area, can be conducted to blind participants and to evaluate the impact of puncture. Use of a placebo group will help produce objective results in future studies of wet cupping. Also, bee venom or pharmacopuncture on Wisu can be performed to activate the acupoint or muscles for study designs related to low back pain.

While cupping therapy can cause physiological responses such as pigment response, coagulating response, purpura cutaneous reaction, blistering reaction, and tendering response, among others<sup>16)</sup>, burns<sup>32)</sup> and lumbar abscesses<sup>33)</sup> are considered side effects. Accurate disinfection before and after the procedure is very important to prevent these adverse events. Currently, by virtue of the wide use of disposable medical tools, infection such as hepatitis is rarely reported<sup>34)</sup>. Sterile disposable lancets and suction cups were used and the disinfection procedure was performed before and after treatment. The treatment site was covered with gauze after wet cupping to prevent infection. However, two participants complained of a mild burning sensation on the skin lasting for two to three hours after the procedure. These complaints were not severe, but they seem to be related to the wet cupping procedure and they resolved after observation without any intervention. Every participant has different endurance of skin to the surrounded environment so the same stimulation can be regarded as a little harmful case by case. It seems related to the intensity of the pressure and the lasting time of cupping. However, wet cupping of 5 minutes are mostly conducted in clinical situation of Korean Medicine<sup>21)</sup> and the fact that those sensations were disappeared automatically means that it is somewhat normal response and not continuously harmful.

There are some limitations in this study. First of all, it is small sized pilot study so the results of this study should be interpreted with cautious consideration. It only provides the clues for feasibility, safety and effect size for future study. Secondly, because wet cupping was conducted by a Korean medicine doctor who has

basic knowledge for meridians and acupoints, blinding of the conductor was not satisfying. Thirdly, the reason for choosing Wisu as treating point is not sufficient. Because the acupoint was selected in this study from clinical experience, we can only suggest possible hypotheses with this clinical trial. Fourthly, the concept we suggested for the selection of treating point was because of the phlegm. If we had collected low back pain patients diagnosed as low back pain phlegm pattern differentiation, the result could have been different. Fifthly, in an anatomical respect, low back pain could have been categorized according to the problem of certain muscle. That way, the target of control group adjacent to latisimus dorsi could have been another option for the treating point of low back pain. This can be one reason for the effectiveness of control group in this study. Lastly, both group included the use of infrared therapy for 15 minutes on the pain area to reflect the clinical scene of Korean Medicine which always uses the therapy. Infrared therapy is known to be effective for low back pain but the data are insufficient<sup>35)</sup> and the result of current study should be interpreted with the consideration the effect of the therapy. However, there is no study in the same design to compare. one more group of infrared therapy alone can be added in the study design in the following study. The future study with large participants and modified grouping will be needed.

## Conclusion>>>>

Thirty non-acute low back pain patients were randomly assigned to either the WT or NT group. Three rounds of pricking-cupping bloodletting were conducted and VAS, ODI, RMDQ, EQ-5D, and FTGD were measured. VAS, the primary outcome, and ODI showed a significant reduction between baseline and follow-up in both groups. RMDQ and EQ-5D declined insignificantly in the WT group, but it was significantly de-

creased in the NT group. FTGD insignificantly decreased in both groups. There were not any significant differences between groups for any of the metrics assessed.

We conclude that wet cupping is equally effective on Wisu or the non-acupoint, but a larger study is needed in the future to compare the effect of those two treating areas.

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## Conflicts of Interest>>>>

We declare that there is no conflicts of interest regarding the publication of the article.

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