The effectiveness of relaxation acupoint stimulation and acupressure with aromatic lavender essential oil for non-specific low back pain in Hong Kong: a randomised controlled trial

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Summary
Objectives: To assess the effect of acupoint stimulation with electrodes combined with acupressure using an aromatic essential oil (lavender) as an add-on-treatment on pain relief and enhancing the physical functional activities among adults with sub-acute or chronic non-specific low back pain. Design: Randomised controlled trial. Setting: The community centre, Old-Aged Home and Women Workers Association, Hong Kong. Intervention: 8-session relaxation acupoint stimulation followed by acupressure with lavender oil over a 3-week period. The control group received usual care only. Outcome measures: Changes from baseline to the end of treatment were assessed in pain intensity (by Visual Analogue Scale) and duration; lateral fingertip-to-ground distance in centimetres; walking time and interference on daily activities. Results: The baseline VAS scores for the intervention and control groups were 6.38 (S.E.M. = 0.22) and 5.70 (S.E.M. = 0.37) out of 10, respectively (P = 0.24). One week after the end of treatment, the intervention group had 39% greater reduction in VAS pain intensity than the control group (P = 0.0001), improved walking time (P = 0.05) and greater lateral spine flexion range (P = 0.01). Conclusions: Our results show that 8-sessions of acupoint stimulation followed by acupressure with aromatic lavender oil were an effective method for short-term LBP relief. No adverse effects were reported. To complement mainstream medical treatment for sub-acute LBP, the combined therapy of acupoint stimulation followed by acupressure with aromatic lavender oil may be one of the choices as an add-on therapy for short-term reduction of LBP.

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Introduction
LBP is one of the most common symptoms reported by Hong Kong people.1,2 According to a recent local study, the 18-month incidence rate of LBP among Hong Kong middle-aged women was 12.4%.3 Bressler et al.4 found that the reported prevalence of LBP among the elderly ranged from 13 to 49%. LBP is a common reason for patients to seek medical care. The possible consequences of unmanaged LBP are well documented, e.g. depression5,6 and functional disability.7 LBP is costly in terms of treatment, individual suffering and work absenteeism.8
The effectiveness of relaxation acupoint stimulation and acupressure

Only 10—15% of patients with LBP have a known cause and treatments are often based on symptoms. Treatments combining pharmacological and nonpharmacological techniques often result in more effective pain control, thereby lessening reliance on medications with major side effects.

Acupressure, because of its analgesic effects, has previously been used as a nonpharmacological technique to reduce LBP. A recent meta-analysis concluded that acupuncture for LBP was superior to various control interventions, although there was insufficient evidence to state whether it was superior to placebo. Of three recent acupuncture trials, two had positive short-term outcomes in reducing LBP intensity; the third showing that acupuncture was relatively ineffective in comparison to therapeutic massage. Recently, it was found that the most valid trials on acupuncture for chronic back or neck pain tended to be negative.

Acupressure, one of the types of massage therapies developed in ancient China, is similar in nature to acupuncture, although non-invasive. It involves finger pressure massage using oil as a lubricating agent on specific points along ‘meridians’. It is thought by Traditional Chinese Medical Practitioners that meridians allow energy (qi) flow through among organs, surface skin and reflexes. The traditional diagnosis most commonly associated with LBP is that of urinary bladder ('Foot Tai Yang' meridian) qi/blood stagnation. Acupressure attempts to promote the maximal flow of qi by releasing blockages, thereby balancing energy flow. One theory suggests that acupressure stimulates the nervous system so that pain impulses are blocked from reaching the spinal cord or brain at various ‘gates’. Another theory suggests that acupressure stimulates the body to produce opioid peptides, endorphins, which reduce pain.

The 10 min relaxation acupoint stimulation prior to acupressure was to promote a feeling of well-being and to relieve tired muscles in the arm and upper back. Although the use of essential oil is one of the lesser-known complementary therapies in Hong Kong, the use of aromatic plants in herbal medicine is part of both modern and ancient Chinese culture. In Hong Kong, the use of complementary therapies such as the use of essential oil has increased markedly in recent time; for example, the availability of essential oils in retail shops. Aromatherapy has been accepted as part of nursing care in the United Kingdom, British nurses being insured by the Royal College of Nurses for the use of essential oil for patient care in approved hospitals. Thus, there are calls for obtaining research evidence on the effectiveness of these complementary therapies. This study assessed the combined therapeutic effects of acupoint stimulation by electrodes followed by acupressure with an aromatic essential oil, lavender, as an add-on-treatment for relief of pain and enhancing the daily functional activities among adults with sub-acute non-specific LBP. Pain intensity, blood pressure and pulse were measured during the multiple acupressure sessions. Moreover, the participants’ satisfaction and acceptance of this add-on-treatment was evaluated.

Methods

Study design and participants

This was a randomised controlled trial. The research was carried out among members of the community centre, Old-Aged Home and Women Workers Association, recruited via notices on bulletin boards. The study protocol was reviewed and approved by the human subjects committee of the School of Nursing, The Hong Kong Polytechnic University.

The inclusion criteria were those (1) aged 18 or above with non-specific sub-acute LBP for most days in the past 4 weeks; (2) who had not received acupuncture, physiotherapy or manipulative therapy in the past week; (3) who could understand the explanation of the study, complete the interview and comprehend the instructions.

Non-specific sub-acute LBP was defined as pain on most days in the past 4 weeks, in the area between the lower coastal margins and the gluteal folds without known specific cause, such as a spinal deformity.

Patients were excluded who (1) had LBP caused by specific entities, such as infection, metastases, neoplasm osteoporosis, fractures, spine deformity, or prolapsed intervertebral disc; (2) had undergone surgery or had dislocation, fracture, neurological deficits, spinal disease, varicose veins, blood dyscrasia, cancer or systemic disorders; (3) were pregnant; (4) were allergic to natural lavender aromatic oil; (5) had a wound at any of the acupoints at the back or on the lower limb; or (6) had had a surgical intervention within the last 3 months.

Clients who were eligible and willing to participate in the study were requested to sign a consent form before undergoing treatment. Participants were allocated by the research team consulting a random numbers table into intervention or control group. The intervention group (IG) received an 8-session acupoint stimulation for relaxation with electrode pads followed by an acupressure massage with natural aromatic lavender oil and conventional treatment. The control group (CG) received con-
ventional treatment alone, which was not recorded,
and were offered acupressure treatment after the
completion of the study. In this study, 3% lavender
oil (Lavandula angustifolia, WHO’s AROMIST ASIA)
with grape seed oil as the base was used as the
massage lubricant during the acupressure because
lavender oil has analgesic,28 antispasmodic and
relaxing properties.31 Grape seed oil was chosen
as the base because it is relatively odour free and
non-greasy compared to other carrier oils.

Acupoint treatment protocols

Clients were treated for 35—40 min eight times
over a 3-week period. On arrival, clients were
asked to empty their bladder and to sit and re-
lax for 5—10 min. They were then given 10 min
’relaxation’ with a digital Electronic Muscle Stim-
ulator (EMS, model WBM201-3), using a “sooth-
ing mode” (7.69 Hz at 0.05 mA). This consisted
of the placement of five pairs of medium sized
(2.5 cm) electrode pads on five bilateral acupoints
[Shou-San-Li (LI10), Qu-Chi (LI11), Nao-Shu (SI10),
Tian-Liao (TW15) and Tian-Zhu (BL10) (see Fig. 1
and Table 1)] as recommended by Gach.23

Table 1
Demographic characteristics of the participants at baseline.

<table>
<thead>
<tr>
<th>Socio-demographic data</th>
<th>Intervention group (N = 32)</th>
<th>Control group (N = 29)</th>
<th>P-value^a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>43.8 ± 3.0</td>
<td>48.1 ± 4.0</td>
<td>0.38</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>5 (16%)</td>
<td>4 (14%)</td>
<td>0.84</td>
</tr>
<tr>
<td>Female</td>
<td>27 (84%)</td>
<td>25 (86%)</td>
<td>0.84</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housewife</td>
<td>15 (47%)</td>
<td>10 (35%)</td>
<td>0.84</td>
</tr>
<tr>
<td>Professionals</td>
<td>8 (25%)</td>
<td>8 (28%)</td>
<td>0.76</td>
</tr>
<tr>
<td>Clerk</td>
<td>2 (6%)</td>
<td>2 (7.0%)</td>
<td>0.76</td>
</tr>
<tr>
<td>Services</td>
<td>3 (9%)</td>
<td>2 (7.0%)</td>
<td>0.76</td>
</tr>
<tr>
<td>Labour/worker</td>
<td>4 (13%)</td>
<td>7 (24%)</td>
<td>0.65</td>
</tr>
<tr>
<td>Highest education attainment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary or below</td>
<td>10 (31%)</td>
<td>12 (41%)</td>
<td>0.72</td>
</tr>
<tr>
<td>Junior secondary</td>
<td>7 (22%)</td>
<td>5 (17%)</td>
<td>0.72</td>
</tr>
<tr>
<td>Senior secondary or above</td>
<td>15 (47%)</td>
<td>12 (41%)</td>
<td>0.72</td>
</tr>
<tr>
<td>Current pain intensity (VAS score in cm)</td>
<td>6.38 ± 0.22</td>
<td>5.7 ± 0.37</td>
<td>0.24</td>
</tr>
<tr>
<td>Current pain episode—duration (h)</td>
<td>39.16 ± 7.85</td>
<td>51.65 ± 12.48</td>
<td>0.91</td>
</tr>
<tr>
<td>Systolic BP (mmHg)</td>
<td>122.34 ± 3.04</td>
<td>123.97 ± 3.14</td>
<td>0.54</td>
</tr>
<tr>
<td>Diastolic BP (mmHg)</td>
<td>70.81 ± 1.94</td>
<td>70.48 ± 1.58</td>
<td>0.50</td>
</tr>
<tr>
<td>Pulse (bpm)</td>
<td>76.41 ± 2.20</td>
<td>71.66 ± 1.59</td>
<td>0.18</td>
</tr>
<tr>
<td>Walking time (s)</td>
<td>16.61 ± 0.83</td>
<td>17.47 ± 1.27</td>
<td>0.82</td>
</tr>
<tr>
<td>Lateral fingertip-to-floor distance (cm)</td>
<td>38.08 ± 1.81</td>
<td>39.70 ± 1.21</td>
<td>0.65</td>
</tr>
<tr>
<td>Summative score of ADLs</td>
<td>6.72 ± 0.44</td>
<td>6.10 ± 0.31</td>
<td>0.26</td>
</tr>
</tbody>
</table>

*a Mann—Whitney U test; ADLs = activities of daily living.

Figure 1. Anatomical location of sites of selected acu-
points (relaxation acupoints in italics, the remaining acu-
points are for low back pain).
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The reliability of the EMS was checked by a multimeter and cathode ray oscilloscope.

Acupressure massage was then commenced, consisting of the application of a light to medium finger press with 3% aromatic natural lavender oil with grape seed oil as the base on eight fixed acupoints for 2 min each. The same supply of oil and dilution was used throughout the trial. The eight fixed body acupoints (four bilateral points, see Fig. 1 and Table 1) were: San-Jiao-Shu (UB22), Shen-Shu (UB23), Da-Chang-Shu (UB25) and Wei-Zhong (UB40).32,33

Treatment was given by a nurse trained in Chinese Medicinal Nursing. All the selected acupoints were reviewed and validated by four Traditional Chinese Medicine Practitioners who had at least 10 years experience in acupuncture and managing muscular problems. The precision of the acupressure (deqi) was confirmed if the clients felt sore, numb, heavy, distended, and/or warm.34 The applied pressure depended on feedback from the clients; an appropriate pressure was determined to be the point just before they had unpleasant and unbearable feelings. The nurse’s identification of selected acupoints and the technique for applying acupressure was evaluated by an experienced Traditional Chinese Medicine Practitioner. Safety was evaluated on the basis of physical examinations and the participants self-reporting of study events.

Data collection procedures

Dependent variables and outcome measures were collected by nursing staff using face-to-face interviews and body measurements. The nurses were not blinded to patient group. Data were obtained at two-time points (1) before the intervention and (2) 1 week after the completion of the treatment for both the control and intervention groups. Pain intensity rating, blood pressure and pulse were recorded during the intervention period, for the intervention group, intended as measures of relaxation.

Outcome measures

Demographic information (e.g., age, gender, education, occupation or pre-retirement occupation), medical history and LBP-related information (e.g., LBP nature, duration of LBP and treatment for the current LBP condition) were collected at Time 1 only. Follow-up LBP intensity and secondary outcome measures were assessed 1 week after the end of the treatment protocol.

LBP Intensity

The primary outcome was the pain intensity rating. A standard 10-cm horizontal Visual Analogue Scale (VAS) was used to assess current pain. Respondents were asked to place a mark on a line representing their level of pain, with the anchor point as ‘0 = no pain’ and ‘10 = pain as bad as it could be’. Duration of the current LBP episode was also noted.

Secondary outcome measures

The secondary outcomes were: range of motion of lateral spine flexion, quantified by lateral fingertip-to-ground distance in centimetres; walking time for 15 m (50 ft); and interference in daily activities. Interference in daily activities was measured by the modified Aberdeen LBP Scale.35 It included the effect of the current LBP on sleeping, walking distance, housework/work and leisure-time activities with higher scores indicating greater interference on daily activities.

Assessment prior to and during treatment

Blood pressure and radial pulse were measured during the acupressure treatment. Blood pressure was obtained using a sphygmomanometer. The cuff was placed on the arm of the sitting subject, at the level of the heart. Systolic and diastolic blood pressures corresponded, respectively, to the first and last Korotkoff sound. Moreover, the clients’ perceptions of their own recovery were assessed by asking them to rate on a five-point scale (completely recovered, much improved, slightly improved, no improvement, even getting worse) the effectiveness of the treatment and the acceptability of the smell of the lavender oil.

A panel of eight experts in the musculo-skeletal field with at least 2 years experience in orthopaedics was invited to verify the content validity of the outcome measures. The validity was calculated by a content validity index (CVI). The overall CVI was 0.92, the 1 week test–retest reliability ranged from 0.99 to 1, and the inter-rater reliability was ranged from 0.98 to 1.

Data analysis

A power calculation was performed for the overall test of efficacy (t-test). According to the tables of Portney and Watkins,37 a total sample size of $N = 60$ can detect a medium effect size ($f = 0.5$) with a power of 61% at $\alpha = 0.05$. This effect size would be represented38 by a difference between the two
groups of detecting a 51% reduction in pain rating by VAS.

We first compared the baseline characteristics of residents from the control and intervention groups using Student t tests, Mann—Whitney U test or chi-square tests according to the type of variable. To determine whether groups of participants improved in outcome measures, we calculated a mean of ratio change. The mean ratio change was calculated by the following formula: mean ratio change = \( \frac{X_2}{X_1} \), where \( X_2 \) was the mean score at post-1 week follow-up, \( X_1 \) was the mean score at baseline. We compared mean ratio change between the acupressure massage group and control group by Mann—Whitney U test. The level of significance was 0.05 for all tests. All analyses were completed using the Statistical Package for Social Sciences, version 9.0 (SPSS Inc., Chicago, IL).

**Results**

**Enrolment, group allocation and follow-up**

Of the 61 participants enrolled in this study, 51 subjects (84%) completed the study 29 in IG and 32 in CG. Ten clients failed to return (IG: 4 and CG: 6) for various reasons (busy, not interested, started a new job) (see Fig. 2). There was no difference between the drop-out group \((n = 10)\) and the participant groups \((n = 51)\) with respect to gender, education, pre-retirement occupation, marital status, pain intensity and duration of LBP. However, those who dropped-out were significantly older (62.1 years vs. 42.6 years, \( P = 0.002 \)) and had more interference (\( P = 0.04 \)) on the daily activities.

**Patient characteristics**

Among the 51 participants who completed the 1-week post intervention follow-up, the mean age was 45.81 years old (S.E.M. = 19.10). The majority of the participants were women (97%). At baseline, there were no significant differences between the groups regarding socio-demographic characteristics and the outcome measures of pain intensity, pain duration, interference on daily activities, walking time and spinal flexion (see Table 1).

**VAS determination of pain relief at the post-1 week follow-up**

We examined whether participants experienced improvement in joint pain intensity from the
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Table 2 Comparison on the mean ratio changea in the outcomes among intervention and control groups after 4 weeks.

<table>
<thead>
<tr>
<th></th>
<th>Intervention group</th>
<th>Control group</th>
<th>P-valueb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean ± S.E.M.c (N = 27)</td>
<td>Mean ± S.E.M.c (N = 24)</td>
<td></td>
</tr>
<tr>
<td>Pain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current pain rating (VAS)</td>
<td>0.61 ± 0.06</td>
<td>0.99 ± 0.06</td>
<td>0.0001</td>
</tr>
<tr>
<td>Pain duration (h)</td>
<td>0.76 ± 0.07</td>
<td>1.05 ± 0.14</td>
<td>0.08</td>
</tr>
<tr>
<td>Physical functional abilities and spine flexion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summative score for interference on daily activities level</td>
<td>0.90 ± 0.03</td>
<td>1.00 ± 0.05</td>
<td>0.19</td>
</tr>
<tr>
<td>Walking time (s)</td>
<td>0.91 ± 0.03</td>
<td>1.03 ± 0.04</td>
<td>0.05</td>
</tr>
<tr>
<td>Lateral fingertip-to-floor distance (cm)</td>
<td>0.96 ± 0.01</td>
<td>1.01 ± 0.01</td>
<td>0.01</td>
</tr>
</tbody>
</table>

a Mean of score in post-1 week/mean of score at baseline.
b P-value is calculated by Mann—Whitney U test.
c S.E.M., standard error of the mean.

intervention. Reduction in current LBP pain intensity was statistically significant for the intervention group in terms of the change ratio between the 1-week post intervention follow-up compared with control group participants (about 39% reduction in VAS, \( P < 0.0001 \)) after the eight sessions of acupressure (see Table 2). The control group reported unchanged pain intensity at the 1-week post intervention follow-up time. However, both groups were similar with the decrease in pain duration (\( P = 0.08 \)).

Pain intensity rating, blood pressure and pulse during acupressure treatment

Fig. 3 shows the repeated VAS pain scores during the acupressure treatment of the intervention group. Reduction of about one to two VAS points in current LBP rating was observed after each acupressure treatment. Interestingly, there was a slight drop of pain rating (about 0.5 VAS) after nearly every relaxation massage on the selected acupoints. For the pain level prior to the treatment, the effect

Figure 3 VAS of pain intensity: scores at baseline, during interventions, and after 5 weeks. Notes: ●, pain rating after acupressure treatment; baseline, baseline LBP rating; BR, before relaxation; AR, relaxation acupoint stimulation; AA, after acupressure.
of the reduction was less obvious in the first three sessions, became more obvious from the fourth to sixth sessions, then remained constant till the seventh session of the acupressure treatment. During the acupressure treatment, systolic and diastolic blood pressures and pulse rate had similar patterns in line with the pain intensity rating (Fig. 4).

Secondary outcomes

There was a significant decrease in walking time ($P = 0.05$) and an improvement of the distance of fingertip-to-floor in spine lateral flexion ($P = 0.01$) at the 1-week follow-up. The walking time averaged a 9% improvement in the intervention group but the control group actually declined by 3%. Moreover, the lateral spine flexion in terms of fingertip-to-floor distance showed about a 4% improvement in the intervention group but a small decline of about 1% in the control group. However, the interference on daily activities was insignificant.

Participants’ satisfaction toward acupressure intervention

All participants reported their acceptance of the acupressure intervention and use of aromatic oil during the treatment. Seventy-eight percent of participants were satisfied and 15% strongly satisfied with the overall effectiveness of acupressure. The participants rated their LBP pain relief effectiveness from acupressure with lavender oil as: slightly (15%), moderate (70%) and obvious (15%).

Discussion

This study investigated the combined effects of acupoint stimulation by electrodes and acupressure with natural aromatic lavender oil for pain relief of sub-acute and chronic LBP. Our findings show that the participants who received a 3-week course of eight sessions of acupoint stimulation and acupressure with aromatic lavender oil had a significant reduction in subjective pain intensity, and an improvement in objective measures of physical functional performance, including lateral spine flexion and walking time.

Although our study used a conventional treatment group instead of sham acupoint/acupressure controls for comparison, our findings are consistent with some studies of acupuncture in relieving LBP in the adult population.15,16,39,40 The stimulation of these acupoints may cause a release of serotonin, relaxing the body,21,22 thus relieving LBP. Our results are different to the negative results of other trial studies.17,41,42

In previous trials15—17,39—42 on acupuncture and chronic LBP, the number of acupuncture treatments varies from 1 to 20. Two previous meta-analysis
studies found that acupuncture given more than four times was associated with a larger effect. We also find a similar trend on the number of multiple sessions and the effects of acupoint stimulation and acupressure in terms of the VAS pain rating. The effect on reduction of LBP is less obvious with the first three sessions of the acupoint and acupressure treatment, then the reduction becomes more obvious from the fourth to sixth sessions. Interestingly, the blood pressure parameters are along the same trend. Our team suggests that to reduce pain from sub-acute LBP, six or more sessions of acupoint stimulation by electrodes and acupressure are needed.

Some previous studies found acupuncture was no more effective than placebo in improving physical function. In our current study, we find that acupoint stimulation by electrodes and acupressure with aromatic lavender oil is effective for LBP sufferers on physical performance including improvement with walking time and spine lateral flexion range at the 1-week follow-up. Our results agree with the results of other studies on acupuncture. Although there is a statistically significant difference in the improvement in walking time between the two groups, the change is only about 2s. Similarly, the change in the spine lateral flexion range is about 2 cm—a small difference.

We applied the aromatic essential oil, lavender as a lubricating agent. Osborn et al. suggested that essential oil might prolong the effects of massage like acupuncture. Howarth found a positive effect of pain relief and mobility improvement for patients with multiple sclerosis by massage with lavender oil. Our results also support that acupressure and massage with lavender oil may help improve sub-acute LBP. Lavender oil contains Linalol, a monoterpene alcohol, and linalyl acetate, an ester. In the study by Jager et al., both components are rapidly absorbed through the abdominal skin to be detected in blood plasma. As lavender oil has analgesic properties, the improvement of joint mobility may relate to the short-term reduction of pain.

Application of our research findings on acupressure to patients with LBP may have important implications for alternative add-on treatments. There were several reasons for choosing acupressure as the therapy, rather than acupuncture in the current study: (1) Acupuncture involves puncturing the skin and so is more restricted in application; (2) Acupuncture may be less acceptable to patients, and reduce compliance. All intervention group members reported their acceptance of the acupoint stimulation and acupressure with aromatic oil as an add-on treatment for LBP; (3) Acupressure techniques can be easily taught and learnt.

The incompleteness of follow-up is a potential weakness. Moreover, this was not a non-blind random controlled trial, as the interviewers were aware of the assignment of the participants to their groups. We did not conduct a diagnostic procedure to determine individualised treatment. According to traditional Chinese medicine, syndrome differentiation should take place before treatment. Thus, we recommend that future researchers be trained in syndrome differentiation to provide a more individualised therapy. In a recent dual blind trial, it was found that needling a single acupoint, LI4 had significant effects on pressure pain thresholds at acupoints unrelated to LI4. Therefore LI4 should be considered for any future study. One of the limitations of this study was the lack of placebo control and sham acupressure groups to eliminate placebo effects. The placebo effects may be due to expectations of researchers and subjects and the effect of therapeutic touch. The bias related to the difference in frequency of measurements between the treated group and control group was unavoidable. The uneven male to female ratio, limits the generalisation of findings. A future study should expand the follow-up time to 3 or 6 months.

Conclusion

Our results show that eight sessions of acupoint electrode stimulation followed by acupressure with aromatic lavender are an effective method for short-term LBP relief. No adverse effects were reported from subjects after the combined treatment. In supporting clients with LBP, this touch (by mean of relaxation acupoint stimulation and acupressure) is another form of non-verbal communication that can be used by nurses or care-givers to provide comfort and alleviate pain. Complementing mainstream medical treatment for LBP by this combination of therapies should be considered as an add-on therapy in reducing LBP in the short-term.

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References


44. Lehmann TR, Russell DW, Spratt KF. The impact of patients with nonorganic physical findings on a controlled trial of transcutaneous electrical nerve stimulation and electroacupuncture. Spine 1983;8:625—34.