

# The Effect of Shiatsu Massage on Pain Reduction in Burn Patients

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## ABSTRACT

### BACKGROUND

Burn is a tragedy that follows multiple problems in a patient including pain, anxiety and lack of confidence into medical team. This study evaluated the effect of shiatsu massage on pain intensity of burn patients.

### METHODS

A total of 120 burn patients from Motahhari Burn Hospital and of both genders were randomly divided into 4 groups of undergoing hand massage, leg massage, both hand and leg massages, and the control group. The effect of shiatsu massage in pain relief of burned patients was evaluated. The visual analog scale (VAS) was used to assess pain in burn patients.

### RESULTS

Pain intensity in the control group before and after the intervention was not statistically significant ( $p=1$ ). In all massage groups, the difference for pain intensity before and after the intervention was statistically significant.

### CONCLUSION

According to our data, shiatsu method over both hands and legs were effective in pain reduction and can be recommended together with analgesics to decrease the dose.

### KEYWORDS

Burn; Pain; Control; Massage; Shiatsu

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## INTRODUCTION

Burn is a tragedy with many problems such as pain<sup>1</sup> and due to severe tissue damages and psychological problems, the patient requires special assistance to alleviate the injuries.<sup>2</sup> It is a major cause of death, disability and high cost in health care and during pregnancy can increase the mortality and morbidity more in both mother and infant.<sup>3,4</sup> In burn patients, *Pseudomonas aeruginosa* is an important cause of nosocomial infection that may cause septicemia and death denoting to its public health importance more and more.<sup>5</sup> Application of topical anti-bacterial agents and

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disinfectants such as silver sulfadiazine (SSD) was shown as the most widely used topical therapy in burn injuries with anti-microbial effects.<sup>6</sup> Herbal medicines with less toxicity and as inexpensive therapies have been used in healing of burn injuries,<sup>7-11</sup> but reports on pain control in burn patients is very few.

A common method of pain control in burned patients is use of narcotic analgesics, even the use of narcotic analgesics alone cannot completely relieve the pain in burn patients.<sup>12</sup> Tranquilizers that are most often prescribed by physicians may be associated with side effects such as respiratory system suppression and drowsiness.<sup>13</sup> One of the methods in reducing pain was shown to be the use of massage.<sup>14</sup> as a complementary therapy reducing the need for analgesic drugs and also limit the side effects in burn patients.

Shiatsu as a complementary massage therapy is the pressure and scrubbing of the energy pathways in the body based on knowledge and application of energy to treat and relieve pain in any part of the underlying diseases.<sup>15</sup> This study evaluates the effect of shiatsu massage on pain intensity in burn patients.

## MATERIALS AND METHODS

The study population was consisted of 120 burn patients from Motahhari Burn Hospital and

of both genders. They were randomly divided into 4 groups of undergoing hand massage, leg massage, both hand and leg massages, and the control who did not receive any massage. The effect of shiatsu massage in pain relief of burned patients was evaluated as described before.<sup>15</sup> In all massage groups, the patients were placed on a bed or chair in a comfortable position and received the massage for 20 minutes. During the massage, the patients closed their eyes and focused on the procedure as reported before.<sup>16</sup> The visual analog scale (VAS) was used to assess pain in burn patients as described before.<sup>17</sup> In all groups, data collection was done before and after the intervention. Data analysis was performed using SPSS software (Version 19, Chicago, IL, USA) and paired t-test. A  $p$  value less than 0.05 was statistically considered significant.

## RESULTS

Pain intensity in the control group before and after the intervention was not statistically significant ( $p=1$ ). In all massage groups, the difference for pain intensity before and after the intervention was statistically significant ( $p=0.001$ ) while the pain intensity before the intervention was higher. Distribution of pain intensity score before massage was higher in control group in comparison to other groups

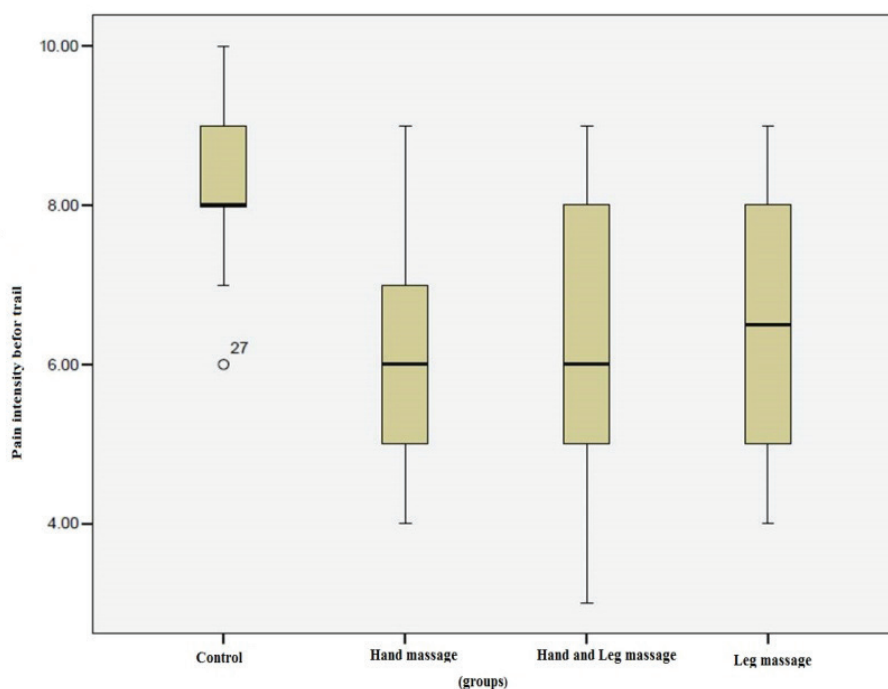


Fig. 1. Pain intensity distribution in the four groups before intervention.

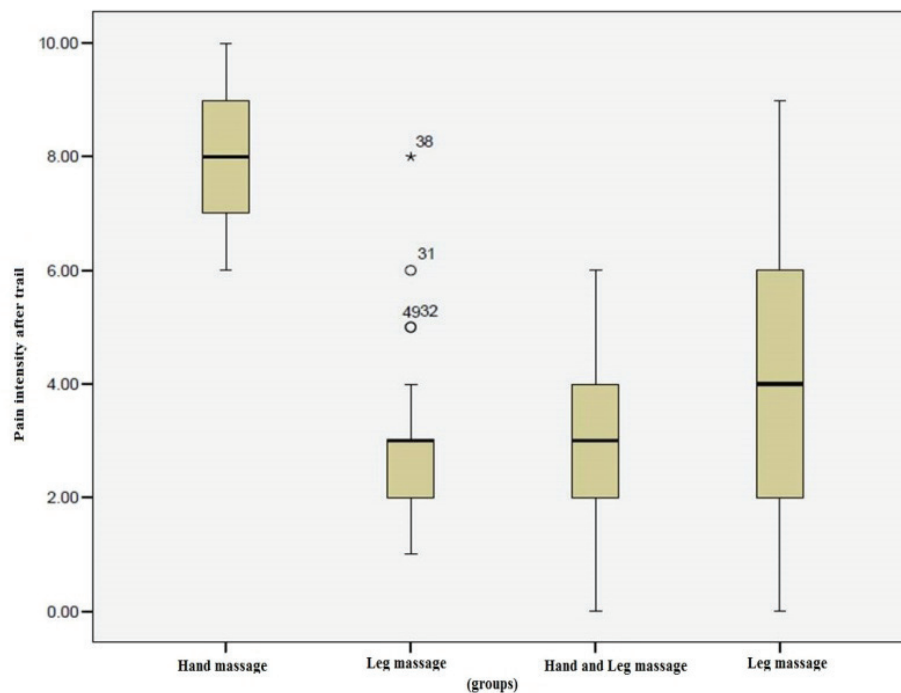


Fig. 2. Pain intensity distribution in the four groups after intervention.

(Figure 1). After massage, the distribution of pain intensity score was higher in all massage groups in comparison to the control group, but after massage; in massage groups, the score of pain intensity decreased (Figure 2).

## DISCUSSION

Our findings showed no significant difference between massage groups and control group regarding pain severity before massage. There was a significant difference between massage groups and control group regarding pain severity after massage. So massage may be an important therapy in management of pain in burned patients and shiatsu can be a model for future researches in complementary medicine in primary care system. Leg and hand massage was more effective in burn pain control in comparison to leg and hand massage only. In reducing pain, other researchers reported the efficacy of massage in pain reduction.<sup>14,15</sup>

So we can suggest a 20 min hand, leg, hand and leg massage intervention in conjunction with analgesics to control the pain in burn patients decreasing the needed dose of analgesics.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## REFERENCES

- 1 Goltsman D, Li Z, Bruce E, Maitz PK. Geospatial and epidemiological analysis of severe burns in New South Wales by residential postcodes. *Burns* 2014;**40**:670–682.
- 2 Gore DC, Hawkins HK, Chinkes DL, Chung DH, Sanford AP, Herndon DN, Wolf SE. Assessment of adverse events in the demise of pediatric burn patients. *J Trauma* 2007;**63**:814-18.
- 3 Mohammadi AA, Amini M, Mehrabani D, Kiani Z, Seddigh A. A survey on 30 months electrical burns in Shiraz University of Medical Sciences Burn Hospital. *Burns* 2008;**34**:111-13.
- 4 Pasalar M, Mohammadi AA, Rajaeefard AR, Neghab M, Tolide-ie HR, Mehrabani D. *World Appl Sci J* 2013;**28**:153-58.
- 5 Manafi A, Kohanteb J, Mehrabani D, Japoni A, Amini M, Naghmachi M, Zaghi A, Khalili N. Active immunization using exotoxin A confers protection against *Pseudomonas aeruginosa* infection in a mouse burn model. *BMC J Microbiol* 2009;**9**:19-23.
- 6 Hosseini SV, Tanideh N, Kohanteb J, Ghodrati Z, Mehrabani D, Yarmohammadi H. Comparison between Alpha and silver sulfadiazine ointments in treatment of *Pseudomonas* infections in 3rd degree burns.

- Int J Surg* 2007;**5**:23-26.
- 7 Hazrati M, Mehrabani D, Japoni A, Montasery H, Azarpira N, Hamidian-shirazi AR, Tanideh N. Effect of honey on healing of *Pseudomonas aeruginosa* infected burn wounds in rat. *J Appl Anim Res* 2010;**37**:161-65.
  - 8 Hosseini SV, Niknahad H, Fakhar N, Rezaianzadeh A, Mehrabani D. The healing effect of honey, putty, vitriol and olive oil in *Pseudomonas aeruginosa* infected burns in experimental rat model. *Asian J Anim Vet Adv* 2011;**6**:572-79.
  - 9 Amini M, Kherad M, Mehrabani D, Azarpira N, Panjehshahin MR, Tanideh N. Effect of *Plantago major* on burn wound healing in rat. *J Appl Anim Res* 2010;**37**:53-56.
  - 10 Akhooninasab MR, Akhoondinasab M, Saberi M. Comparison of healing effect of aloe vera extract and silver sulfadiazine in burn injuries in experimental rat model. *World J Plast Surg* 2014;**3**:29-34.
  - 11 Cheppudira B, Fowler M, McGhee L, Greer A, Mares A, Petz L, Devore D, Loyd DR, Clifford JL. Curcumin: a novel therapeutic for burn pain and wound healing. *Expert Opin Investig Drugs* 2013;**22**:1295-1303.
  - 12 Jung H, Kwak KH. Neuraxial analgesia: a review of its effects on the outcome and duration of labor. *Korean J Anesthesiol* 2013;**65**:379-84.
  - 13 Kumar S, Beaton K, Hughes T. The effectiveness of massage therapy for the treatment of nonspecific low back pain: a systematic review of systematic reviews. *Int J Gen Med* 2013;**4**:733-41.
  - 14 Robinson N, Lorenc A, Liao X. The evidence for Shiatsu: a systematic review of Shiatsu and acupuncture. *BMC Complement Altern Med* 2011;**7**:1-15.
  - 15 Degirmen N, Ozerdogan N, Sayiner D, Kosgeroglu N, Ayranci U. Effectiveness of foot and hand massage in postcesarean pain control in a group of Turkish pregnant women. *Appl Nurs Res* 2010;**23**:153-58.
  - 16 Erica TM. *Salon Ovations' Shiatsu Massage*. 2nd ed. Albany, New York: 1996; pp. 89-98.
  - 17 Santos S, Castanho M. The Use of Visual Analog Scales to Compare Pain Between Patients With Alzheimer's Disease and Patients Without Any Known Neurodegenerative Disease and Their Caregivers. *Am J Alzheimers Dis Other Dement* 2013;**26**:1-15.