

Research Article

The Effect of Acupoints Massage on Pain in Patients with Minor Trauma

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ABSTRACT

Background and purpose: Minor trauma is one of the most common causes of referral to treatment centers. One of the complaints of patients with minor trauma is pain, which is very inconvenient for the patients. Acupressure as an inexpensive and noninvasive method can be used to control pain. The aim of this study was to determine the effect of acupressure on pain in patients with minor injuries.

Method of study: In a clinical trial, of patients with Minor trauma admitted to shohadaye Ashayer hospital, Khorramabad-Iran, patients who met inclusion criteria, were randomly divided into 2 groups: acupressure (N=80) and false points (N=80). Visual Analog Scale for Pain (VAS Pain) was completed before intervention for groups. In the acupressure group, points SP6, LI4, Yin Tang, for 3 min per point, was massaged, in false points group, massage of points with distance of 3 cm from the origin points and by using duration and techniques similar to

acupressure group, was performed. After the intervention, the pain of the patients by the VAS was completed for the groups. To analyze the data, ANOVA, paired t-test and Wilcoxon tests were used.

Results: Patients were matched in terms of demographic data. Before the intervention, there was no statistically significant difference in pain between the two groups, acupressure and false groups. But after the intervention, significant differences in pain scores between the two groups, acupressure and false, was observed ($P < 0.001$).

Conclusion: Based on the results obtained, the use of acupressure for points LI4, SP6, Yin tang, can be effective in reducing pain in patients with Minor trauma, so nurses can use it as a safe, simple, effective and inexpensive non-pharmacologic solution for control pain in patients with minor trauma.

Keywords: Minor trauma; Pain; Acupressure

Introduction

Patients with Minor trauma, including soft tissue injury (laceration, bruises, sprains and muscle strain), Simple fractures of the extremities, mild injuries of the chest and mild injuries of the head, for diagnostic and therapeutic procedures, refer to treatment centers. Pain is a common problem in patients with Minor trauma, which is very inconvenient for the patients.^{1,2} According to the International Association of Pain, pain is an unpleasant situation, that there is a pain, whenever the patient says.³ Pain can cause a delay in healing injuries caused by trauma.⁴ Complementary and alternative medicine is one of the non-pharmacologic treatments, which in recent decades has been considered by the public and medical professionals.⁵ Acupressure is a complementary therapy, which is a Chinese method of acupuncture treatment, which the manner of its treatment is originated from Chinese Acupuncture. According to Chinese, acupuncture can improve the flow of Chi (life energy) through the release of neural mediators such as endorphins, enkephalin, dopamine and serotonin in the central

nervous system, and can have an analgesic effect.⁶ In some studies, the effect of acupressure to treat a variety of disorders, including nausea and vomiting caused by surgery,⁷ dyspnea⁸ and insomnia⁹ have been identified. In some studies, the effect of acupressure on pain of patients with minor trauma during transport to medical centers,¹ dysmenorrhea,¹⁰ hemiplegic shoulder pain,¹¹ labor¹² and pain in patients with hip fracture¹³ is shown. According to the results, about the effect of acupressure on pain, and given the prevalence of pain in trauma patients, the use of non-pharmacological methods may be helpful, this study aims to evaluate the effect of pressure points massage on pain in patients with minor trauma was performed.

Materials and Methods

This study is a single-blind randomized clinical trial, which was conducted on 160 patients with minor trauma, and for the two groups, the true and false points groups. Inclusion criteria were as follows: Between 18-50 years of age and written consent, and exclusion criteria: Use analgesia, having a history of chronic

pain, having a skin disease, having the pain more than 8 on a scale of VAS, having trauma in areas used for massage, having mental disorders and patients while performing the procedure, for any reason declared their grievances. After the initial steps in the emergency room, the patient was transferred to a suitable room, which has a calm environment with appropriate conditions of temperature, light and no noise. Then, for each patient, demographics data checklist was completed, and the patient's pain using the VAS were measured (in this case, if the maximum pain possible has score of 10 and no pain has score of 0, now, each patient for his pain chooses a score). After measuring pain in the true points group, which according to experts, acupuncture points LI4, SP6, Yin tang were chosen for 9 minutes, i.e., for each point, massage was performed for 3 min and bilaterally. Pressure level on points at the rate of 3 kg was done so that the patient can tolerate the pain in massage area. For false points group, massage was done also with a distance of 3 cm from the origin points and by using technique similar to true points. These locations were chosen so that they are not on energy channels. After the intervention, using the VAS, pain of the patients was measured. Massage was taken by a trained nurse (first author). In the analysis of data, SPSS version 21 was used. For investigation of demographic variables, one-way analysis of variance, and for the two by two comparisons, the Mann-Whitney test, and for comparison before and after each group, the paired t test and Wilcoxon were used.

Results

Of 160 patients studied, 58.1% were male and 41.9% were women. Mean age was 28.91 ± 9.053 years. Based on the findings, the average age of the group of real points was 28.24 ± 8.326 and in the false group 29.59 ± 9.731 , which there was not statistically different between the two groups. According to the chi-square test, there was no significant differences between groups in demographic characteristics such as age, sex, marital status, employment status, history of drug use, education level, place of residence. The findings of the Table 1 suggest that the

most Frequency in patients with minor trauma is related to contusion and simple fractures.

As shown in Table 2, after the intervention, there has been significant differences between the two groups, acupressure and false groups ($P < 0/001$).

Discussion

This study showed that acupressure can reduce pain in patients with Minor trauma, in particular to examine the influence of these therapies, little research has been done, in Barker study, which was conducted in 2006, it is concluded that the effect of interventions such as acupressure and acupuncture causes stimulate the nerve fibers, they have an impact on impulses related to the spinal cord, midbrain, pituitary and hypothalamus and causes the release of endorphins in the blood, in addition, neurotransmitters, including serotonin, norepinephrine, and possibly Gamma-aminobutyric acid are secreted from the central nervous system.¹³ In a study which was conducted by Kober et al., the aim was to investigate the effect of acupressure on pain in patients with Minor trauma during transport to the hospital, it was conducted on three groups of 20 people, for the first group, massage of true points was conducted, for the second group, massage of false points was conducted, and for third group only common interventions were conducted and the pain of patients by using VAS before and after treatment was measured. During transmission of the patients to the hospital, the intervention was done for them, considerably reducing the amount of pain was observed in patients with acupressure massage,¹ which was consistent with present study. But in the study of Kober, 5 points LI4, KS9, KS6, BL60, LG20 in the true points group were used, whereas in the present study, the 3 points LI4, SP6, Yin tang in the true points group were used. In a study which was conducted by Lang et al in 2007 entitled acupressure to relieve pain in patients with radial fracture before reaching the hospital, a significant difference between the intervention and control groups was reported, In this study also the false points were used in the control group,¹⁴ which

Table 1: Frequency of minor trauma type in two groups of acupressure and false.

Group Type of trauma	Acupressure		False points	
	Frequency	Percent	Frequency	Percent
Laceration	3	3.75	2	2.5
Contusion	34	42.5	30	37.5
Muscle strain	3	3.75	5	6.25
Simple fractures	30	37.5	28	35
Sprain	7	8.75	10	12.5
Minor injury of the chest	3	3.75	2	2.5
Minor injury of the head	0	0	3	3.75
Total	80	100	80	100

Table 2: Comparison of pain in two group acupressure and false before and after intervention.

Steps Group	Before the intervention	After the intervention.	Change in mean
	Mean \pm SD	Mean \pm SD	
Acupressure	5.66 \pm 1.043	4.35 \pm 1.043	-1.31
False	5.60 \pm 0.821	5.74 \pm 0.725	0.14
Test results	0.674	0.000	

the results of the present study were consistent with mentioned study findings. It is noteworthy that, in Lange study, on any point, the pressure was applied for three minutes, which was similar to our study, as well as the false points in the false group are used, that was consistent with our study. But in the Lang study, two points and in this study three points were used. In a study which was conducted by Chang et al. in 2012, the aim was to evaluate the effectiveness of acupressure to relieve pain in patients by knee arthroplasty in Taiwan, there was no significant difference between the two groups after the intervention, only in the true points group, this reduces the consumption of analgesics compared to false points group,¹⁵ which was not consistent with the results of this study, also, in a study which was conducted by Yeh et al. in 2010, entitled the effect of ear acupressure to reduce pain in the patients after the surgery, pain intensity was measured in several stages, the results showed no statistically significant differences between the two groups in terms of pain,¹⁶ which was not consistent with results of this study, due to the reduction of pain in acupressure group which shows massage of points LI4, SP6, Yin tang has reduced pain in patients in acupressure group, in compared with the control group after the intervention, which false points were used, there was no significant difference in the amount of pain in patients.

Massage on points LI4, SP6, Yin tang, as a psychotherapeutic technique, can be effective in reducing pain in patients with Minor trauma, and nurses can use this simple, inexpensive and uncomplicated method for the treatment of pain.

ACKNOWLEDGEMENT

The authors would like to express their gratitude to patients who participated in the study. We would like to also note that this paper is resulted from the MS thesis of Mr. Amin Talebi in critical care nursing, graduated from Kermanshah University of Medical Sciences (Kermanshah, Iran).

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Submitted: July 22, 2016; Accepted: October 05, 2016; Published: October 12, 2016