



Original article

The effect of acupressure on fatigue among female nurses with chronic back pain



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ABSTRACT

Aim: To investigate the effect of acupressure on fatigue among female nurses with chronic back pain.

Background: Chronic back pain is one of the most common problems among nurses and has numerous physical and psychological effects. One of these effects is fatigue that impairs an individual's life.

Materials and methods: This randomized single-blind clinical trial was conducted on 50 nurses with chronic back pain working at the selected hospitals in Isfahan, Iran. After convenient sampling, the subjects were randomly allocated, through lottery, to the two groups of experimental ($n = 25$) and sham ($n = 25$). In the experimental group, acupressure techniques were performed during 9 sessions, 3 times a week for 14 min for each patient. In the sham group, points within 1 cm of the main points were only touched. Data were collected using the Fatigue Severity Scale (FSS), before, and immediately, 2 weeks, and 4 weeks after the intervention. Data analysis was performed using SPSS software.

Results: The mean score of fatigue severity before the intervention was not significantly different between the two groups ($P = 0.990$). However, it was significantly lower in the experimental group than the sham group immediately ($P < 0.001$), 2 weeks ($P = 0.005$), and 1 month after the intervention ($P < 0.001$).

Conclusions: Acupressure on specific points of the foot and back improves back pain so, reduces fatigue. Therefore, acupressure can be used as a drug-free and low-cost approach without side effects to improve fatigue in nurses with chronic back pain.

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1. Introduction

The healthcare sector is the most important area of sustainable health development in the community, which is directly related to human health. It is responsible for the important task of maintaining health and restoring health to the human society. Nurses are the largest provider of healthcare services, and make up 70% of the healthcare team (KomeiliSani, Etemadi, Boustani, Bahreini, & Hakim, 2015). Nursing is recognized as a high-risk occupation and the hospital environment created stress and physical problems among these employees (Barzideh, Choobineh, & Tabatabaei, 2013).

Musculoskeletal disorders (MSDs) are the most common and costly occupational injuries and account for one-third of work-related injuries

every year. According to studies carried out on various jobs, nursing is among the top ten jobs which cause the most severe musculoskeletal injuries, and low back pain is the most important MSD (Ghaseminejad, Tavafian, & Heidarnia, 2015). According to previous researches, the prevalence of back pain in America is 75%–85%, and billions of dollars are spent annually, directly or indirectly, on treatment and damages resulting from inability to work and sickness absence (Waddell & Burton, 2001). The cost of back pain in the US is estimated to be 75 to 100 billion dollars, and >185 million working days are lost each year due to back pain-related disabilities (Waddell & Burton, 2001).

Chronic back pain has created social, personal, emotional, and economic problems for individuals and has increased fatigue among nurses (Aliafarsi-Mamaghani et al., 2014). Nurses' fatigue is defined as a mental and multi-dimensional feeling which is physically and mentally pervasive, inhibits the physical and cognitive ability of the nurses, and may still persist after rest periods. It seriously affects the ability of nurses to provide their patients with efficient care (Dashti et al., 2015). Physical and mental degradation of the nurses results in escape from the job, vulnerability in professional communication, decreased quality of care

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provided, and finally, dissatisfaction and leaving the profession. Therefore, nursing managers should create a desirable working environment to not only attract new nurses, but also keep the current nurses and prevent their movement (Khaghanizadeh, Ebadi, & Rahmani, 2008). Although drug therapy is the most effective means available for the nurses to reduce pain and fatigue in patients, due to the side effects of analgesics and opioids and differences in their response, it is important that these medications be used in combination with non-pharmacologic methods to reduce pain and fatigue (Shafiee-Darabi, Khankeh, Fallahi-Khoshknab, & Soltani, 2015). Complementary and alternative medicine, due to being holistic and fulfilling unanswered medical needs of the patients, complement conventional medical treatments (Mahmoudian & Hosseini, 2015). One out of every three people, in their lifetime, uses these remedies for common ailments such as back problems, headaches, anxiety, and depression (Soleimani, Jalali, & Ahmadi, 2013). One type of complementary and alternative medicine treatment is acupressure, which is an inexpensive, rapid, and non-invasive method that is simply learned and applicable (Bastani, Sobhani, Bozorgnejad, & Shamsikhani, 2012).

To the knowledge of the authors, no studies have been performed on the effect of acupressure on fatigue in patients with chronic back pain. However, different studies on the effects of acupressure on pain have reported conflicting results. The study by Bastani et al. showed that pain intensity in women with multiple sclerosis (MS), immediately, 2, and 4 weeks after acupressure had decreased in the intervention group compared with the control group (Bastani et al., 2012). Nevertheless, Karimipour et al., in their study on the effectiveness of acupressure on severity of pain in patients with rheumatoid arthritis, showed that this method had no positive effect on patients (Karimipour, Fayazi, Mowla, & Latifi, 2012). Therefore, the aim of the present study was to determine the effect of acupressure on fatigue in female nurses with chronic back pain working at the selected hospitals of Isfahan, Iran.

2. Materials and methods

This single-blind randomized clinical trial was conducted on 50 nurses with chronic back pain in 2015. The study population included all female nurses with chronic back pain employed in hospitals affiliated to Isfahan University of Medical Sciences, Isfahan, and with an associate's degree, bachelor's degree, or higher in nursing. The number of the subjects required to conduct the research was calculated at 25 individuals in each group using the sample size formula and based on a similar study (Soheilshahreza, Nazari, Shaygannejad, & Valiani, 2014) and comparison of means, with 95% confidence interval and power of 80% (equal to 1.96 and 0.84). To reduce potential problems in the research process such as the possibility of sample loss and to increase the statistical accuracy, the sample size was considered as 30 patients in each group. It should be noted that by the end of the study, there was a loss of 10 subjects. In the experimental group, one subject due to changing the living location, one subject due to the death of a relative, and 3 due to lack of desire to continue the study were excluded from the research. In the sham group, 5 subjects due to feeling the inadequacy of the study method did not participate further in the study (Fig. 1). Finally, the study included 50 patients (25 patients in the experimental group and 25 patients in the sham group). The inclusion criteria included age of 25–55 years, chronic back pain diagnosed by a physician, pain score of higher than 4, history of back pain for >3 months, and lack of acute pain, anemia, rheumatic diseases, depression, autoimmune diseases, pregnancy, and addiction to medication and psychotropic drugs. After obtaining written informed consent forms, the subjects were randomly assigned to one of the study groups (experimental and sham) through a lottery. The exclusion criteria included lack of desire to continue to participate, using other methods of alternative medicine during the study, having other diseases which spread to the back, any physical or psychological deterrent to continue the research, and absence from one meeting during the study.

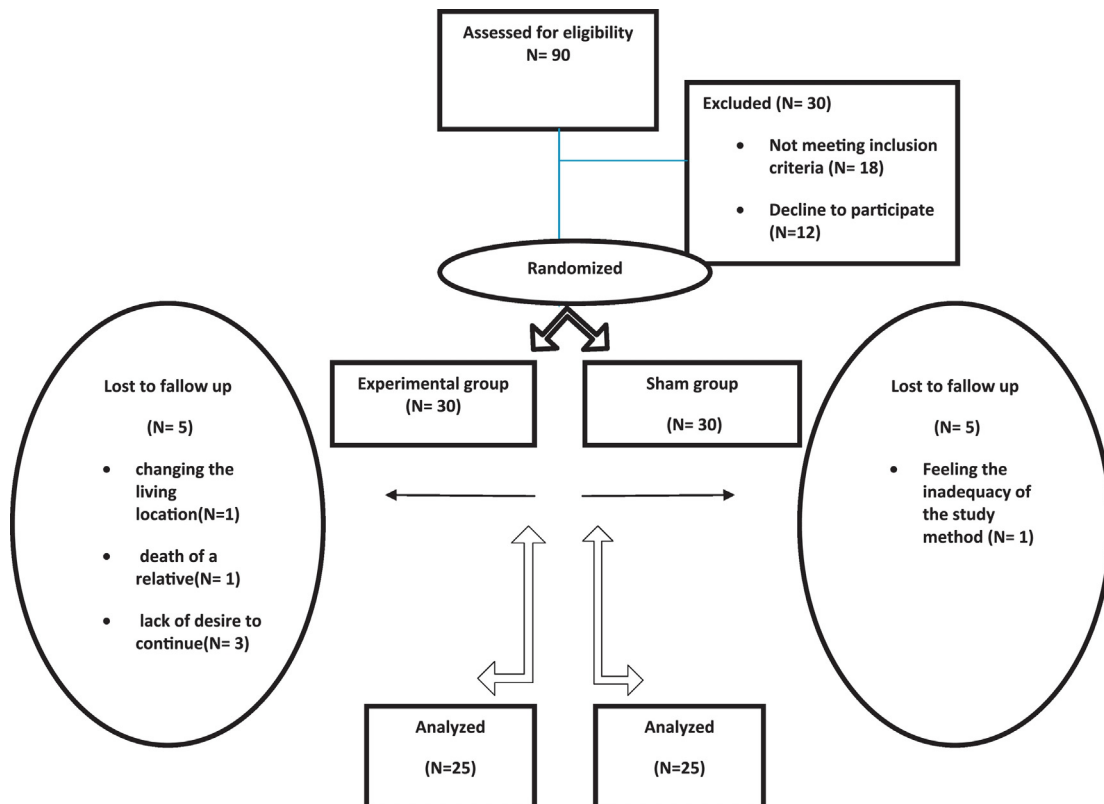


Fig. 1. CONSORT guideline.

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