

# The Utilisation of Su Jok Therapy in the Management of Postoperative Pain: A Systematic Review

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## ABSTRACT

According to the International Association for the Study of Pain (IASP), pain is defined as an unpleasant sensation in the body that may accompany existing or potential tissue damage and is influenced by an individual's past experiences. Pain is classified as acute, chronic, or recurrent based on its duration. Acute pain occurs suddenly, is associated with tissue or organ damage, and decreases with recovery. The pain perception process consists of four stages: transduction, transmission, modulation, and interaction with individual and emotional factors. Pain has detrimental effects on the body, triggering a stress response that alters vital signs and impairs healing. Pain management after surgery involves both pharmacological (e.g., NSAIDs and opioids) and non-pharmacological methods. Non-pharmacological methods, such as acupressure, aromatherapy, hot-cold applications, and Su Jok therapy, are preferred due to fewer side effects and better patient involvement in managing pain. This study's objective was to undertake a systematic review of studies employing Su Jok therapy in the context of pain following surgical intervention. The study population comprised studies in which

Su Jok therapy was utilised. The sample consisted of studies published between 2014 and 2024 using the following databases: PubMed, Cochrane, ScienceDirect and Turkish Council of Higher Education National Thesis Centre. Boolean operators were employed to search for studies that included 'Su Jok', 'Su Jok therapy' and 'postoperative pain' in the title or abstract. The title, publication year, sample, research design, and study results were analysed within the scope of a systematic review. A total of seven English-language studies with Su Jok therapy in the title or abstract were identified. However, only three of these studies used Su Jok therapy in postoperative pain. The studies were of a randomised controlled design and examined nausea, vomiting, anxiety and quality of recovery in addition to postoperative pain. Su Jok therapy was found to be an effective method to reduce postoperative pain. Su Jok therapy is one of the non-pharmacological methods that have attracted attention in recent years. In the reviewed studies, it was determined that the use of Su Jok therapy had positive effects on postoperative pain.

**Keywords:** Surgical nursing, postoperative pain, Su Jok.

## INTRODUCTION

According to the International Association for the Study of Pain (IASP), pain is defined as 'an unpleasant sensation in any part of the body that may accompany existing or potential tissue damage and is also affected by the individual's previous experiences' (1). Pain is classified as acute, chronic and recurrent according to the duration of onset. Acute pain is defined as pain that occurs suddenly, is associated with tissue and organ damage, and decreases in intensity with recovery. Pain that develops after surgical intervention and trauma are the best examples of acute pain (2,3).

The physiological process of pain perception (nociception) is comprised of four distinct stages. The initial stage is transduction, in which nociceptors convert the stimulus into electrical activity. The transmission process, the second stage, involves the transmission of the stimulus to the central nervous system, ensuring that the message is altered in the spinal cord and delivered to the cortex. The third stage, known as the modulation process, involves the attenuation of the transmission message by efferent pathways. The final stage of the perception process is the interaction of individual and emotional characteristics (2,4).

Pain has been demonstrated to exert a detrimental effect on the organism. The stress response is initiated by pain, with the sympathetic nervous system being stimulated. The stress response, in turn, can lead to adverse changes in vital signs, including an increase in heart rate, blood pressure, and respiratory rate; a decrease in gastric and intestinal motility; urinary retention; suppression of the immune response; an increase in antidiuretic hormone, epinephrine, norepinephrine, aldosterone, glucagon hormones; and a decrease in insulin and testosterone. These effects include hyperglycaemia, insulin resistance, and protein catabolism, as well as impaired cognitive function, somatisation, and a tendency to focus on

pain and cry. These effects can also negatively impact the healing process (2).

The primary objective of pain management following surgical procedures is to induce relaxation in the patient and to facilitate recovery by suppressing nociceptive stimuli triggered by controlled trauma (5,6). A multifaceted approach is employed in the management of pain, encompassing both pharmacological and non-pharmacological methods. The utilisation of NSAii and opioids is predominant within pharmacological methods. Despite their efficacy in managing pain, these medications are associated with significant drawbacks, including the potential for drug dependency and respiratory suppression. Non-pharmacological methods are preferred because they are simple, cost-effective, reliable, have fewer negative effects, and actively support the role of patients in pain management (7). The effectiveness of pain management following surgical intervention is associated with the integration of pharmacological and non-pharmacological methods in conjunction with pain assessment (8-10). The utilisation of non-pharmacological methods has been shown to facilitate nursing care and to reduce the analgesic requirements of patients (7). In this context, various methods such as acupressure, aromatherapy, hot-cold application, and Su Jok can be employed to alleviate pain during nursing interventions (9-12). However, the Su Jok therapy method has been the subject of only a limited number of studies in literature (11-17).

### Su Jok Therapy

Su Jok therapy is a treatment method that was discovered and developed by South Korean Professor Park Jae Woo in 1987. It is characterised by its ease of application and the absence of any known side effects. The treatment is named after the Korean words for "hand" and "foot", "Su" and "Jok", respectively. The Su Jok therapy method is based on the similarity between the hands and feet and the human body. According to the working principle of the

treatment method, the reflection points on the hands and feet are matched and in contact with each other to reflect the anatomy of the whole organism. The stimulation of these points initiates the transmission of messages towards the affected area or organ. The therapeutic process is accompanied by a range of changes in the skin, including severe pain, discolouration, and alterations in skin thickness and texture. The stimulation of these points initiates a treatment wave that propagates towards the affected area or organ, thereby facilitating healing (18).

In Su Jok therapy, a variety of methods are employed to stimulate the reflection points on the hands and feet, including the use of needles, moxa, massage and magnets. One of these methods is massage, which involves the use of various implements, including a finger probe, a diagnostic rod, a wheeled massage apparatus, metal starlets, magnet starlets and plant seeds (19).

The utilisation of seeds in Su Jok therapy dates back to 1988. The rationale behind this choice is that, given their ability to facilitate plant growth, it is postulated that seeds possess substantial energy. The live biological active energy of the seeds not only fills the reflection points on the hands and feet with life energy, but also takes back the disease energy. The placement of seeds on these points during periods of illness has been demonstrated to elicit positive changes within the organism, thereby facilitating healing. The efficacy of seed therapy is well-documented, with studies demonstrating superior outcomes in terms of speed and strength when compared to traditional regional applications (20).

It is imperative to consider the distinct and unique properties of seeds when undertaking seed therapy. The colour, form, and characteristics of the plants, along with their compatibility with the organs, must be taken into account to ensure the efficacy of the therapy. For instance, round seeds (e.g. chickpea, black pepper) have been utilised in the treatment of eye diseases, while bean seeds have been employed in kidney

diseases, and viburnum seeds, buckwheat, and pumpkin seeds have been used in heart diseases. Similarly, grape seeds have been used in the treatment of pancreatic diseases. The judicious selection of seeds tailored to the specific ailment enhances the efficacy of the treatment, although it is noteworthy that the utilisation of seeds in general is known to be beneficial. It is imperative to note that the vitality and germination capacity of the seeds employed in the therapeutic process must be maintained (20).

### **Correspondence (Similarity) Systems in Su Jok Therapy**

In Su Jok therapy, correspondence systems are handled in three systems: the main system, the insect system and the mini system (18,21).

In the main system, the conformity of the human body to the hand and foot is used when searching for reflection points. The reflection points of the organs on the face, chest and abdomen are located on the inside of the hand (yin side), while the reflection points of the outer region of the arms and legs, buttocks, back and back of the head are located on the back of the hand (yang side) (20).

In the insect system, the distal (first) phalanx of the fingers and toes is associated with the reflection points of the organs in the head and neck, the middle (second) phalanx is linked to the reflection points of the organs in the thoracic region, and the proximal (third) phalanx is connected to the reflection points of the organs in the upper abdomen. The utilisation of the fingers in a variety of activities has been demonstrated to facilitate expeditious therapeutic outcomes (21).

In the mini-system, the distal phalanges of the thumb, index and little (second and fifth) fingers of the hand and foot have a mini-system that fits the body and repeats the main correspondence system of the hand (20). A similar configuration is observed in the distal phalanges of the middle and ring (third and fourth) fingers of the hand and foot, which also possess a mini system that

fits the body and replicates the primary correspondence system of the foot (20).

Su Jok therapy is a safe and inexpensive treatment method developed based on the similarity between the human body and the hands and feet, with fast results, no side effects, and a low cost (18). The therapeutic modality involves the utilisation of massage fingers (acupressure), a diagnostic stick (probe), and plant seeds, among other modalities, to stimulate reflexology points on the hands and feet (19).

This study aimed to systematically review the studies in which Su Jok therapy was used in pain after surgical intervention.

### Studies on Su Jok Therapy

This systematic review of studies employing Su Jok therapy in the management of pain following surgical intervention aims to provide a comprehensive overview of the existing literature. The population of the study consisted of studies in which Su Jok therapy was used. The sample consisted of studies published between 2014 and 2024 using the following databases: PubMed, Cochrane, ScienceDirect and Turkish Council of Higher Education National Thesis Centre. A comprehensive search

strategy was employed, incorporating Boolean operators to ensure the identification of relevant studies. Within the scope of the systematic review, the following data were analysed: title, publication year, sample, research design, and study results.

A comprehensive search of the following databases was conducted: Pubmed, Cochrane, Science Direct and Turkish Council of Higher Education National Thesis Centre. The search yielded a total of seven studies that incorporated Su Jok therapy in their titles or abstracts and were written in English. Of these, only three focused on the application of Su Jok therapy in the context of postoperative pain management. The remaining studies appraised the efficacy of Su Jok therapy in addressing chronic pain, including migraine. The studies conducted on postoperative pain were designed using a randomised controlled approach. In addition to pain, variables such as nausea, vomiting, anxiety and quality of recovery were also examined. The findings of these studies indicated that Su Jok therapy is a viable method of reducing postoperative pain (12,22,23).

**Table 1. Systematic Review of Publication**

Publication Title	Publication Year	Sample	Research Design	Results
The effects of Korean hand acupressure on postoperative pain, nausea, vomiting and retching after thyroidectomy	2022	42 patients with thyroidectomy Su Jok group (n:21) Control group (n:21)	Randomised controlled trial	While the median pain intensity in the intervention group was recorded as zero at the 2nd hour postoperatively, it increased to 6 at the 6th hour ( $p < 0,05$ ), while the median pain intensity in the control group was 7 at the 6th hour postoperatively and decreased to 3 at the 24th hour ( $p < 0,01$ ), which was found to be statistically significant.
The effect of aromatherapy and Su Jok interventions on post-cesarean pain	2022	120 women who had had cesarean Su Jok group (n:30) Aromatherapy group (n:30) Su Jok and aromatherapy	Randomised controlled trial	The three intervention groups demonstrated a marked reduction in pain levels immediately and 30 minutes following the intervention, as compared to the pre-intervention levels ( $p < 0.05$ ). The intervention in all three groups resulted in a significant decrease in pain levels. Notably, the pain levels in the Su Jok group

		group (n:30) Control group (n:30)		decreased from moderate to mild. No substantial change was observed in the control group.
The effect of Su Jok application on pain, anxiety and quality of recovery after lumbar disc surgery	2024	60 patients with lumbar disc surgery Su Jok group (n:30) Control group (n:30)	Randomised controlled trial	The present study set out to determine whether the application of Su Jok would result in reduced pain and anxiety levels in patients compared to a control group. The results, which were found to be statistically significant (p<0.05), indicate that Su Jok is an effective intervention for reducing pain and anxiety in patients. Furthermore, the study revealed that repeated measurements within the Su Jok and control groups demonstrated a gradual decrease in pain and anxiety levels over time.

## CONCLUSION

In conclusion, it is noteworthy that studies on Su Jok therapy are limited in literature, while studies on this subject have gained momentum in recent years. A synthesis of extant literature reveals a consensus that Su Jok therapy exerts a favourable impact on the management of postoperative pain. It is recommended that Su Jok therapy be used in postoperative pain and that further studies be conducted on this subject.

### Declaration by Authors

**Ethical Approval:** Not applicable

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**Conflict of Interest:** The authors declare no conflict of interest.

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