

Effect of foot reflexology on pain, fatigue, and quality of sleep after kidney transplantation surgery: A parallel randomized controlled trial

Amirmohammad Bahaaddini

Kerman University of Medical Sciences, Iran

Kidney transplantation is the most effective treatment for end-stage kidney disease worldwide. According to the statistics from the Global Observatory on Donation and Transplantation, the cases of kidney transplantation were 90,306 worldwide in 2017. In Iran, 48.8% of kidney failure patients are undergoing kidney transplantation.

Evidence suggests that successful kidney transplantation can improve quality of life, life expectancy, and reduce health costs. However, patients may experience different Physical difficulties such as cardiovascular and neurologic Complications, sexual dissatisfaction, or mental disorders such as anxiety, depression, or stress. Patients may also experience postoperative pain, fatigue, and sleep disorders. Some patients experience severe pain on their back, chest, inguinal area, the surgery area, and head after kidney transplantation surgery, and postsurgical pain is a major therapeutic problem in these patients. The pain may become worse if not managed properly. An inverse association is available between pain and blood pressure, and uncontrolled postoperative pain leads to hypotension and other postoperative disorders. Fatigue and lack of energy are other common postoperative symptoms. Few studies have shown that patients under kidney transplantation experience more fatigue than healthy subjects. The prevalence of postoperative fatigue was 48.3% in one study, which was 41.5% three months later and 38.1% six months later. Fatigue can affect quality of sleep of kidney transplant recipients. On the other hand, sleep deprivation in these patients can cause fatigue, depression, pain, and stress.

Different Complementary and Alternative Medicine (CAM) methods such as foot reflexology are used for managing symptoms among some patients after kidney transplantation. Foot reflexology is a special form of massage that accompanies with the pressure of the fingers, especially the thumbs on the reflex areas usually in the feet. These areas are believed to associate with all parts of the body, and applying pressure on them can affect the physiological responses of the body. They are thought to improve recovery and return homeostasis. Foot reflexology can regulate blood circulation and hemodynamic variables.

The underlying mechanisms of reflexology are not well understood. Reflexology is assumed to facilitate relaxation, release endorphins, and modulate pain-impulse transmission and pain perception. Subsequently, relaxation can affect quality of sleep and fatigue. In addition, touch and massage of reflex points in the foot may reduce patients' pain. Diseases are caused by the blockage of energy in the body, and stimulation of reflex points may eliminate these obstructions and release energy in the body. Several studies have examined the effects of foot reflexology on symptoms such as pain, fatigue, and quality of sleep of patients. Other studies showed a positive effect of foot reflexology on pain and anxiety of patients after general and spinal surgery

and during chemo therapy and after breast cancer surgery. Different studies showed the positive effects of reflexology on alleviating fatigue in patients. Studies showed the improvement of sleep disorders using reflexology. Lee considered foot reflexology as a useful intervention to decrease fatigue and promote quality of sleep. Moreover, the results of a systematic review showed that reflexology was safe and effective for insomnia, but further studies with greater accuracy and power are needed. The complementary and alternative therapies have been increasingly used in recent decades, and nurses prefer to use noninvasive methods with minimal side effects. Since reflexology does not have major side effects, nurses can use it to improve the quality of nursing care. However, decisions are still being made with caution due to insufficient research studies. No study has investigated the effect of reflexology on pain, fatigue, and quality of sleep after kidney transplantation; therefore, the current study tested the hypothesis that the mean scores of pain, fatigue, and quality of sleep in patients after kidney transplantation surgery were different between the foot reflexology and control groups after the intervention and one week later.

Conclusion: The results of the current study showed a significant reduction in the mean scores of pain and fatigue in the group Evidence-Based Complementary and Alternative Medicine of foot reflexology massage after the intervention compared with the control group. In addition, the quality of sleep score in the foot reflexology group significantly improved immediately and one week after the intervention compared with the control group. Therefore, foot reflexology may somewhat reduce pain and fatigue and improve sleep quality. Foot reflexology is a simple, low-cost, and applicable treatment that can be easily taught to nurses in various departments of the health care center. Given the limited evidence, further studies are needed to confirm the effects of foot reflexology on the symptoms after kidney transplantation surgery.

Biography

Amirmohammad Bahaaddini is an undergraduate student of nursing at Kerman university of medical sciences, it's been over a year that I entered nursing student research committee, prior to that I was interested in research so I started my first research project named "Investigation the use of complementary and alternative medicine and its association with sexual function and quality of life among prostate cancer patients referred to oncology centers in Kerman, in 2020" and after that I participated in national COVID-19 vaccination Monitoring project in Iran and I was active in data collection section of this national project in Kerman, Iran in different vaccination centers and later on I participated in case's weekly follow up in this project.

Received: May 19, 2022; **Accepted:** May 22, 2022; **Published:** August 02, 2022
