

The Effect of Acupressure on the Anxiety of Patients Undergoing Hemodialysis -A Review

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Abstract:

Introduction: Chronic renal failure (CRF) is the progressive and irreversible destruction of renal function in which the body's ability to maintain metabolism and water and electrolyte balance is eliminated. The present study was conducted as a systematic review aiming to investigate the effect of acupressure on the anxiety of hemodialysis patients.

Method: The present study was conducted by searching both English and Persian databases including magiran, SID, Google scholars, and science direct pub med by using keywords such as dialysis, acupressure, and anxiety. In the present study, it was attempted to investigate acupressure and its effect on the anxiety of different patients and hemodialysis patients.

Findings: The third liver point (LIV3) is a point the stimulation of which (through acupressure) will result in patients' reduced anxiety and relived pain. In a study, conducting acupressure on LIV3 point resulted reduced anxiety among women suffering from primary dysmenorrhea.

Conclusion: Various studies have confirmed that several points are effective in reducing the anxiety of patients by conducting acupressure. These points include P6, GB21, and LIV3 points. Given the high prevalence of anxiety in hemodialysis patients, the abovementioned points can be used for reducing anxiety in these patients. Moreover, it is recommended to conduct some clinical trials on hemodialysis patients and compare the effect acupressure in the effective points for reducing the anxiety of these patients, so that the points having the highest effect in reducing the anxiety of patients are identified.

Keywords: acupressure, anxiety, hemodialysis

INTRODUCTION

Chronic renal failure (CRF) is the progressive and irreversible destruction of renal function in which the body's ability to maintain metabolism and water and electrolyte balance is eliminated (1). According to the latest researches conducted in the United States, as many as 16.8% of the country's population suffer from chronic renal diseases. If these patients don't receive the treatments needed, they will suffer from End Stage Renal Disease (ESRD) (2). The number of patients suffering from ESRD was estimated to be 3,346,000 until the end of 2014 (3). According to the official reports released, the annual increase rate of ESRD incidence is 11% in our country. Moreover, the incidence and prevalence rates of ESRD are respectively 53 and 250 individuals per million. In Iran, as many as 54% of ESRD undergo hemodialysis, and the rest undergo kidney transplantation or peritoneal dialysis (4). The most common treatment method used for ESRD patients is hemodialysis (5). Patients undergoing hemodialysis suffer from the limitation of receiving drinks, food restrictions, increased number of hospitalizations, financial problems, and sexual disorders, and all of these factors will result in the incidence and prevalence of mental disorders in ESRD patients (6, 7). According to the various studies conducted, one of the common psychological symptoms in these patients is anxiety the prevalence of which has been reported to range from 46.6% to 92.5% (8, 9, and 10). Anxiety is referred to uncertainty in feelings, fear, and panic (11). The stressful factors in ESRD include connecting hemodialysis needles by novice nurses, hemodialysis machine alarms during the dialysis, and frequent referrals for hemodialysis (7). Anxiety will result in disordered self-care, disordered efficiency, disordered

health, reduced quality of life, and increased risk of using alcohol and drugs in these individuals (11). Moreover, anxiety prevents the individuals from following the recommended diets and treatments and has a negative effect on self-care and the results of the treatments received (12). Anxiety treatment is conducted in two methods: medicinal and non-medicinal. The common method, i.e. using chemical drugs for hemodialysis patient, is not included as one of the nurses' responsibility and will result in increased risks for the patients, and this calls for adopting other necessary measures (13). One of the most common non-medicinal methods is alternative medicine (14). Alternative medicine includes acupuncture, acupressure, massage therapy, aromatherapy, yoga, energy medicine, etc. (15). Among the above-mentioned approaches, acupressure is one of the most popular methods for improving the patients' mental status. Acupressure is one of the popular methods in Chinese traditional medicine in which acupuncture points are stimulated by fingers by pressing and rubbing motion (7). This traditional is used without taking drugs or any other chemical substances. Moreover, acupressure is cheap, safe, and has the least complications. According to the Chinese tradition medicine, a flow of energy, necessary for the body, is running across 12 meridians or pathways of energy in all parts of one's body. According to this, the main reason behind most of the diseases and disorders is the imbalance of this energy. In acupressure, pressure stimulation is conducted through giving massage on special points of energy meridian. Correcting the energy flow will result in appropriate responses in different organs and glands. This method works by stimulating the secretion of neurotransmitters and adrenocorticotrophic hormones and

through mechanism endorphin-mediated mechanisms (16). The World Health Organization has confirmed the application of acupuncture and acupressure in 100 cases. However, traditional acupuncture involves making the patient naked and conducting aggressive intervention. Moreover, acupuncture involves the increased risk of suffering from AIDS and hepatitis. Thus, these factors have made acupressure more frequent and popular. Acupressure is an art in the traditional medicine that uses fingers for pressing the key points on the skin for stimulating and inducing natural self-healing abilities of the body (17). Acupressure and its energy balancing are used for relieving pain, decreasing muscle contraction, improving blood circulation status and performance of vital signs, and reducing the symptoms of anxiety (between 30 seconds to 5 minutes and even 20 minutes at times). The points used for reducing the symptoms of anxiety include P3 located in elbow wrinkle, GB41 in the tuberosity of the tibia, LI4 located on the fleshy mound between the thumb and first finger of each hand, LV3 located between foot big toe and the second toe, and P6 is located at the end of wrist close to its wrinkle (three finger breadths below the wrist on the inner forearm in between the two tendons). Acupressure will control and reduce anxiety effectively, practically, and with no complication by stimulating brain responses and hormone activities through increasing blood circulation and regulating metabolism (18). Numerous studies have been conducted about the effect of acupressure on anxiety of different patients. Hemodialysis patients are included as the patients that are subject to anxiety for various reason, and anxiety is one of the common mental disorders in these patients. Moreover, acupressure is a safe, harmless, fast, cheap, and non-aggressive method that does not require special facilities for being conducted, and it can be easily conducted by either a nurse or the individual himself/herself (19, 20). No complications has been yet confirmed for acupressure (18). The present study was conducted as a systematic review aiming to investigate the effect of acupressure on the anxiety of hemodialysis patients.

MATERIALS AND METHOD

The present study was conducted by searching both English and Persian databases including magiran, SID, Google scholars, and science direct pub med by using keywords such as dialysis, acupressure, and anxiety. At first, the researcher searched a large number of studies. Then, from among the studies searched, those that were not related to the subject of the present study were removed, and the researcher used only those studies having a proper relationship with the present study. In the present study, it was attempted to investigate acupressure and its effect on the anxiety of different patients and hemodialysis patients.

FINDINGS

The Iranian-Islamic traditional medicine is a comprehensive and dynamic medical knowledge that dates back to more than 8000 years BC (21). The alternative medicine is growing in the developed countries. Moreover, according to the findings of a study, as many as 80% of the

patients in Iran request that alternative medicine be provided by the doctors (22). Acupressure is in fact the same acupuncture, but it does not have the complications of acupuncture such as fainting during acupuncture, bleeding, infection, hepatitis (20). Acupressure is a non-aggressive method for promoting the level of immune system, improving the flow of blood vessels to heart, and relieving pain. Moreover, in terms of psychological effects, acupressure stimulates alpha waves in the brain and brings about relaxation as well as reduced anxiety and depression (7, 23). The anxiety level of the patients can be reduced by pressing and stimulating some points in our body and balancing the energy meridians. For example, disorders the flow of energy of renal meridians, HT, and DU are likely to create anxiety in individuals. By stimulating some points on these meridians, the individuals' anxiety can be reduced. These points include the point located between the eyebrows in the center of the bridge of the nose on the renal pathway (called the third eye in some cultures) and the Shen Men point located on the ear over the heart meridian. However, pressing the points that are not located on any meridians will have no effect on the health status of the individuals (20). Ear has a significant role in alternative medicine. The WHO regards the treatment by ear as a minor acupuncture method that is effective on organs of the body. Numerous studies indicate that acupressure on the ear is likely to reduce different forms of anxiety in different patients. Pressure in thalamus point in the right ear is likely to reduce anxiety in patients candidate for appendectomy in comparison to the placebo group receiving the pressure in a point of ear that did not affect the reduction of anxiety and the control group that did not receive any intervention (24). Acupressure was conducted for three minutes intermittently on the ears (Shen Men point) will result in reduced anxiety both before and after menopause in women (25). In many cases, the diagnostic and medical procedures are associated with anxiety and stress for the patients. The patient's anxiety during diagnostic and medical procedures has a variety of complications and side effects including increased level of blood catecholamine, adrenocorticotrophic, prolactin, prostaglandin, and cortisol, and consequently will result in increased myocardial oxygen consumption as well as increased breathing times and heartbeat. The findings of the studies indicate that acupressure results in reducing physiological indicators through reducing anxiety. In a study conducted, acupressure resulted in the significant reduction of pre-angiography breathing and systolic blood pressure (14). Hemodialysis patients undergo aggressive procedures such as connecting needles (7). These patients are exposed to the stress and anxiety of these procedures as well as the tools and equipment used. Thus, acupressure is effective for reducing anxiety and the physiological indicators in these patients. A study was conducted in 2015 about effect of acupressure on the anxiety of patients undergoing the treatment with hemodialysis. The findings of this study indicated that the acupressure and massage therapy of the right points could reduce overt and covert anxiety in these patients (37).

For investigating the effect of acupressure on the patients' anxiety before the amputation surgery, a study made use of massaging P6 point. The findings indicated that acupressure in this area resulted in the significant reduction of overt and covert anxiety level (26). Professor Joseph (2015) conducted a study to investigate the effect of acupressure on nursing students' anxiety during the examination. The findings indicated that conducting acupressure on P6 point resulted in the participants' reduced anxiety (27). The third liver point (LIV3) is a point the stimulation of which (through acupressure) will result in patients' reduced anxiety and relieved pain. In a study, conducting acupressure on LIV3 point resulted reduced anxiety among women suffering from primary dysmenorrhea (28).

DISCUSSION

Anxiety is the most common mental disorder in patients undergoing hemodialysis, and it results in severe irreparable complications. Anxiety and depression are likely to increase the suicide vulnerability of hemodialysis patients, and they are associated with numerous limitations in these patients (29). Medicinal treatment of anxiety and anxiety disorder needs to be taken into account as the last step; most of these disorders are not to be considered as a disease. Moreover, there are numerous questions about the complications of drug therapy and its efficiency (30). Various studies have been conducted on the effect of acupressure in different patients. However, there are studies that reject the effect of acupressure on reducing the anxiety of patients. In this part, it is attempted to discuss some of these studies. N.T.T HMWE et al (2015) conducted a study to investigate the effect of acupressure on depression, anxiety, and stress in patients with hemodialysis. Their study was a randomized controlled trial. The intervention was conducted in HT& and Taixkl-3 points. The findings of this study indicated that conducting acupressure for 3 weeks will result in reduced anxiety, depression, and stress in these patients (7).

In a study, it was concluded that conducting acupressure in three points (Neiguan:PC6, Hego:LI4, and Zusanli:ST36) resulted in the significant reduction of anxiety in patients undergoing mechanical ventilation (16). The comparison of the effect of acupressure in the third eye point with cardiac Shen Men point on the anxiety of patients candidates for angiography indicated that massaging both points significantly reduced the anxiety level of the patients, and there was a significant difference between the mean scores of the patients' anxiety in both intervention groups and control group. Cardiac Shen Men point (HE-7) is located near Ulnar and Pisiform bone and on the lateral line of wrist crease. Non-cardiac third eye point (Yintang) is located between the eyebrows and in the center of the bridge of the nose that can affect anxiety. Valee et al (2010) have confirmed the effect of acupressure on the reduction of patients' anxiety (دک، 50). Moreover, the findings of both studies indicated that acupressure in both third eye and cardiac Shen Men points will result in reduced anxiety in patients undergoing surgery (14, 20). Another study indicated that, acupressure in P6 points for 10 minutes for

both hands (started with the right hand followed by the left) will result in a significant reduction of anxiety level in patients candidates for angiography. In the study conducted by Wang et al, it was indicated that acupressure resulted in reduced anxiety in parents whose children underwent a surgery (31). Various studies have indicated that acupressure in the liver-3 point (LIV3) and spleen-6 point (SP6) resulted in the reduction anxiety in different patients. In a study conducted in 2014, it was indicated that acupressure in liver-3 point (LIV3) would result in reduced overt anxiety in patients suffering from primary dysmenorrhea, but it had no effect on their covert anxiety. Conducting acupressure in spleen-6 point (SP6) had no significant effect on these patients' overt and covert anxiety, and the reason is possibly the pressure time and the small number of samples (17 participants) (32). Moreover, a study conducted in 2017 confirmed the effect of acupressure on pregnant women's reduced anxiety (33). The effect of acupressure on the reduction of anxiety has been confirmed in cancer patients suffering from anxiety for a variety of reasons (34). Both normal massage and ice-massage in LI4 point will result in reduced pain and anxiety during the delivery in pregnant women. However, the effect of acupressure with ice more significant (35). The effect of acupressure on the anxiety of nursing and midwifery students was investigated in a study. The findings indicate that massaging P6 point resulted in a significant increase of overt and covert anxiety in nursing and operating room students. However, massaging this point reduced overt and covert anxiety levels in midwifery students, but this reduction was not significant (18). The findings of this study rejected the effect of acupressure in P6 point on anxiety. The findings of this study are not consistent with those of other studies. The reason behind the inconsistency of this study with the other studies conducted is possibly the short time of acupressure in Musavi's study (one minute). The study conducted by Kao et al indicated that auricular acupressure had no effect on the anxiety of peri- and early postmenopausal women. However, one of the limitations of this study was the small number of the samples (51). This limitation is the possible reason that acupressure had no effect on the patients' anxiety (31). In another study conducted to investigate the effect of dry cupping therapy and acupressure in BL23 point on post-delivery anxiety in primiparous women, it was indicated that acupressure had no effect on the patients' anxiety, but dry cupping method was an effective method and had a significant effect on the reduction anxiety (36). Pain is one of the important factors that can result in the creation or exacerbation of anxiety. Various studies confirm the effect of acupressure on the patients' reduced pain and (as a result) anxiety. The effect of acupressure on the reduced pain of the active phase of labor in primiparous women has been confirmed (37). Moreover, acupressure in SP6 point is effective on reducing labor pain, (26). In a study, the relief of migraine headache by acupressure was not confirmed (7). Furthermore, another study indicated that acupressure has no effect on reducing the pain of rheumatoid arthritis (38). Conducting acupressure in SP6 and GB21 points resulted in reduced anxiety in women (after the delivery)

and newborns. Another study indicated that conducting acupressure in these points would result in increased maternal and neonatal dependence as well as reduced anxiety in both mother and newborn, and this convenient and fast method can be used right after the delivery (39). Moreover, the effect of acupressure on reducing post-IVF (in vitro fertilization) anxiety has been confirmed in a clinical trial (40).

CONCLUSION

Various studies have confirmed that several points are effective in reducing the anxiety of patients by conducting acupressure. These points include P6, GB21, and LIV3 points. Given the high prevalence of anxiety in hemodialysis patients, the abovementioned points can be used for reducing anxiety in these patients. Moreover, it is recommended to conduct some clinical trials on hemodialysis patients and compare the effect of acupressure in the effective points for reducing the anxiety of these patients, so that the points having the highest effect in reducing the anxiety of patients are identified.

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