

The effect of acupressure and praying on physical comfort and psychological comfort in Hemodialysis patients

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Abstract

Chronic kidney disease is an important global health problem to treat. Hemodialysis is the treatment that has been chosen for chronic kidney disease. Hemodialysis is usually done between 3-4 hours, and the effect of it may cause discomfort. Hemodialysis which causes changes in lifestyle, health status, and individual roles. The purpose of this study was to determine the response of acupressure and prayer therapy. This study used the only posttest which was one type of quasi-experimental. Nurses provided prayer and acupressure at points GB 20, GB 21, (points on the neck) Si 12 (points on the shoulders), Ki 1, Ki 2, Ki 3, Sp 6 and BL 61 (points on the legs), each point would be stretched 5 times to the rhythm of a normal heartbeat at moderate pressure. The results showed that most patients (90%) were comfortable after being treated with acupressure. Most of the patients (72.5%) were also comfortable after being treated with prayer.

Keywords: Kidney, hemodialysis, acupressure, praying, comfortable

Introduction

Chronic kidney disease (CKD) is a global health burden with a high economic cost to health systems and is an independent risk factor for cardiovascular disease (CVD). All stages of CKD are associated with increased risks of cardiovascular morbidity, premature mortality, and/or decreased quality of life [1]. Each kidney injury may develop into chronic kidney disease (CKD) and end-stage renal disease (ESRD) that associates with high mortality and socio-economic burden [2].

The influence of the symptoms of End-Stage Renal Disease on patients' quality of life, and the frequency of periodic hemodialysis, the compliance of patients with treatment regimen and the negative side effects of the disease on patients is the strongest Stressors, which significantly affect the physiological and Psycho-social health of the patient [3]. Fatigue is a common symptom referred by many patients undergoing hemodialysis [4]. Fatigue is a common debilitating symptom in chronic kidney disease patients on maintenance hemodialysis. Improving fatigue in the end-stage renal disease population may positively impact patient well-being and survival [5].

Hemodialysis can also cause different problems and different complications [6];[7] Hemodialysis which causes changes in lifestyle, health status, and individual roles. Patient with hemodialysis faces some physical, mental and social stress [8].

In addition, patients with hemodialysis often feel they do not have freedom, attachment to caregivers, family, and social disorders, decrease or lack of income and change their quality of life [9]. Fatigue, lethargy, impotence, decreased libido and even severe depression together with time-consuming and intolerable dialysis can reduce the patient's sense of security [10]. Physical dysfunction, nutritional changes, fluid restriction, pain, attention deficit, dependency, loss of work, financial tension, frequent hospitalization, and fear of death can negatively affect the lifestyle of hemodialysis patients, health status, and comfort [11];[12].

Comfort is very important for hemodialysis patients because they spend most of their lives in the hemodialysis unit and are constantly facing various physical and mental health problems [13]. Convenience is important to consider in all nursing care including hemodialysis patients. Patient comfort needs are driven by cultural expectations and norms that illustrate what is important [13].

Serious collaboration between health and care team members in following religious rituals (prayer) can have an impact on caring and creating feelings of peace and quick recovery of health conditions [12]. Borzou, S. R et al [14] said that the presence of competent nurses, pleasant presence from others, and overcoming comfort barriers. to achieve patient comfort during the hemodialysis procedure, the health care team, the responsible hospital and the patient himself must do their best to provide patient comfort.

Methods of handling comfort can be done in two ways, namely pharmacology and non-pharmacology. If the patient has a comfort disorder, nursing interventions must be specific for etiological factors [15]. The number and variety of nonpharmacological interventions including complementary, alternative and integrative modalities, are very diverse and varied. Some examples of alternative and complementary therapies that can provide comfort to patients: Massage, Aromatherapy, Meditation, Prayer, Magnetism, Chiropractic, Homeopathy, Reiki, music therapy, Acupuncture, Acupressure, Deep Breath, Progressive muscular relaxation, Distraction, Guided Imagination, Biofeedback , Hypnosis and self hypnosis, Mind-Body Exercises and Herbs and Diet.

In previous studies on the effectiveness of Prayer, Acupressure and Massage in patients undergoing hemodialysis include [12]. According to the results of the study, it can be concluded

that in hemodialysis patients, Prayer is a suitable method to adapt to the disease. Because not only reduces stress but also improves health spirituality. In the publication wrote the participant's response as follows: "After this prayer is more comfortable, the sleep is also more soundly comfortable, usually going to sleep is difficult, now it is faster in sleep". Puspitasari DA et al (2018) reported that the results of the study showed that there was an effect of rheumatism and prayer exercises on the reduction of pain levels in elderly osteitis [16], [17][18].

The application of acupressure P6 is effective in preventing vomiting, its effect on the intensity of nausea is even better. In addition, the P6 acupressure application improves patient comfort. Tabiee S et al, (2017) who examined the effectiveness of back massage interventions, patient and family education on the comfort level of hemodialysis patients, collecting data using a questionnaire that showed that the patient's comfort needs were related to muscle cramps, headaches, backaches, nausea, lack of knowledge about the treatment of arteriovenous fistulas, dietary regimens and treatment, itching, rest and sleep disorders, and comfort disorders [13]. Various studies have shown a positive response to acupressure, massage and prayer therapy. Acupressure therapy delivered three times a week for four weeks was able to significantly reduce depression, anxiety, stress, and general psychological distress in patients with hemodialysis [19].

Methods

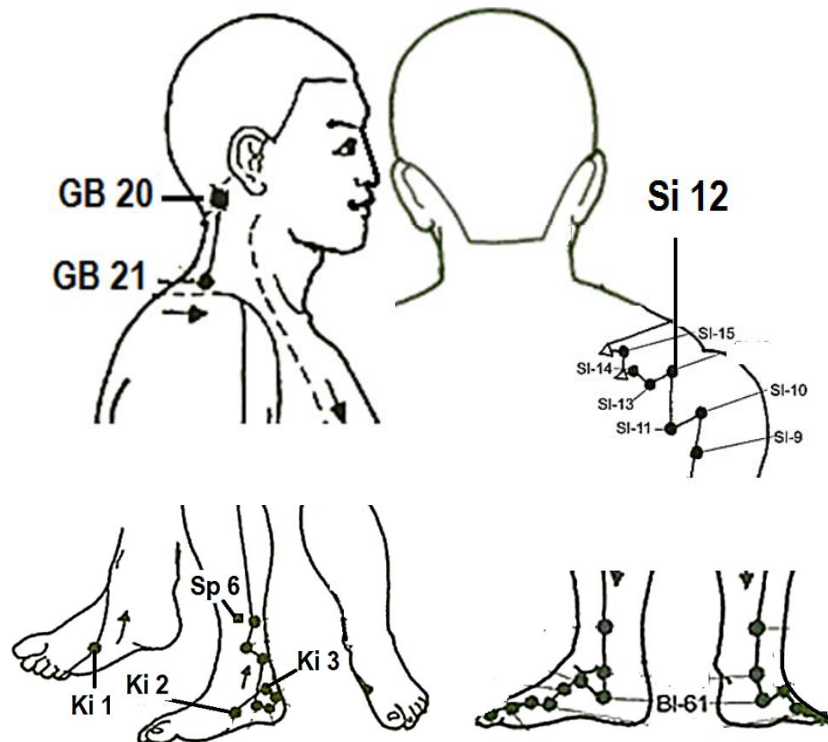
Study design

Forty hemodialysis patients were taken using a simple random sampling technique at Fatimah Islamic Hospital Cilacap. Quasi-experiment with one group posttest only design was used in this study. Independent variables were acupressure and prayer therapy, while the dependent variable was physical comfort and psychological comfort in hemodialysis patients.

Intervention

Acupressure and prayer are performed by a nurse who has been trained. Modification of nursing care was implemented in this study. The combination of acupressure and prayer was implemented in the work phase.

Acupressure was done at two points on the neck, namely the points with the code GB 20 and GB 21. One point on the shoulder (Si 12) and five points on the foot (Ki 1, Ki 2, Ki 3, Sp 6 and BL 61).



Each point is stretched 5 times to the rhythm of a normal heartbeat at moderate pressure. After completing acupressure, the nurse prays for the patient. Healing prayer from the hadith of the prophet Muhammad Sallallahu 'alaiahiwasaalam narrated by Bukhari and Muslim [20].

Outcome measures

The main outcome measure was a change in comfort using physical comfort and psychological comfort questionnaire created by researchers. Data were collected by a questionnaire shortly after the patient was massaged and prayed.

Statistical analysis

In this study data analysis was performed using SPSS 17 with descriptive statistics to know physical comfort and psychological comfort in hemodialysis patients and analysis the Fisher's Exact Test analysis to find out the difference in comfort with acupressure between men and women, between before the elderly and the elderly, to find out the difference in comfort with prayer between men and women, between before the elderly and the elderly,

Results

Tabel.1 Characteristics of respondents, the effect of acupressure and effect of prayers

Characteristics of respondents	f	%
Gender:		
Man	17	42,5
Women	23	57,5
Age:		
Elderly	11	27,5
Not elderly	29	72,5
Effect of acupressure:		
Comfortable	36	90
Very Comfortable	4	10
Effect of prayers		
Comfortable	29	72,5
Very Comfortable	11	27,5

The results showed that most patients were a woman (57.5%), not elderly (72.5%), comfortable after acupressure (90%) and comfortable after prayers (72.5%)

Test different patient comfortable to acupressure between men and women

Table 2. Test results of different patient responses to acupressure between men and women

	Category		P-value
	Comfortable	Very Comfortable	
Women	22 (95,7%)	1 (4,3%)	0.294
Man	14 (82,4%)	3 (17,6%)	
Total	36 (90%)	4 (10%)	

Source: Primary Data 2019

Table 2 shows that a large proportion (36 HD patients or 90%) responded satisfactorily to acupressure therapy and a small proportion (4 HD patients or 10%) showed very comfortable responses to acupressure therapy. Most of the women (95.7%) responded comfortable to the acupressure tube, a small proportion of female patients (4.3%) gave a very comfortable response to the acupressure tube. Most of the men (82.4%) gave a comfortable response to the acupressure tube, a small portion of male patients (17.6%) gave a very comfortable response to the acupressure tube. Fisher's Exact Test shows Exact. Sig (2-sided) = 0.294. This means that there is no difference in satisfaction responses between women and men for acupressure therapy or it can be said that both female and male patients undergoing HD are comfortable with acupressure therapy. According to patients both men and women, after being treated with acupressure the hands, neck, and legs feel more comfortable.

d. Test different responses to acupressure between ages before the elderly and the elderly

Table 3. Test the different responses to acupressure between the ages before the elderly and the elderly

	Category		P-value
	Comfortable	Very Comfortable	
Not elderly	26 (89,7%)	3 (10,3%)	0,1000
Elderly	10 (90,9%)	1 (9,1%)	
Total	36 (90%)	4 (10%)	

Table 3 shows that a large proportion (36 HD patients or 90%) responded satisfactorily to acupressure therapy and a small proportion (4 HD patients or 10%) showed very comfortable responses to acupressure therapy. Most of the patients before the elderly (89.7%) responded comfortable to the acupressure tube, a small proportion of patients before the elderly (10.3%) gave a very comfortable response to the acupressure tube. The majority of elderly patients (90.9%)

responded satisfactorily to the pup acupressure, a small proportion of elderly patients (9.1%) gave a very comfortable response to the acupressure disk. Fisher's Exact Test shows Exact. Sig (2-sided) = 0.1000. This means that there is no difference in satisfaction responses between patients before age and elderly patients to acupressure therapy or it can be said that both patients aged before elderly and elderly patients who undergo HD are comfortable with acupressure therapy.

e. Test different responses to prayer therapy between men and women

Table 4. Test different responses to prayer therapy between men and women

	Category		P-value
	Comfortable	Very Comfortable	
Women	19 (82,6%)	4 (17,4%)	0,153
Man	10 (58,8%)	7 (41,2%)	
Total	29 (72,5%)	11 (27,5%)	

Table 4 shows that the majority (29 HD patients or 72.5%) responded comfortable with prayer therapy and a small proportion (11 HD patients or 27.5%) responded very comfortable with prayer therapy. Most of the women (82.6%) gave a comfortable response to the prayer pitch, while a small number of women (17.4%) gave a very comfortable response to the prayer pitch. Most of the men (58.8%) gave a comfortable response to the prayer pitch, a small proportion of men (41.2%) gave a very comfortable response to the prayer pitch. Fisher's Exact Test shows Exact. Sig (2-sided) = 0.153. This means there is no difference in satisfaction responses between women and men in prayer therapy or it can be said that both female and male patients undergoing HD are comfortable with prayer therapy.

f. Test the difference in response to prayer therapy between the age groups before the elderly and the elderly

Tabel5. Test different responses to prayer therapy between the ages before the elderly and the elderly

	Category		P-value
	Comfortable	Very Comfortable	
Before elderly	20 (69,0%)	9 (31,0%)	0.694
Elderly	9 (81,8%)	2 (18,2%)	
Total	29 (72,5%)	11 (27,5%)	

Table 5 shows that the majority (29 HD patients or 72.5%) responded satisfactorily to prayer therapy and a small proportion (11 HD patients or 27.5%) responded very comfortable to prayer

therapy. Most of the elderly patients (69.0%) gave a comfortable response to the prayer pitch, a small proportion of the elderly patients (31.0%) gave a very comfortable response to the prayer block. The majority of elderly patients (81.8%) responded satisfactorily to the prayer pitch, a small proportion of elderly patients (18.2%) gave a very comfortable response to the prayer pitch. Fisher's Exact Test shows Exact. Sig (2-sided) = 0.694. This means that there is no difference in satisfaction responses between patients who are not elderly and elderly patients to prayer therapy or it can be said that both patients who are not elderly and elderly patients who undergo HD are comfortable with prayer therapy.

Discussion

In this study, the number of elderly respondents was 29 (72.5%) and the elderly were 11 (27.5%). These results indicate that patients with CRD who undergo HD therapy are more likely to be in the elderly group. This can be explained by the fact that the elderly group does not have a wide age range between the teenage group and the adult age group. In addition, the characteristic of chronic renal failure is a disease that often causes death so that the age of those suffering from chronic renal failure is less to the elderly. People with chronic renal failure are more likely to get this disease when they are approaching the elderly or when they are elderly.

All the different test results in the bivariate analysis showed no difference in the comfort response to prayer and acupressure therapy. Acupressure and prayer therapy both in the male and female groups and in the elderly group with the elderly show more comfortable responses.

Comfortable response to acupressure is a positive response to acupressure therapy that acupressure can increase comfort or reduce fatigue and other discomforts in hemodialysis patients. The results of this study support previous research including. Fatigue is considered a major problem in hemodialysis patients and can interfere with their quality of life . In the Sabouhi F et al study, patients in the acupressure and placebo groups received acupressure interventions during the initial 2 hours of dialysis at six acupoints with massage for 20 minutes/day, 3 days per week for 4 weeks. In the placebo group, acupressure interventions were carried out as mentioned above with a distance of 1 cm from the actual intervention site. Patients in the control group only received routine unit care. The results of this study indicate that acupressure can reduce fatigue in

hemodialysis patients, and the use of this non-pharmacological technique for hemodialysis nurses is recommended.

Mohmadi K et al, (2016) state that pain due to muscle cramps is one of the most common hemodialysis effects [21]. One mechanism related to muscle cramps is unnatural muscle metabolism. Acupressure is believed to increase muscle metabolism through energy release so Mohmadi K et al conducted a study with the aim of determining the impact of acupressure on muscle cramps. The intervention group received 9 acupressure sessions and the control group received 9 placebo intervention sessions. The intervention was carried out 15 minutes before hemodialysis in both groups. In both groups, the average pain intensity and frequency of pain were compared before, after, and 1 month after the completion of the intervention. Mohmadi K et al concluded that acupressure can cause a decrease in muscle cramps in patients undergoing hemodialysis.

Eslami AA et al. (2014) in their research through regression analysis found that spiritual health, family, education, financial status, marital status, work, and use of sleeping pills, the predictive power of these variables was found to be 0.417% and predictions of spiritual well-being were more than the other ($\beta = 0.209$) [22]. Finally, Eslami AA et al concluded that considering a bed as one of the most vital physical, mental, and emotional needs is very important in the mental and spiritual well-being of hemodialysis patients as a factor that affects mental relaxation and reduce illness tension. Furthermore, Eslami AA et al suggested that paying attention to the quality of sleep and the spiritual component of hemodialysis patients in formulating and promoting health care programs.

The combination of acupressure and prayer therapy increases physical and psychological comfort. Until now there has not been found any research on the combination of acupressure and prayer to increase comfort in patients with CRF who are undergoing hemodialysis, so the discussion is limited to the effects of acupressure therapy and the effects of prayer separately. Nevertheless, there is one study that found using a combination of murotall therapy and acupressure to overcome anxiety in people with diabetes mellitus. Hajiri F et al (2019) examined the effect of murotall and acupressure on the level of anxiety in respondents with each group of 15 respondents [23]. Significant results in the Anova repeated measurement test on anxiety levels obtained p values <0.05 , which means there is a significant effect of murotall and acupressure on anxiety levels, in patients with high blood sugar levels.

Here are some separate acupressure and prayer studies that explain the potential for using them in combination can improve patient comfort. Mohmadi, K et al [21](2016) said that the researchers found the pressure at points B57, GV26, LV3, CV4, CV6, K1, LU7, and LU9 reduced the frequency and severity of muscle cramps. Therefore Mohmadi, K et al. Recommend the use of acupressure to reduce the severity and frequency of muscle cramps for nurses in hemodialysis patients. Fradelos, E. C, (2015) said that consider, assess and deal with the needs of chronic kidney disease and the spiritual needs of patients needed and can have positive results in a quality of life, mental health, and health-related life expectancy [24].

In this study, the points covered by the rest are GB20 and GB 21 to increase comfort on the neck and shoulders. This study supports the research: Lee Y. T. (2016) who examined the GB 20 point [25]. GB20 (Fengqi). Acupoint Fengqi includes gallbladder meridians which help digest food and store bile produced by the liver. This point is located lateral to the sternomastoid and trapezius muscles behind the occipital bone and is parallel to the auricle and Fengfu. The point is indicated for headaches, eye and neck pain, stiff neck, insomnia, and motion sickness.

Acupressure at local and distal acupuncture points can cause sedation and relaxation, thereby reducing chronic neck pain. The aim is to investigate the effects of local acupressure (LP) and distal acupuncture points (DP) in women with chronic neck pain. Thirty-three women were assigned to three groups: the control group did not receive any stimulation, the LP group received acupressure at the local acupuncture point, GB 21, SI 14 and SI 15, and the DP group received acupressure at the distal acupuncture point, LI 4, LI 10 and LI 11. Verbal rating scale (VRS), Neck Disability Index (NDI), State-Trait Anxiety Inventory (STAI), muscle hardness (MH), salivary alpha-amylase (sA) activity, heart rate (HR)), values Heart rate variability (HRV) and comfort due to acupressure were assessed. VRS, NDI, STAI and MH values decreased after acupressure in the LP and DP groups. HR decreased and the strength of the high-frequency component (HF) HRV increased after acupressure only in the LP group. Although acupressure not only on LP but also DP significantly improves pain conditions, acupressure on the only LP affects the autonomic nervous system while acupuncture points per se have different physical effects according to location. GB-21, SI-14, and SI-15 significantly influence autonomic nerve activity [26].

Hojjati H et al (2010) in their research found that with regard to the frequency of praying 44.5% constantly thanked God for their blessings and 42% also continually demanded God's help

[27]. Regarding previous prayer experiences, 88% of previous patients believed that God sometimes healed patients. Regarding attitude, 40% of the subjects agreed that God cared for them. Pray in hemodialysis patients at a high level. The Jors K study concluded that most patients with chronic illness pray for relief from their physical and mental suffering, their prayer intentions not only for healing but prayer can also be a source that allows patients to change their illness experience positively [28]. Furthermore, Kurniyawan EH, (2016) examined this Narrative review taking 25 international electronic journals between 2006 and 2016 using the Google Scholar search engine [29]. Almost all journals used in this narrative review conclude that acupressure therapy is very effective in reducing the level of acute and chronic pain in various diseases suffered by patients. Acupressure therapy has many functions for physical health, one of which is to reduce acute and chronic pain. Pain occurs due to an imbalance of qi energy flow in the body. Acupressure will balance the body's qi energy flow so that it will relieve pain while healing the illness. The body's balanced qi energy flow will increase the vitality and health of the body so as to avoid various diseases.

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