THE EFFECT OF SLOW STROKE BACKMASSAGE ON FATIGUE IN PATIENTS UNDERGOING HEMODIALYSIS: A RANDOMIZED CLINICAL TRIAL

Hossein Shahradi¹, Reza Mohammadpour Hodki²*, Amin Ali Abadi³, Amene Sheikh⁴, Ali Moghadasi⁵

¹M.Sc, Nursing and Midwifery School, Zabol University of Medical Sciences, Zabol, Iran
²Surgical Nursing Graduate Student, Research Committee of the Nursing and Midwifery zabol University of Medical Sciences, zabol, Iran.
³Pharmacy student, pharmacy school, Zabol University of medical Sciences, zabol. Iran
⁴Surgical Nursing Graduate Student, Research Committee of the Nursing and Midwifery zabol University of Medical Sciences, zabol, Iran.
⁵Surgical Nursing Graduate Student, Research Committee of the Nursing and Midwifery zabol University of Medical Sciences, zabol, Iran.

Email: rezamdpoor@gmail.com

Received on 05-08-2016
Accepted on 28-08-2016

Abstract

Introduction: Fatigue lower the feeling of being well in dialysis patients and have various effects on their physical, emotional and cognitive aspects. In this study, the effect of slow stroke back massage on fatigue severity inpatients treated with hemodialysis was done.

Materials and Methods:

This study is a clinical trial in which 52 patients undergoing hemodialysis are selected by census method and randomly divided into two groups, control(26) and test (26). The data collecting tool was included Individual demography and fatigue severity questionnaire. After completing questionnaires by the study subjects, during the three weeks, two sessions each week (6sessions totally) slow stroke back massage was performed. And after the end of the sixth session, fatigue severity of test group patients and control group were measured again. Data were analyzed using Independent t-Test, Chi-squared test, Fisher exact test, two-way ANOVA with repeated measures and Bonferroni test.

Results:

The arithmetic mean and standard deviation of fatigue severity were 49/92±8/58 in control group, (before the intervention) and 52/2±10/73 in test group, that shows statistically no significant difference between the two groups (P<0/001). After performing the massage programs the fatigue severity mean was 48/92±9/52 in the control group and 37/65±11/51in the test group and the difference was statistically significant(P <0/000)
Conclusion: According to results slow stroke back massage is an effective nursing intervention to reduce fatigue in patients undergoing hemodialysis. The results of this study can be used in decision-making and planning for this group as well.

Keywords: Stroke massage, fatigue, Hemodialysis.

Background: The incidence and prevalence of chronic kidney disease in the world, including Iran is growing and now has become a threat and global health problem(1). In America, about 400,000 at the end of 2004, had been suffering from chronic renal failure, of which more than 300,000 people have been treated with hemodialysis (2). Currently, patients with chronic kidney disease in the absence of a kidney transplant can find relief from premature death Using modern methods of treatment, including hemodialysis and yet suffer a range of physical, psychological, social and economic problems (3, 4). Fatigue is one of the most common annoying symptoms reported by dialyzed patients(5). Behavioral factors, factors associated with treatment and personal characteristics are the causes of fatigue in these patients(6). Despite advances in treatment, fatigue and fluid and food restriction in dialysis patients are still at the top of stressors(7). Fatigue is a multidimensional concept, understanding different aspects of fatigue will help nurses for better planning and implementation of strategies to relieve fatigue in patients undergoing hemodialysis treatment(8).

There are many methods, including those available in CAM which nurses can help their patients through these methods to improve their health. Massage therapy is one of the most popular alternative and complementary therapy that is used in nursing and easy to implement, safe, non-invasive and relatively cheap (9).

In the case of massage the slow stroke back massage is reported to be a simple technique, inexpensive, rapid, non-invasive and non-drug nursing interventions(10).

Massage strokes is, in fact, the gentle movement of the skin so that the hands slide over the skin and don’t move the Deep muscles (11). Stroke massage is applicable in the whole body. Massage usually starts from posterior parts of the body (12). Slow stroke back massage is slow, rhythmic and gentle movements of hands on the patient's back with a speed of about 60 moves in minute and it takes about 3 to 10 minutes. Movements used in this type of massage is a type of surface stroke that cause quite sensational effects and has very beneficial effects in patients relaxation (13).

Considering the benefits of massage therapy and fatigue in hemodialysis patients and also the lack of studies on slow stroke back massage in the hemodialysis patient population In this study, the effect of slow stroke back massage on fatigue severity in patients treated with hemodialysis was done.
Materials and Methods

In this randomized clinical trial the number of 52 hemodialysis patients referred to Imam Khomeini Hospital dialysis center in the city of Zabol in 2015 that have the criteria for entry into the study were selected by census method and after obtaining informed consent to participate in research were considered as the study samples. Criterias for the study included at least 18 years of age and a history of at least 6 months of dialysis, Willingness to participate in research, being on the list of weekly dialysis and carrying out hemodialysis three times a weekend 4 to 32 hours each time, no history of reflexology in the last 6 months, having full consciousness, listening and speaking acceptable ability to answer the questions, the lack of chronic pain and diabetes, having a degree of fatigue, a minimum score of fatigue between (10 to 39) based on questionnaires fatigue severity. That in case of any of the following conditions during the research unit will be excluded; death of the patient, mental and sensory disorders, perform a kidney transplant during the study, patient revised in collaboration with researchers during the study and not to be pleased to be working.

Two forms were used to collect data: 1. The demographic questionnaire on demographic characteristics and also information about the disease, including the duration and hemodialysis 2. Fatigue Severity Scale. The fatigue severity was achieved on the basis of points scored by the patient in respond to the 9 questions of this scale. Seven numbers were devoted to each question (from one to seven), the number one represents the least amount and number seven presents the maximum amount of fatigue and patients chose the desired number due to their fatigue severity, in this study, after completion of this scale based on the scores achieved in each question, the number of questions were combined and classified in one of these categories mild fatigue (10 to 39), average fatigue (40 to 54) and severe fatigue (55 to 70). This tool is one of the best known and functional fatigue scale that is useful to measure the intensity of fatigue. This scale used in most medical research and now used in Australia, Britain, Canada, France, Germany, Spain, New Zealand, Switzerland, Taiwan and America. The reliability of this tool has been confirmed by the alpha coefficient of 94%, 88%, 91% and 83% in many studies by Rasooli (14), Zakeri Moghaddam (15), and Tarbiat Modarres University faculty members. The Content validity is confirmed in studies of Zakeri Moghadam, Schneider, Bonner, Ghafari (15, 16, 17, 18).

Procedure of the study was that the subjects were randomly divided into two groups of test and control then the demographic questionnaire and fatigue scale questionnaire was given to them to determine fatigue severity. There flexology procedures and duration of the program explained to the test group consisted of 26 participants and
Massage was performed for the hemodialysis patients by a trained female nurse in sitting position, during the three weeks, two sessions each week (6 sessions totally). The duration of each massage session was ten minutes.

The method of slow stroke back massage was as follows: Mansitson a chair and bend forward on a pillow, the person's shoulders should be taken with both hands. While the thumbs are on either sides below the base of the skull. The mild rotational movements of hands above the neck is performed. The palm of one hand placed at the base of the skull and then the soft blows down to the waist on the spine area effected. Then the second hand should be placed at the base of the skull and on the way down the cord to the waist is tapped. This is done regularly. Hands should be placed on the sides of the neck below the ears and then blow struck down ward on the clavicle bones of the person right up to the shoulders by thumbs. This movement is performed several times. Thumbs placed above on either side of the spine near a shoulder and moved down the spine to the waist. Palms are placed on either side of the neck and continuous and prolonged lows weep kicks to the neck, over the shoulders and down the back near the spine area effected (19). After the end of the sixth session the fatigue severity scale was completed by both groups. After completing the scale and according to patient fatigue scores, fatigue classified in mild, moderate and severe degrees.

Data were analyzed using Independent t-Test, Chi-squared test, Fisher exact test, two-way ANOVA with repeated measures and Bonferroni test.

Results

The collected data were analyzed by SPSS v.20. The final analysis was performed on 52 patients at the desired times. To synchronize the two groups before the intervention, Kolmogorov-Smirnov test was conducted. And data distribution was normal (sig=0/3). To describe the frequency of data, descriptive statistics was used and independent t-test, Chi-squared test, Fisher exact test, two-way ANOVA with repeated measures and Bonferroni test were used to compare data. The significance level for all tests was 0/05. Two-way analysis of variance with repeated measures showed that there is a significant difference between the fatigues cores mean of intervention and control groups at the end of the third and fifth week (P<0/001) (Table 2).

Table 1. Demographic characteristics of the patients undergoing hemodialysis in both intervention and control groups.

<table>
<thead>
<tr>
<th>Group</th>
<th>Variable</th>
<th>intervention</th>
<th>control</th>
<th>Test Result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>The number(percentage)</td>
<td>The number(percentage)</td>
<td></td>
</tr>
</tbody>
</table>

IJPT| Sep-2016 | Vol. 8 | Issue No.3 | 16016-16023 | Page 16019
Table 2. The mean and standard deviation of fatigue score distribution in both intervention and control groups at two time.

<table>
<thead>
<tr>
<th>Age</th>
<th>The mean (SD)</th>
<th>p = 0.364*</th>
<th>t = 0.120 **</th>
<th>Df : 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>21 (80/8%)</td>
<td>15 (57/7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>5 (19/2%)</td>
<td>11 (42/3%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td>Single</td>
<td>10 (38/5%)</td>
<td>18 (69/2%)</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>16 (61/5%)</td>
<td>8 (30/8%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood group</td>
<td>A</td>
<td>10 (38/5%)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>3 (11/5%)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AB</td>
<td>3 (11/5%)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>O</td>
<td>10 (38/5%)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Education Level</td>
<td>Illiterate</td>
<td>17 (65/4%)</td>
<td>0.015**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primaryedu</td>
<td>1 (3/8%)</td>
<td>0.015**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diploma</td>
<td>6 (23/1%)</td>
<td>0.015**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BS</td>
<td>2 (7/7%)</td>
<td>0.015**</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Village</td>
<td>17 (65/4%)</td>
<td>0.015**</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>City</td>
<td>9 (34/6%)</td>
<td>0.015**</td>
<td>**</td>
</tr>
<tr>
<td>Fatigue severity</td>
<td>intervention</td>
<td>52/2</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>49/92</td>
<td>0.0438</td>
<td>0.221</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11/51</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>48/92</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

*T test, Fisher's exact test**Chi-square test***

The results of this study showed that the majority of the units in the two groups had medium fatigue and the severity of fatigue in both control and experimental groups was respectively 92/49 and 2/52 before the intervention and also the...
The frequency of fatigue in these patients in studies of Braun(20), Schneider(21), we is bord(22) Ey(23), Kim(24), Liu(25) and murtagh (26), has been reported respectively, 90, 58, 69, 70/63,77/9, 50 and 71%. This difference in the fatigue severity could be due to differences in behavioral factors, factors associated with treatment and personal characteristics of patients(27).

According to the results of the comparison of patients fatigue severity and patients fatigue reduction compared to pre-intervention and because almost the only major change in the lifestyle of the patients, during this 3 weeks, has been a performing of slow stroke back massage during dialysis in hospital, we can say that reflexology is effective in reducing their fatigue. Among there searches conducted within the country and abroad no study were found about effect of slow stroke back massage on fatigue reduction in patients undergoing hemodialysis among studies however, improvement of fatigue have been reported in studies on the effects of massage therapy on other diseases and for example Tsay and colleagues showed in a study that massage therapy improves sleep quality and decrease fatigue and also an improvement in quality of life in patients with chronic renal failure (28). Unlike the results of present study, the results of a study on the effects of massage on fatigue in cancer patients did not show a significant decrease in fatigue severity immediately after the massage (29). The authors believe one of the main reasons for this is that fatigue in cancer patients usually is chronic therefore, massage intervention should be performed for a longer duration. The results of this study showed that massage improves the fatigue in hemodialysis patients and this phenomenon improves their quality of life. Many dialysis patients and their families have little information about the effects of hemodialysis, particularly fatigue. Obviously By training clients In the case of fatigue effects of hemodialysis and performing simple and achievable medical interventions such as slow stroke back massage can provide an effective, without side effects and cost-effectiveness way to Prevent and relieve fatigue. The improvement of these complications enhance the quality of life for these patients. Massage is easy, low-cost, non-invasive and also it is available at home and can be easily taught and lead to empowerment of patients and their families in the hemodialysis complications control.

**References**


2. Smeltzer SC, Bare BG, Hinkle JL, Cheever KH. Texbook of medical-surgical Nursing. 11th ed. Lippincott Williams & Wilkins. 2008


27. Tel H. Determining quality of life and sleep in hemodialysis patients. Dial Transplant. 2009;38(6):210-5.27

**Corresponding Author:**
**Reza Mohammadpour Hodki**, *