

EFFECT OF FOOT REFLEXOLOGY ON FATIGUE AND RELAXATION AMONG PATIENTS UNDERGOING HEMODIALYSIS

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ABSTRACT

Chronic renal failure is a progressive deterioration of renal function which leads to interference with the metabolism of body water and electrolytes. While Hemodialysis is a lifesaving procedure, it cannot substitute for a healthy kidney; hemodialysis related fatigue symptoms significantly affect patients' quality and way of life. The symptoms such as fatigue and decreased relaxation levels can result in many complications such as lower vitality, higher body pain, being tired etc. Objectives: The main objective of the study was to assess the level of fatigue and relaxation experienced by the patients undergoing hemodialysis and to assess the effect of foot reflexology on fatigue and relaxation among patients undergoing hemodialysis. Methodology: A quantitative approach with pre experimental one group pre- test post- test design was adopted for this study. The sample consists of 30 patients undergoing hemodialysis selected by convenient sampling technique. The data was collected by structured questionnaire. Foot reflexology was given to each patient twice in a week for three weeks and each session lasted for 30 minutes. The collected data was analyzed using descriptive and inferential statistics. Results: The post- test mean fatigue score (6.23) was lower than the mean pre-test fatigue score (7.46) and the calculated t value is 6.90 (P <0.05). The post -test mean relaxation score (78.73) was higher than the mean pre- test relaxation score (52.23).The calculated t value is 27.62 (P <0.05). The study findings revealed that foot reflexology is effective in reducing fatigue and improving relaxation among patients undergoing hemodialysis.

Key words: Foot reflexology, Fatigue, Relaxation.

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INTRODUCTION

Chronic kidney disease (CKD) is emerging to be an important chronic disease globally .One reason is the rapidly increasing worldwide incidence of diabetes and hypertension. It has been recently estimated that the age-adjusted incidence rate of End stage renal disease in India is 229 per million population, and >100,000 new patients enter renal replacement programs annually in India[1].

Dialysis is a life-saving procedure for patients whose kidneys are not working properly, in which excess water and waste products are removed from the body[2]. While hemodialysis is a life saving procedure, it cannot substitute for a healthy kidney, it taxes the patient and hemodialysis related fatigue symptoms significantly affect patients' quality and way of life [1]. Haemodialysis

patients exhibit low levels of physical activity and functional capacity while they suffer from generalized weakness, exercise intolerance, and muscle atrophy, all leading to generalized sense of fatigue[3]. A study conducted in Turkey revealed that one third of the patients undergoing hemodialysis felt worse in the immediate hours after the dialysis session while one out of four reported severe or very severe intensity of fatigue after dialysis [4]. A comparative study conducted in Karnataka showed that 15 % of the sample had no relaxation and 85 % of the people had only mild relaxation[5].If the symptoms such as fatigue and decreased relaxation levels among patients undergoing hemodialysis are left untreated, it can result in many complications such as lower physical and mental well-being, lower vitality etc. [6]. So identifying techniques by which patient are able to



manage their symptoms is also important to improve the quality of life. The aim of this study was to assess the effectiveness of foot reflexology on fatigue and relaxation among patients undergoing hemodialysis in a selected hospital at Ernakulam district.

OBJECTIVES

The objectives of the study were to:

1. assess the level of fatigue and relaxation among patients undergoing hemodialysis before induction of foot reflexology
2. assess the level of fatigue and relaxation among patients undergoing hemodialysis after the induction of foot reflexology
3. determine the effect of foot reflexology on fatigue and relaxation among patients undergoing hemodialysis
4. determine the relationship between fatigue and relaxation among patients undergoing hemodialysis
5. find the association of fatigue and relaxation scores with the selected demographic variables

HYPOTHESES

H1 - The mean post interventional fatigue score of patients undergoing hemodialysis is significantly lower than the mean pretest fatigue score at 0.05 level of significance

H2 - The mean post interventional relaxation score of patients undergoing hemodialysis is significantly higher than the mean pretest relaxation score at 0.05 level of significance

H3 - There is a significant relationship between the fatigue and relaxation at 0.05 level of significance

H4 - There is a significant association between the fatigue, relaxation score and the selected demographic variables at 0.05 level of significance

METHODOLOGY

The research approach used in this study was quantitative and the design was pre experimental one group pre-test post-test design. The setting of the study was at MOSC medical college, Kolenchery in Ernakulam district. The population comprised of CKD patients who were undergoing hemodialysis twice in a week. In this study the sample comprised of 30 CKD patients who were undergoing hemodialysis and the sampling technique used was convenient sampling.

Inclusion criteria

Patients who were undergoing haemodialysis

- twice in a week
- aged between 18 -70years
- who were willing to participate in the study

Exclusion criteria

Patients undergoing haemodialysis

- who were seriously ill

- who had ulcers or injury in the feet
- who had vascular disorders in lower limb

Description of the tool

The tool used in the present study consists of three sections

Part I: Socio- Personal Data

Part II: Piper Fatigue Scale

Part III: Relaxation Rating Scale

Part I: Socio Personal Data

The socio personal data of patients included age, sex, educational status, marital status, income, occupation, type of family, duration of CKD, number of years in hemodialysis, co morbidities, serum creatinine, serum urea and hemoglobin level.

Part II: Piper Fatigue Scale

Piper fatigue scale is a standardized free scale comprising of 22 numerically scaled, "1" to "10" items that measure four dimensions of subjective fatigue which includes behavioral, affective meaning, sensory and cognitive mood

Part III: Relaxation Rating Scale

Relaxation rating scale was developed by the researcher. It consists of 20 items that measure three dimensions of relaxation which includes psychological, physical and social aspects. The tool used a 5 point rating scale with options strongly disagree, disagree, neither agree nor disagree, agree, strongly agree. The scale consists of both positively worded items and negatively worded items. The tool was validated by 7 experts. Reliability of the scale was $r=0.7$ which indicated that tool is reliable.

Description of foot reflexology

The intervention used for the present study was foot reflexology. Foot Reflexology is an applied pressure therapy that involves stimulating reflex points that are located on the foot.

Foot reflexology was given based on a protocol that was developed by the researcher. It was validated by experts. The researcher had undergone training in foot reflexology and was certified to administer foot reflexology. The therapy was administered twice in a week for three weeks during dialysis and each session lasted for 30 minutes for each patient. The feet were cleaned with an antiseptic solution followed by warming up session by massaging the feet. The investigator started the intervention with left foot first followed by right. The researcher stimulated each reflex point of the foot using thumb and this session lasted for about 20 minutes.

Data Collection Process



Data collection procedure is a process of gathering information to address the research Problem.

The study was conducted after approval from institutional ethics committee. A written permission was obtained from the administrator of MOSC Medical College, Kolenchery. The data collection was from 09/03/2015 to 28/03/2015. The head of the departments were informed and due permission was obtained from them also. The investigator introduced herself to the patients and caregivers and the purpose of the study was explained to them. Confidentiality was assured and written informed consent was obtained. The subjects under the study were selected through convenient sampling. The subjects fatigue and relaxation level was assessed on first day and intervention was started on the same day .The intervention was given to each subjects during the dialysis sessions for 30 minutes twice in a week for three weeks. Thirty subjects received 6 foot reflexology sessions in three weeks. After the 6th session post-test was conducted for each subject. The respondents were co-operative and the data thus collected was compiled for data analysis.

RESULTS

Section 1: Description of sample characteristics

Majority (46.67%) of the sample were in the age group of >60 years and males (66.67%). 80% of the sample were having primary/secondary education. Majority (53.33%) of them were having income less than 5000 Rupees and were unemployed(90%).A large proportion (96.67%) of the sample were married and belonged to a nuclear family (96.67%). Majority (36.67%) of the sample were having CKD since 1-3 years and were (63.33%) undergoing dialysis since 1-5 years. 90% of sample were having heart disease and 60% of samples were having diabetes mellitus. 50% of sample were having hemoglobin level above 10gm%.Majority of sample(60%) were having serum urea level >100mg/dl

Section 2: Level of fatigue among hemodialysis patients

The post-test mean fatigue score (6.23) and mean percentage (62.33%) was lower than the mean pre-test fatigue score (7.46) and mean percentage (74.6%). It is evident that the mean post-test fatigue score was lower than the mean pre-test fatigue score of hemodialysis patients

Section 3: Level of relaxation among patients

Undergoing hemodialysis

The post-test mean relaxation score (78.73) and mean percentage (78.73%) was higher than the mean pre-test relaxation score (52.23) and mean percentage (52.23%). It is evident that the mean post-test relaxation score was higher than the mean pre-test relaxation score of patients undergoing hemodialysis

Section 4: Effect of foot reflexology on fatigue and relaxation among patients undergoing hemodialysis

The mean post-test fatigue score (6.23) is significantly lower than the mean pre-test fatigue score (7.46). The calculated t value (t=6.90) is greater than the t table value (3.66) at 0.001 level of significance. Hence the null hypothesis (H01) is rejected and the research hypothesis (H1) is accepted. This showed that there is a significant reduction of fatigue in the patients undergoing hemodialysis after the administration of foot reflexology. The mean post-test relaxation score (78.73) is significantly higher than the mean pre-test relaxation score (52.23). The calculated t value (27.62) is greater than the t table value (3.66) at 0.001 level of significance. Hence the null hypothesis (H02) is rejected and the research hypothesis(H2) accepted. This showed that there was a significant increase of relaxation in the patients undergoing hemodialysis after the administration of foot reflexology.

Section 5: Relationship between fatigue and relaxation in patients undergoing hemodialysis

There was moderate negative correlation (r = -0.529) between post interventional fatigue and relaxation. It is inferred that as the patients fatigue reduced, enhancement of relaxation occurs.

Section 6: Association of pre-test score of fatigue and relaxation of patients undergoing hemodialysis with the selected demographic variables

There was significant association between pre-test fatigue and the selected demographic variables such as monthly income, duration of hemodialysis and co morbidities except age, sex education, type of family, marital status, occupation level of hemoglobin, serum creatinine and duration of CKD. There was no significant association between pre-test relaxation level and all the selected demographic variables except co morbidities.

Table 1. Mean, Standard deviation and t value of relaxation level among patients undergoing hemodialysis

(N=30)

Pre test		Post test		t (cal)	t(tab)
SD	SD	Mean	SD		
52.23	-9.7	78.73	3.98	27.62***	3.66



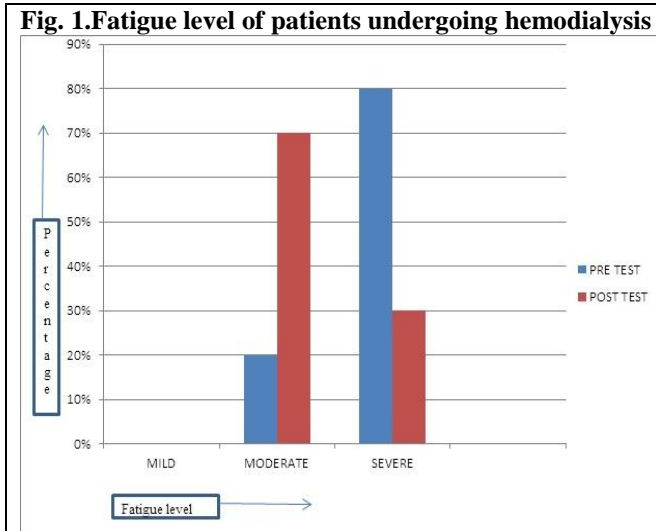
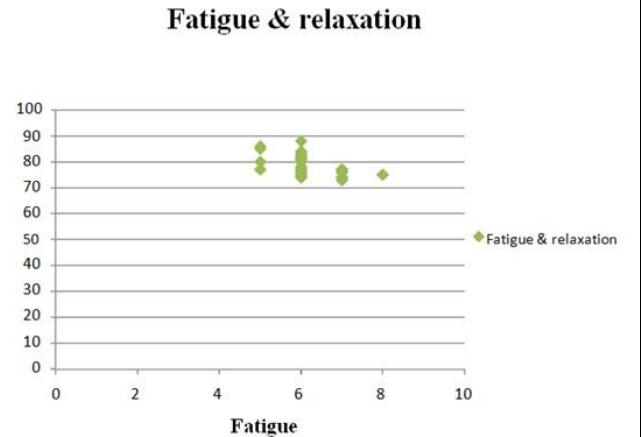


Fig. 2. Scatter diagram showing relationship between fatigue and relaxation among patients undergoing hemodialysis.



DISCUSSION

A significant finding in this study was that, foot reflexology is effective in reduction of fatigue as well as enhancement of relaxation. This result is similar to a study conducted in Karnataka where the calculated value ($t = 8.3$, $p < 0.05$) was greater than the tabled value ($t = 2.020$, $p < 0.05$) indicating that there was significant reduction and difference in the level of fatigue after administering foot reflexology.

CONCLUSION

Chronic renal disease is a common chronic illness increasing in incidence and prevalence. Patients with CKD have two options in order to stay alive; they are life-long dialysis or kidney transplantation. Of these options, dialysis is considered the treatment of choice. Patients on hemodialysis account for approximately 92% of the overall dialysis population and endure a high symptom burden as they experience troubling symptoms such as fatigue, decreased appetite, trouble concentration, swelling in their feet and hands, muscle cramps, and itching and all of which cause daily distress and negatively affects their quality of life. Most of the patients are experiencing many of the psychological symptoms which make the patient to find difficult to get relaxed. Foot reflexology enhances overall relaxation, reduces fatigue, brings internal organs and their systems into a state of optimum functioning, and increases blood supply. Reduction of fatigue and enhanced relaxation in patients provides psychological resources to

cope with their physical condition. So helping the patients on hemodialysis to manage their fatigue and promote relaxation is an extremely important function of nurses.

Recommendation

On the basis of the study the following recommendations are being made

- The study can be replicated on a larger sample for generalizing the findings.
- Qualitative research could be conducted on the same issue to explore the phenomenon of fatigue and relaxation among patients undergoing hemodialysis.
- The study can be replicated for patients who are undergoing hemodialysis thrice a week.
- The study can be repeated as true experimental study
- A comparative study can be done to assess the effect of foot reflexology among patients undergoing hemodialysis twice a week and thrice a week

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