Ann. For. Res. 65(1): 6784-6794, 2022
ISSN: 18448135, 20652445

ANNALS OF FOREST RESEARCH
https://www.e-afr.org/

"EFFICACY OF FOOT MASSAGE ON REDUCTION OF PAIN SEVERITY OF FATIGUE AND QUALITY OF LIFE IN HEMODIALYSIS PATIENTS."

Kajal M. Mohite.
MSC[NPCC] KINS,Krishna Institute of Nursing Sciences,Karad,Maharashtra.
Email –kajalmohite9613@gmail.com

Namrata C Mohite
Assistant Professor,Department of Medical-Surgical Nursing, Krishna Institute of Medical Sciences Deemed To Be University's Krishna Institute of Nursing SciencesKarad (India).
Namratamohite5@gmail.com

ABSTRACT:
Background: effect of foot massage on pain and severity of fatigue, quality of life among patients undergoinghaemodialysis and association between pain and severity of fatigue, quality of life with selected demographic variables
Methods: A Cross-sectional study was done at a tertiary care hospital in Karad, Maharashtra in a hemodialysis unit. Data containing a sample size of 30 was collected through purposive sampling. After taking informed consent,questionnaires were filled out. The data collection tool was a multipart questionnaire including demographic informationto assess the pain score for the patient by the visual analogue scale and by asking the patient overall how would you rate the level of their pain on a scale of 0 to 10. 10 questions about the fatigue assessment scale and 24 questions about our quality of life, health, or other areas of our life.
Result; out of a total of 30 samples the majority of subjects 23(76.67%) had severe pain in the pre-test regarding assessing the pain score for a patient by the visual analogue scale,4(13.33) had Moderate pain (4-6), 3(10%) have Worst pain 10 and a minority of subjects not have Mild pain (1-3).In post-test, the majority of the subjects 22(73.33%) had mild pain with (1-3), 7(23.34%) moderate pain (4-6), 1(3.33%) have severe pain (7-9) minority of subjects 0 have pain (0).
Conclusion: results of the current study showed a significant reduction in the mean scores of pains and fatigue in the group of a foot massages after the intervention compared with the after(post-test) foot massage. In addition, the quality-of-life score in the foot massage group significantly improved immediately and twoweeks after the intervention compared with the after (post-test) foot massage. Foot massage may somewhat reduce pain and fatigue and improve quality of life. Foot massage is a simple, low-cost, and applicable treatment that can be easily taught to nurses in various departments of the health care centre. Foot massage reduces pain, and fatigue and improvesthe quality of lifein hemodialysispatients.
Keywords: efficacy of pain, Fatigue, quality of life Haemodialysis, Massage

Introduction. Hemodialysis is a treatment where your blood is cleaned using a dialysis machine and a specific filter called an artificial kidney, or a dialyzer. The doctor must create an entry or

entrance into your blood vessels to get your blood into the dialyzer. Minor surgery is used to do this, often on your arm. access1 for additional details about hemodialysis. In the entire globe, kidney transplantation is the most successful therapy for end-stage renal disease1. The Global Observatory on Donation and Transplantation reported that 90,306 kidney transplant cases occurred globally in 20172. Patients with renal failure in Iran receive kidney transplants in 48.8% of cases3Chronic renal failure (CRF) is remarkably more common worldwide. According to reports, the condition affects 10% of people globally. 4. As 2.5 million (or 80%) of the 3 million persons receiving replacement renal therapy utilise hemodialysis, it is the most crucial form of treatment for chronic kidney disease5. Iran has about 16% yearly growth in the number of patients receiving hemodialysis. 6. A variety of related symptoms may appear in them. In addition to being a frequent symptom of hemodialysis patients and being linked to poor quality of life in terms of health, fatigue is also a significant risk factor.One of the symptoms that chronic disease patients suffer the most frequently is fatigue8. Because of its sneaky, unseen character, it receives inadequate recognition and care from healthcare professionals. With a frequency of between 60% and 97%, patients with end-stage renal disease cite exhaustion as one of the most upsetting symptoms (9-12). Reduced survival rates have been linked to fatigue in hemodialysis patients. Unfortunately, untreated tiredness in ESRD patients may result in greater dependence on others, weakness, and loss of physical and psychological comfort, which may cause social isolation and melancholy. dietary therapy, managing sleep disorders, managing stress, and participating in sports are non-pharmacological therapies. The use of yoga, massage therapy, acupressure, and depression treatment complements pharmaceutical treatments for patients' tiredness.

Methodology

This study was based on the evaluative approach, which wascarried out in purposive selected Patients aged between 18 and above 64 years admitted to tertiary care hospital, hemodialysis unitKarad. The study includedpatients who were present at the time of data collection and those who could read and write the Marathi language.Patients who were not willing to participate in the study or were not physically fitwereexcluded.A questionnaire for pre-test and post-test wasused to elicit socio-demographic information and, assess the pain score for the patient by the visual analogue scale and by asking the patient overall how would you rate the level of his pain on a scale of 0 to 10. 10 questions about the fatigue assessment scale and 24 questions about our quality of life, health, or other areas of our life.Ethical clearance for conducting the study was obtained from the Medical Director, tertiary hospital, Karad and the consent form was duly signed and obtained from the participants.

Data collection

The research investigator arranged the area of the selected wardand explained the purpose of the study to the 30 patients included in the study. Written informed consent was obtained fromthe patients. First taken pre-test then intervention post test

The data collected were tabulated and analyzed.

Data analysis: Descriptive and inferential statistics were performed to analyzethe obtained data using instant software.

RESULT:

Section – I

Table 1: Frequency and percentage distribution of samples according to Age group of the patients

Age Group	N	%
18-33	3	10
34-48	15	50
49-63	7	23.33333
above 64	5	16.66667

Table No: 1 shows that according to the age group of majorities of the patients 15(50%) belonged to the age group of 34-48 years, 7(23.33%) belonged to the age group of 49-63 years, 5(16.67%) belonged to above 64 years and the minority of the patients3(10%) are from the age groupof 18-33 years.

Table 2: Frequency and percentage distribution of samples according to Gender of the patients:

Gender	n	%
Male	16	53.33333
Female	14	46.66667

Table No: 2 Distribution of the samples according to gender shows that a maximum of 16(53.33%) patients are male and a minimum of 14(46.67%) of Female.

Table 3: Frequency and percentage distribution of samples according to the Religion of the patients

Religion	n	%
Hindu	24	80
Muslim	1	3.333333
Other	5	16.66667

Table No: 3 As per religion of the patient's majority 24(80%) of the patients are Hindu, 5(16.67%) patients are other religion and minority only 1(3.33%) patient are Muslim.

Table 4: Frequency and percentage distribution of samples according to the type of family

Types of family	n	%
Nuclear	19	63.33333
Joint	11	36.66667

Table No: 4 Distribution of types of the family of the patient's majority 19(63.33%) of the patients are a nuclear family and the minority 11(36.67%) are joint family.

Table 5: Frequency and percentage distribution of samples according to educational qualification of the patients

Educational Qualification	n	%
No formal schooling	4	13.33333
Primary school	6	20

High school	10	33.33333
Collegiate education	10	33.33333

Table No: 5 Distribution of the educational qualification of the patients majority 10(33.33%) of the patients are in both high school and collegiate education, 6(20%) patients are in primary school and the minority 4(13.33%) patients are no formal schooling.

Table 6: Frequency and percentage distribution of samples according to the occupation of the patients

Occupation	**n**	**%**
Agriculture	7	23.33333
Business	5	50
Employee	2	6.666667
any other specify	6	20

Table No: 6 Distribution of the patients according to occupation majority of the patients 15(50%) are occupation of business, 7(23.33%) are in agriculture, 6(20%) are in any other occupation and a minority of the patients 2(6.67%) are an employee.

7: Frequency and percentage distribution of samples according to the monthly income of the patients

Monthly Income	**n**	**%**
below 2000	1	3.333333
2001-4000	2	6.666667
4001-6000	3	10
above 6001	24	80

Table No: 7 As per monthly income of the patients' maximum patients 24(80%) are above 6001/-, 3(10%) are 4001-6000/-, 2(6.67%) are 2001-4000/- and minimum patients 1(3.33%) are below 2000/

Table 8: Frequency and percentage distribution of samples according to the dietary pattern of the patients

Dietary Pattern	**n**	**%**
Pure vegetarian	3	10
Vegetarian	4	13.33333
Non vegetarian	23	76.66667

Table No: 8 Distribution of the patient's majority 23(76.67%) of the patients are non-vegetarian, 4(13.33%) patients are vegetarian and 3(10%) patients are pure vegetarian

Table 9: Frequency and percentage distribution of samples according to the number of dialysis cycles of the patients

No. of dialysis cycle	**n**	**%**
1	0	0
2	30	100

Table No: 10 As per the number of dialysis cycles of the patient's majority 30(100%) of the patients are 2 cycles and none of the other.

Table 10: Frequency and percentage distribution of samples according to the duration of illness of the patients

Duration of illness	N	%
1 to 5	17	56.66667
6 to 10	11	36.66667
11 to 15	2	6.666667

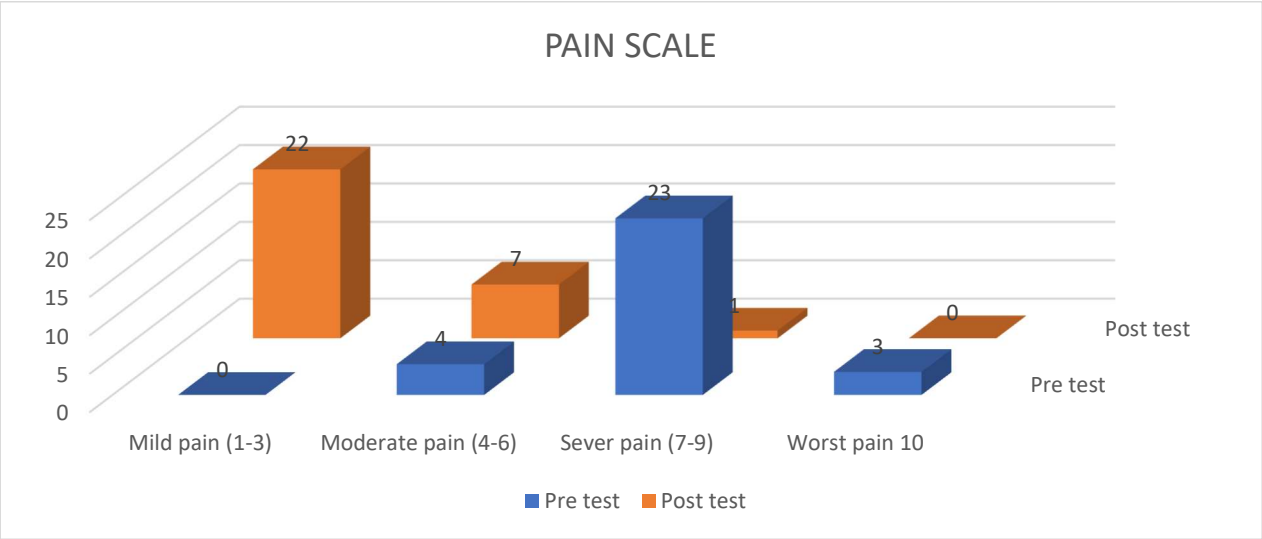
Table No: 10 As per duration of illness of the patient's majority 17(56.67%) of the patients are duration 1-5, 11(36.67%) are 6-10 anda minimum of 2(6.67%) are 11-15.

Section II

Table no. 11 The level of pain among patients undergoing hemodialysis before and after foot massage.

Pain Scale				
Pain Scale	**Pre-test**	**Post-test**	**chi-square value**	**p value**
Mild pain (1-3)	0	22(73.33%)	**45.99**	**0.001**
Moderate pain (4-6)	4(13.33)	7(23.34%)		
Severe pain (7-9)	23(76.67%)	1(3.33%)		
Worst pain 10	3(10%)	0		

The Chi-square test was used to check the level of pain among patients undergoing hemodialysis before and after foot massage. For the 30patients who answered the survey. Table 11 it can be observed that the majority of subjects 23 (76.67%) have severepain (7-9) among the patients undergoing hemodialysis before foot massage, followed by 4 (13.33%) of subjects who have moderate pain (4-6), 3(10%) are worst pain (10) and 0 mild pain (1-3) and the majority of the patients 22 (73.33%) have mild pain (1-3) among the patients undergoing hemodialysis after the foot massage, followed by 7(23.34%) are moderate pain (4-6), 1(3.33%) are severe pain (7-9) and 0 worst pain (10) with chi-square value 45.99 with p-value <0.0001.



Graph-11:The level of pain among patients undergoing hemodialysis before and after footmassage.

Section III

The severity of fatigue and quality of life among patients undergoing hemodialysis before and after foot massage.

A) Table no. 12 The severity of fatigue among patients undergoing hemodialysis before and after foot massage

FATIGUE SCALE					Unpaired t-test	
	PRE-TEST		POST-TEST		t value	p-value
	MEAN	S. D	MEAN	S. D		
Q1	3.733333	0.827682	2.333333	0.660895	**7.24**	**0.001**
Q2	4.366667	0.808717	2.733333	1.229896	6.08	**0.001**
Q3	3.966667	0.889918	2.366667	0.76489	7.47	**0.001**
Q4	3.9	1.155198	2.266667	1.142693	5.51	**0.001**
Q5	3.833333	0.592093	2.2	1.030567	7.53	**0.001**
Q6	4.333333	0.802296	2.466667	1.008014	7.94	**0.001**
Q7	3.933333	0.639684	2.7	0.876907	6.22	**0.001**
Q8	3.133333	0.899553	1.833333	0.985527	5.34	**0.001**
Q9	3.366667	0.889918	2.233333	0.773854	5.26	**0.001**
Q10	2.866667	0.776079	1.866667	0.937102	4.5	**0.001**

Above table 12. Reveals that the distribution of fatigue scale among patients undergoing hemodialysis before and after foot massage shows any statistical significance($p<0.05$) and does not show any statistical significance($p>0.05$).

Table no. 13 The quality of life among patients undergoing hemodialysis before and massage after foot massage

QUALITY OF LIFE						Unpaired t-test	
	PRE-TEST			POST-TEST		t value	p-value
	MEAN	S. D		MEAN	S. D		
Q1	1.866666667	0.681445	**Q1**	3.666667	0.758098	9.67	**<0.0001**
Q2	1.6	0.621455	**Q2**	3.566667	0.678911	11.7	**<0.0001**
Q3	1.5	0.572351	**Q3**	2.966667	0.413841	11.37	**<0.0001**
Q4	2.333333333	0.922266	**Q4**	3.666667	0.546672	6.81	**<0.0001**
Q5	1.366666667	0.76489	**Q5**	3.266667	0.691492	10.09	**<0.0001**
Q6	2	0.525226	**Q6**	3.433333	0.568321	10.15	**<0.0001**
Q7	2.033333333	0.850287	**Q7**	3.433333	0.727932	6.85	**<0.0001**
Q8	1.7	0.595963	**Q8**	3.033333	0.413841	10.07	**<0.0001**
Q9	1.633333333	0.668675	**Q9**	3.3	0.534983	10.66	**<0.0001**
Q10	1.733333333	0.868345	**Q10**	3.1	0.607425	7.06	**<0.0001**
Q11	1.833333333	0.647719	**Q11**	3.6	0.621455	10.78	**<0.0001**
Q12	2.1	0.844863	**Q12**	3.333333	0.546672	6.71	**<0.0001**
Q13	2	0.525226	**Q13**	3.433333	0.678911	9.15	**<0.0001**
Q14	2.533333333	1.252125	**Q14**	3.433333	0.568321	3.59	0.001
Q15	1.733333333	0.73968	**Q15**	3.2	0.610257	8.38	**<0.0001**
Q16	1.966666667	0.490133	**Q16**	3.6	0.674665	10.73	**<0.0001**
Q17	2.266666667	1.112107	**Q17**	3.566667	0.773854	5.26	**<0.0001**
Q18	1.6	0.498273	**Q18**	3.3	0.595963	11.99	**<0.0001**
Q19	2.166666667	0.647719	**Q19**	3.5	0.776819	7.22	**<0.0001**
Q20	2.133333333	0.434172	**Q20**	3.6	0.563242	11.296	**<0.0001**
Q21	1.966666667	0.413841	**Q21**	3.533333	0.571346	12.16	**<0.0001**
Q22	1.666666667	0.758098	**Q22**	3.666667	0.711159	10.54	**<0.0001**
Q23	1.933333333	0.639684	**Q23**	3.366667	0.614948	8.85	**<0.0001**
Q24	2.066666667	0.583292	**Q24**	3.6	0.723974	9.03	**<0.0001**

Section IV

Association between demographical variables among patients undergoing hemodialysis before and after foot massage

Above table 14. Reveals that the distribution of quality of life among patients undergoing hemodialysis before and after foot massage shows any statistical significance ($p<0.05$) and does not show any statistical significance($p>0.05$).

Section IV

To find out the association between painscales using the Chi-square test.

Table no. 15 Association between pain scale with selected demographic variables

POST-TEST

Demographical Variables	Readings	Total	Mild pain (1-3)	Moderate pain (4-6)	Severe pain (7-9)	Worst pain 10	chi-square value	p-value
Age	18-33	3	3	0	0	0	3.44	0.75
	34-48	15	9	5	1	0		
	49-63	7	6	1	0	0		
	above 64	5	4	1	0	0		
Gender	Male	16	0	12	3	1	17.95	0.0005(S)
	Female	14	10	4	0	0		
Religion	Hindu	24	19	4	1	0	4.79	0.31
	Muslim	1	0	1	0	0		
	other	5	3	2	0	0		
Types of family	Nuclear	19	14	4	1	0	0.695	0.71
	Joint	11	8	3	0	0		
Educational Qualification	No formal schooling	4	3	1	0	0	2.47	0.87
	Primary school	6	4	2	0	0		
	High school	10	7	2	1	0		
	Collegiate education	10	8	2	0	0		
Occupation	Agriculture	7	4	2	1	0	2.48	0.87
	business	15	10	4	1	0		
	Employee	2	2	0	0	0		
	any other specify	6	5	1	0	0		
Monthly Income	below 2000	1	1	0	0	0	1.56	0.96
	2001-4000	2	1	1	0	0		

	4001-6000	3	2	1	0	0		
	above 6001	24	18	5	1	0		
Dietary Pattern	**Pure vegetarian**	3	3	0	0	0	**1.42**	**0.84**
	Vegetarian	4	3	1	0	0		
	Non vegetarian	23	16	6	1	0		
No. of dialysis cycle	**1**	0	0	0	0	0		
	2	30	22	7	1	0		
Duration of illness	**1 to 5**	17	13	3	1	0	**2.63**	**0.62**
	6 to 10	11	7	4	0	0		
	11 to 15	2	2	0	0	0		

The above Table no. 15shows the findings ofthe Association of demographic variables before(pre-test) and after(post-test) regarding the pain scale among foot massages of the patients. In current study showed a significant association between pain scale before(pre-test)foot massage of the patients with demographic variables such as educational qualification, Monthly income and duration of illness ($p < 0.05$) and only significant association was found after(post-test) foot massage of the patients with a demographic variable such as gender where ($p < 0.05$).

Discussion

In the present study, the before pain scale of the foot massage majority of subjects 23 (76.67%) have severe pain (7-9) among the patients undergoing hemodialysis before foot massage, followed by 4 (13.33%) of subjects have moderate pain (4-6), 3(10%) are worst pain (10) and 0 mild pain (1-3) and majority of the patients 22 (73.33%) have mild pain (1-3) among the patients undergoing hemodialysis after the foot massage, followed by 7(23.34%) are moderate pain (4-6), 1(3.33%) are severe pain (7-9) and 0 worst pain (10) with chi-square value 45.99 with p-value <0.0001 An AtenaSamarehfekri et. al in 2020 In this study, 25 patients finished the study. The mean pain score in the foot reflexology and control groups decreased from 9.44 ± 0.96 and 9.36 ± 0.91 on the day of surgery to 1.32 ± 0.94 and 4.32 ± 1.68 on the eleventh day after surgery, respectively.In the present study, the distribution of fatigue scale among patients undergoing hemodialysis before and after foot massage shows that it was statistically significant An AtenaSamarehfekri et. al studied the mean sleep score in the foot reflexology and control groups increased from 33.38 ± 11.22 and 39.59 ± 12.8 on the day of surgery to 69.43 ± 12.8 and 56.27 ± 8.03 on the eleventh day after

surgery, respectively.In the present study, the distribution of quality of life among patients undergoing hemodialysis before and after foot massage shows that it was statistically significantAn AtenaSamarehfekri et. al studied the mean fatigue score in the reflexology and control groups decreased from 8.76 ± 1.27 and 8.6 ± 1.26 on the day of surgery to 1.24 ± 1.2 and 3.92 ± 1.63 on the eleventh day after surgery, respectively

Conclusion

The results of the study showed a significant reduction in the mean scores of pains and fatigue in the group foot massage after the intervention compared with the after(post-test) foot massage. In addition, the quality of sleep score in the foot massage group significantly improved immediately and after two weeksof the intervention compared with the after (post-test) foot massage. Therefore, foot massage somewhat reduces pain and fatigue and improvesthe quality of life. Foot massage is a simple, low-cost, and applicable treatment that can be easily taught to nurses in various departments of the health care centre. Given the limited evidence, further studies are needed to confirm the effects of foot massage on the symptoms after hemodialysis. Foot massage may reduce the pain scale, and fatigue scale and improve the quality of life of patients after hemodialysis.

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