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Effectiveness of Intradialytic Exercises on Selected Physiological Parameters and Fatigue among Patients Undergoing Hemodialysis at Selected Hospitals.

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Abstract

Patients receiving hemodialysis experience of the structural and functional have alterations to their cardiovascular systems. Despite advancements in dialysis technology, cardiovascular mortality remains high. Patients undergoing hemodialysis have many challenges, which can stem from a range of factors, such as their disease state, food restrictions, psycho-social issues, behavioural issues, or even the process itself. Fatigue is one of the vital side effects that hemodialysis patients encounter. This study aimed to assess the effectiveness of intradialytic exercises on selected physiological parameters and fatigue among patients undergoing hemodialysis at selected hospitals.

The study used a quantitative research strategy as its research methodology. The research design adopted for the present study was a quasi-experimental, non-randomized, pre-test post-test control group design. The study's accessible population was made up of patient undergoing hemodialysis who had undergone more than 1 hemodialysis session, stable on hemodialysis, willing to participate, able to perform exercises and understood Marathi and English languages. There were 60 people in the sample (experimental group 30, control group 30) who were chosen using a non-probability convenience sampling technique by the inclusion criteria. The tool includes a structured questionnaire demographic data, a table for selected physiological parameters and Fatigue assessment scale used to measure fatigue.

Descriptive and inferential statistics were used in the data analysis. The paired t-test and two-sample t-test are used to find the effectiveness of intradialytic exercises on selected physiological parameters (such as heart rate, respiratory rate diastolic blood pressure, systolic blood pressure, SpO2) and fatigue among patients undergoing hemodialysis at selected hospitals. Fisher's exact test is used to find the association between fatigue among patient undergoing hemodialysis and selected demographic variables.

Results:

In experimental group, in pretest, 10% of them had no fatigue, 73.3% of them had fatigue and 16.7% of them had extreme fatigue. In post-test, 33.3% of them had no fatigue and 63.3% of them had fatigue and 3.3% of them had extreme fatigue. In control group, in pretest, 16.7% of them had no fatigue, 70% of them had fatigue and 13.3% of them had extreme fatigue. In post-test, in pretest, 83.3% of them had fatigue and 16.7% of them had extreme fatigue. This indicates that fatigue among patients undergoing haemodialysis after intradialytic exercises.

In experimental group, average change in heart rate was 6.2 with standard deviation of 5.8 which was -3.7 in control group with standard deviation 6.8. T-value for this test was 6.1 with 58 degrees of freedom. Corresponding p-value was small (less than 0.05), null hypothesis is rejected. It is evident that the intradialytic exercises were significantly effective in improving the heart rate among patients undergoing hemodialysis.

In experimental group, average change in SpO_2 was 0.8% with standard deviation of 2.4% which was -0.5% in control group with standard deviation 1.7%. T-value for this test was 2.4 with 58 degrees of freedom. Corresponding p-value was small (less than 0.05), null hypothesis is rejected. It is evident that the intradialytic exercises were significantly effective in improving the SpO2 among patients undergoing hemodialysis.

Keywords: Intradialytic exercises, hemodialysis, selected physiological parameters, fatigue and Fatigue assessment scale.

Introduction

Hemodialysis itself may have an impact on the cardiovascular system since it removes non-physiologic fluid, which can change physiological parameters and cause systemic inflammation. Over the past 10 years, there has been an increasing recognition that patients receiving hemodialysis have their cardiovascular function affected by pathophysiological causes. Today, a wide range of pharmaceutical and non-pharmacological treatments are available that may enhance cardiopulmonary functioning and lower the high death rate.[1]

Hemodialysis patients experience numerous difficulties, which can be brought on by a variety of conditions, including illness state, dietary restrictions, psycho-social conditions, behavioral conditions, or even the procedure itself. One of the most significant symptoms experienced by a patient receiving hemodialysis is fatigue. After a dialysis session, patients who felt fatigue needed proper management to recover as well because they had difficulty in sleeping and body aches.[2]

Compared to healthy people, patients with chronic renal disease have decreased functional and cardiorespiratory capability. Exercise is an important non-pharmacological therapy for the prevention of cardiovascular disease. The intradialytic exercises enhance blood flow and aid in the perfusion of the tissues. Improved respiratory parameters, blood pressure, and heart rate can all be the results of an exercise regimen. Range-of-motion intradialytic exercises to achieve 50% to 60% intensity of resting heart rate.[3]

Hypertension was found in 85% to 97% of patients with renal failure. Dialysis patients frequently experience atypical extrapulmonary signs of tuberculosis, which affects 7% to 10% of those people.[4] Over 70% of CKD patients suffer fatigue, and up to 25% of patients report having severe symptoms. Hospitalization, starting dialysis, and patient reported fatigue are all associated with CKD patients.[5]

Intradialytic exercise was found to have significant positive correlations with the effectiveness of dialysis, blood pressure, high sensitivity C-reactive protein, arterial stiffness, health-related quality of life, and depression. Many studies have also shown that exercise is simple and safe to do while receiving hemodialysis, leading to noticeable improvements in patient's physical and psychological states as well as their social life.[3]

NEED OF THE STUDY

Hemodialysis is a physically and physiologically demanding operation, and the majority of patients may experience changes in their physiological functioning and fatigue, which further compromise's ability to carry out activities. Exercises during hemodialysis may promote waste excretion and improve blood flow to various body systems, reducing fatigue and enhancing physiological function. Range-of-motion exercises that are easy to perform and don't require extra effort were taught throughout the dialysis session. I carried out this study in an effort to introduce intradialytic workouts that, with any hope, will be successful in lowering fatigue and enhancing physiological parameters.

Methodology

The current research study was designed to assess the effectiveness of intradialytic exercises on selected physiological parameters and fatigue among patients undergoing hemodialysis at selected hospitals.

The study used a quantitative research strategy as its research methodology. The research design adopted for the present study was a quasi-experimental, non-randomized, pre-test post-test control group design. There were 60 people in the who were chosen using a non-probability convenience sampling technique. Sample undergone intradialytic exercises in the form of range of motion exercises during hemodialysis. The tool includes a structured

questionnaire demographic data, a table for selected physiological parameters and Fatigue assessment scale used to measure fatigue.

In the data analysis, both descriptive and inferential statistics have been used. The efficiency of intradialytic exercises on selected physiological parameters (such as heart rate, respiratory rate diastolic blood pressure, systolic blood pressure, SpO2) and fatigue among patients undergoing hemodialysis is measured using the paired t-test and the two-sample t-test. Fisher's exact test is used to find the association between fatigue among patient undergoing hemodialysis and selected demographic variables.

Results

Section I: Description of sample based on their demographic data.

Age: In experimental group, 6.7% of the patients undergoing haemodialysis had age 21-30 years, 23.3% of them had age 31-40 years, 43.3% of them had age 41-50 years, 23.3% of them had age 51-60 years and 3.3% of them had age 61-70 years. In control group, 26.7% of the patients undergoing haemodialysis had age 21-30 years, 26.7% of them had age 31-40 years and 46.7% of them had age 41-50 years.

Gender: In experimental group, 63.3% of them were males and 36.7% of them were females. In control group, 60% of them were males and 40% of them were females.

Occupation: In experimental group, 20% of them were private employees, 3.3% of them were government employees, 10% of them were self-employed, 30% of them were unemployed, 33.3% of them were homemakers and 3.35 of them were students. In control group, 23.3% of them were private employees, 6.7% of them were self-employed, 33.3% of them were unemployed and 36.7% of them were homemakers.

Inappropriate habits: In experimental group, 60% of them did not have any inappropriate habit, 26.7% of them were alcoholic, 6.7% of them had habit of cigarette smoking and 6.7% of them had habit of tobacco chewing. In experimental group, 66.7% of them did not have any inappropriate habit, 20% of them were alcoholic, 10% of them had habit of cigarette smoking and 3.3% of them had habit of tobacco chewing. In experimental group, 6.7% of them had 1 packet of cigarette in a day, 10% of them had 1 quarter daily, 10% of them had 1 quarter weekly, 6.7% of them had 1,2 quarters on alternate days and 6.7% of them had tobacco chewing 2 times a day. In control group, 3.3% of them had 1 packet of cigarette in a day, 3.3% of them had 1,2 quarters daily, 3.3% of them had 1 quarter on alternate day, 3.3% of them had 1 quarter weekly, 3.3% of them had 1,2 quarters on alternate days, 3.3% of them had 2 quarters on alternate day, 3.3% of them had 1,2 quarters weekly, 3.3% of them had tobacco chewing 2 times a day, 3.3% of them had one cigarette in a day and 3.3% of them had 2 cigarettes in a day.

Physical activities: In experimental group, 66.7% of them did not have physical activity, 16.7% of them had yoga, 10% of them had meditation and 6.7% of them had brisk walk. In control group, 73.3% of them did not have physical activity, 3.3% of them had yoga, 16.7% of them had meditation and 6.7% of them had brisk walk. In experimental group, 16.7% of them had physical activity for 5 minutes, 10% of them had physical activity for 10 minutes and 6.7% of them had physical activity for 20 minutes. In control group, 3.3% of them had physical activity for 3 minutes, 6.7% of them had physical activity for 5 minutes, 10% of them had physical activity for 10 minutes and 6.7% of them had physical activity for 20 minutes.

Diagnosis: In experimental group, 83.3% of them had chronic kidney disease and 16.7% of them had acute renal failure. In control group, 63.3% of them had chronic kidney disease and 36.7% of them had acute renal failure. In experimental group, 73.3% of them had disease for up to 3 years and 26.7% of them had disease for 3 to 6 years. In control group, 80% of them had disease for 3 to 6 years and 20% of them had disease for more than 6 years. In experimental group, 83.3% of them had hypertension, 13.3% of them had hypertension, diabetes mellitus and 3.3% of them had hypertension, diabetes mellitus and pneumonia. In control group, 73.3% of them had hypertension, 23.3% of them had hypertension, diabetes mellitus and 3.3% of them had hypertension and cataract.

Hemodialysis session in a week: In experimental group, 80% of them had two hemodialysis sessions in a week and 20% of them had three hemodialysis sessions in a week. In control group, 83.3% of them had two hemodialysis sessions in a week and 16.7% of them had three hemodialysis sessions in a week.

Duration of hemodialysis session: In experimental and control group, all of them had haemodialysis session for 3 to 4 hours.

Hemodialysis initiated since: In experimental group, 43.3% of them had initiated hemodialysis since 1 month-one year, 43.3% of them had hemodialysis initiated since 2 to 3 years and 13.3% of them had hemodialysis initiated for 4-5 years. In control group, 63.3% of them had hemodialysis initiated for one month - one year and 36.7% of them had hemodialysis initiated since 2 to 3 years.

Medications: In experimental group, 90% of them had Antihypertensive drugs and 10% of them had Antihypertensive drugs and Anti-coagulants. In control group, 66.7% of them had Antihypertensive drugs and 33.3% of them had Antihypertensive drugs, Anti-coagulants. In experimental group, 13.3% of them had antidiabetic drugs, 3.3% of them had Antidiabetic drugs, bronchodilator, antibiotics, sodium bicarbonate and 3.3% of them had Sodium bicarbonate. In control group, 16.7% of them had antidiabetic drugs, 3.3% of them had Sodium bicarbonate, 6.7% of them had Antidiabetic drugs, sodium bicarbonate and 3.3% of them had Sodium bicarbonate, antibiotics.

Section II: Findings related to selected physiological parameters and fatigue before providing intradialytic exercises among patients undergoing hemodialysis at selected hospitals.

In experimental group, average heart rate was 90.7 with standard deviation of 12.8 which was 82.7 in control group with standard deviation 12.5. In experimental group, average respiratory rate was 21.5 with standard deviation of 2.6 which was 21.7 in control group with standard deviation 1.8. In experimental group, average systolic blood pressure was 129 with standard deviation of 19.4 which was 126.5 in control group with standard deviation 15.3. In experimental group, average diastolic blood pressure was 89.7 with standard deviation of 16.5 which was 90.1 in control group with standard deviation 12.8. In experimental group, average mean arteria; pressure was 102.7 with standard deviation of 17 which was 102.2 in control group with standard deviation 12.8. In experimental group, average SpO_2 rate was 96.4% with standard deviation of 2.6% which was 95.3% in control group with standard deviation 3.2%.

In experimental group, 10% of them did not had fatigue, 73.3% of them had fatigue and 16.7% of them had extreme fatigue. In control group, 16.7% of them did not had fatigue, 70% of them had fatigue and 13.3% of them had extreme fatigue.

Section III: Findings related to effect of intradialytic exercises on selected physiological parameters and fatigue among patients undergoing hemodialysis at selected hospitals.

In experimental group, in pretest, average heart rate was 90.7 with standard deviation of 12.8 which increased to 84.5 with standard deviation 10.3 in posttest. In control group, in pretest, average heart rate was 82.7 with standard deviation 12.5 which was 86.4 with standard deviation 14.2 in posttest.

In experimental group, in pretest, average Respiratory rate was 21.5 with standard deviation of 2.6 which was 21.8 with standard deviation 1.7 in posttest. In control group, in pretest, average Respiratory rate was 21.7 with standard deviation 1.8 which was 21.5 with standard deviation 2.1 in posttest.

In experimental group, in pretest, average Systolic Blood Pressure was 129 with standard deviation of 19.4 which was 126.4 with standard deviation 14.3 in posttest. In control group, in pretest, average Systolic Blood Pressure was 126.5 with standard deviation 15.3 which was 128.1 with standard deviation 17 in posttest.

In experimental group, in pretest, average Diastolic Blood Pressure was 89.7 with standard deviation of 16.5 which was 87.3 with standard deviation 12.6 in posttest. In control group, in pretest, average Diastolic Blood Pressure was 90.1 with standard deviation 12.8 which was 91.5 with standard deviation 15.7 in posttest.

In experimental group, in pretest, average Mean Arterial Pressure was 102.7 with standard deviation of 17 which was 100.3 with standard deviation 12.7 in posttest. In control group, in pretest, average Mean Arterial Pressure was 102.2 with standard deviation 12.8 which was 103.5 with standard deviation 14.7 in posttest.

In experimental group, in pretest, average SpO_2 was 96.4% with standard deviation of 2.6% which was 97.1% with standard deviation 2.4% in posttest. In control group, in pretest, average SpO2 was 95.3% with standard deviation 3.2% which was 94.8% with standard deviation 3.2% in posttest.

In experimental group, in pretest, 10% of them had no fatigue, 73.3% of them had fatigue and 16.7% of them had extreme fatigue. In posttest, 33.3% of them had no fatigue and 63.3% of them had fatigue and 3.3% of them had extreme fatigue. In control group, in pretest, 16.7% of them had no fatigue, 70% of them had fatigue and 13.3% of them had extreme fatigue. In posttest, in pretest, 83.3% of them had fatigue and 16.7% of them had extreme fatigue. This indicates that the fatigue among patients undergoing haemodialysis after intradialytic exercises.

Section IV: Findings related to Paired t-test for the Effect of intradialytic exercises on selected physiological parameters and fatigue among patients undergoing hemodialysis at selected hospitals.

Table 1: Paired t-test for the effectiveness of intradialytic exercises on selected physiological parameters among patients undergoing hemodialysis.

n=30

Physiological parameter	**Test**	**Experimental**		**T**	**df**	**p-value**
		Mean	**SD**			
Heart rate (HR)	Pretest	90.7	12.8	5.8	29	0.092
	Posttest	84.5	10.3			
Respiratory rate (RR)	Pretest	21.5	2.6	1.0	29	0.172
	Posttest	21.8	1.7			
Systolic Blood Pressure (SBP)	Pretest	129.0	19.4	1.1	29	0.145
	Posttest	126.4	14.3			
Diastolic Blood Pressure (DBP)	Pretest	89.7	16.5	1.1	29	0.141
	Posttest	87.3	12.6			
Mean Arterial Pressure (MAP)	Pretest	102.7	17.0	1.1	29	0.135
	Posttest	100.3	12.7			
SpO_2	Pretest	96.4%	2.6%	1.7	29	0.047
	Post-test	97.1%	2.4%			

Researcher applied paired t-test for the effectiveness of intradialytic exercises on selected physiological parameters among patients undergoing hemodialysis. In experimental group, in pretest average heart rate was 90.7 with standard deviation of 12.8 which was 84.5 in post-test with standard deviation 10.3. T-value for this test was 5.8 with 29 degrees of freedom. Corresponding p-value was 0.092 which is large (greater than 0.05), null hypothesis is not rejected. It is evident that the intradialytic exercises were not significantly effective in improving the heart rate among patients undergoing hemodialysis.

In experimental group, in pretest average respiratory rate was 21.5 with standard deviation of 2.6 which was 21.8 in post-test with standard deviation 1.7. T-value for this test was 1 with 29 degrees of freedom. Corresponding p-value was 0.172 which is large (greater than 0.05), null hypothesis is not rejected. It is evident that the intradialytic

exercises were not significantly effective in improving the respiratory rate among patients undergoing hemodialysis.

In experimental group, in pretest average SBP was 129 with standard deviation of 19.4 which was 126.4 in post-test with standard deviation 14.3. T-value for this test was 1.1 with 29 degrees of freedom. Corresponding p-value was 0.145 which is large (greater than 0.05), null hypothesis is rejected. It is evident that the intradialytic exercises were not significantly effective in improving the SBP among patients undergoing hemodialysis.

In experimental group, in pretest average DBP was 89.7 with standard deviation of 16.5 which was 87.3 in post-test with standard deviation 12.6. T-value for this test was 1.1 with 29 degrees of freedom. Corresponding p-value was 0.141 which is large (greater than 0.05), null hypothesis is not rejected. It is evident that the intradialytic exercises were not significantly effective in improving the DBP among patients undergoing hemodialysis.

In experimental group, in pretest average mean arterial pressure was 102.7 with standard deviation of 17 which was 100.3 in post-test with standard deviation 12.7. T-value for this test was 1.1 with 29 degrees of freedom. Corresponding p-value was 0.135 which is large (greater than 0.05), null hypothesis is not rejected. It is evident that the intradialytic exercises were not significantly effective in improving the mean arterial pressure among patients undergoing hemodialysis.

In experimental group, in pretest average SpO_2 was 96.4% with standard deviation of 2.6% which was 97.1% in post-test with standard deviation 2.4%. T-value for this test was 1.7 with 29 degrees of freedom. Corresponding p-value was 0.047 which is small (less than 0.05), null hypothesis is rejected. It is evident that the intradialytic exercises were significantly effective in improving the SpO2 among patients undergoing hemodialysis.

Findings related to Paired t-test for the Effect of intradialytic exercises on fatigue among patients undergoing hemodialysis at selected hospitals.

Table 2: Paired t-test for the effectiveness of intradialytic exercises on fatigue among patients undergoing hemodialysis.

n=30

	Mean	**SD**	**T**	**df**	**p-value**
Pretest	27.8	5.5	6.28	29	0.000
Post-test	24.9	5.2			

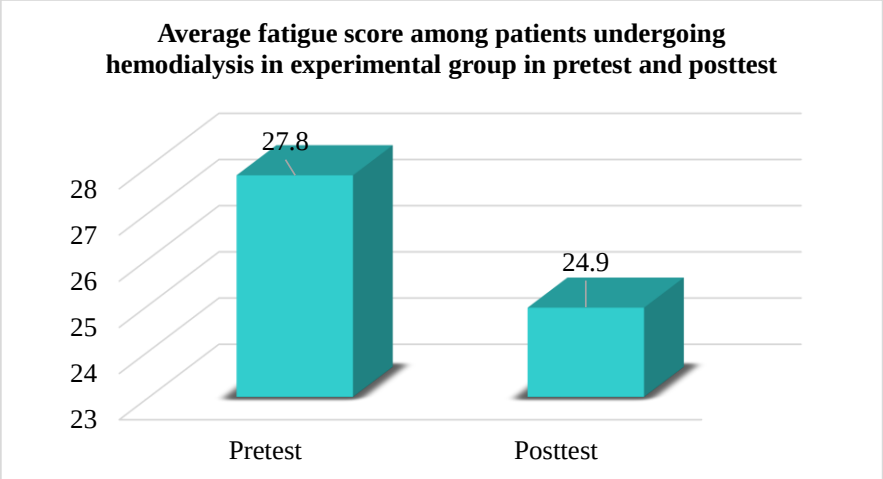

Figure no: 1 Bar graph showing average fatigue score among patients undergoing hemodialysis in experimental group in pretest and posttest.

Researcher applied paired t-test for the effectiveness of intradialytic exercises on fatigue among patients undergoing hemodialysis. In experimental group, in pretest average fatigue score was 27.8 with standard deviation of 5.5 which was 24.9 in posttest with standard deviation 5.2. T-value for this test was 6.28 with 29 degrees of freedom. Corresponding p-value was small (less than 0.05), null hypothesis is not rejected. It is evident that the intradialytic exercises were significantly effective in reducing the fatigue among patients undergoing hemodialysis.

Findings related to Two sample t-test for the effectiveness of intradialytic exercises on selected physiological parameters among patients undergoing hemodialysis in experimental and control group.

Table 3: Two sample t-test for the effectiveness of intradialytic exercises on selected physiological parameters among patients undergoing hemodialysis.

n=30, 30

Physiological parameter	**Experimental**		**Control**		**T**	**df**	**p-value**
	Mean	**SD**	**Mean**	**SD**			
Heart rate (HR)	6.2	5.8	-3.7	6.8	6.1	58	0.000
Respiratory rate (RR)	0.3	1.9	-0.2	1.6	1.2	58	0.123
Systolic Blood Pressure (SBP)	2.7	13.5	-1.7	12.5	1.3	58	0.101
Diastolic Blood Pressure (DBP)	2.5	12.3	-1.3	16.2	1.0	58	0.155
Mean Arterial Pressure (MAP)	2.5	12.0	-1.4	13.6	1.2	58	0.127
SpO_2	0.8%	2.4%	-0.5%	1.7%	2.4	58	0.010

Researcher applied two sample t-test for the comparison of change in selected physiological parameters and fatigue among patients undergoing hemodialysis. In experimental group, average change in heart rate was 6.2 with standard deviation of 5.8 which was -3.7 in control group with standard deviation 6.8. T-value for this test was 6.1 with 58 degrees of freedom. Corresponding p-value was small (less than 0.05), null hypothesis is rejected. It is evident that the intradialytic exercises were significantly effective in improving the heart rate among patients undergoing hemodialysis.

In experimental group, average change in respiratory rate was 0.3 with standard deviation of 1.9 which was -0.2 in control group with standard deviation 1.6. T-value for this test was 1.2 with 58 degrees of freedom. Corresponding p-value was large (greater than 0.05), null hypothesis is not rejected. It is evident that the intradialytic exercises were not significantly effective in improving the heart rate among patients undergoing hemodialysis.

In experimental group, average change in SBP was 2.7 with standard deviation of 13.5 which was -1.7 in control group with standard deviation 12.5. T-value for this test was 1.3 with 58 degrees of freedom. Corresponding p-value was large (greater than 0.05), null hypothesis is not rejected. It is evident that the intradialytic exercises were not significantly effective in improving the SBP among patients undergoing hemodialysis.

In experimental group, average change in DBP was 2.5 with standard deviation of 12.3 which was -1.3 in control group with standard deviation 16.2. T-value for this test was 1 with 58 degrees of freedom. Corresponding p-value was large (greater than 0.05), null hypothesis is not rejected. It is evident that the intradialytic exercises were not significantly effective in improving the DBP among patients undergoing hemodialysis.

In experimental group, average change in mean arterial pressure was 2.5 with standard deviation of 12 which was -1.4 in control group with standard deviation 13.6. T-value for this test was 1.2 with 58 degrees of freedom. Corresponding p-value was large (greater than 0.05), null hypothesis is not rejected. It is evident that the

intradialytic exercises were not significantly effective in improving the mean arterial pressure among patients undergoing hemodialysis.

In experimental group, average change in SpO_2 was 0.8% with standard deviation of 2.4% which was -0.5% in control group with standard deviation 1.7%. T-value for this test was 2.4 with 58 degrees of freedom. Corresponding p-value was small (less than 0.05), null hypothesis is rejected. It is evident that the intradialytic exercises were significantly effective in improving the SpO2 among patients undergoing hemodialysis.

Findings related to Two sample t-test for the effectiveness of intradialytic exercises on fatigue among patients undergoing hemodialysis in experimental and control group.

Table 4.4: Two sample t-test for the effectiveness of intradialytic exercises on selected fatigue among patients undergoing hemodialysis.

n=30, 30

Group	Mean	SD	T	df	p-value
Experimental	2.9	2.5	8.47	58	0.000
Control	-2.0	1.9			

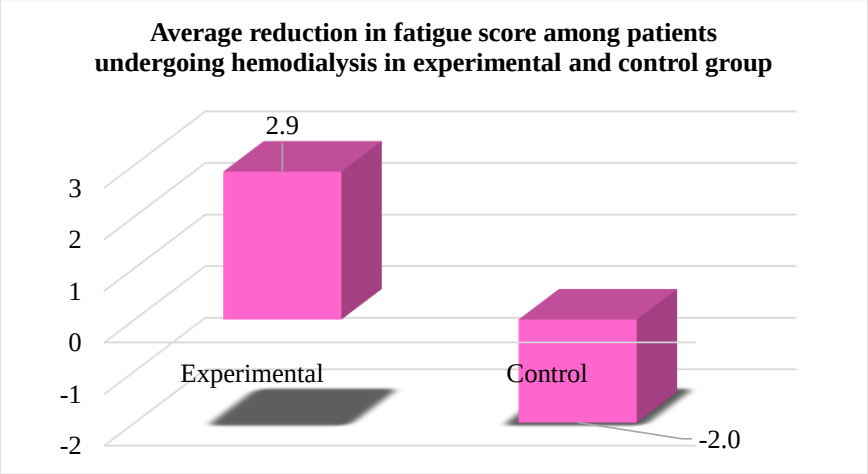

Figure no: 2 Bar graph showing average reduction in fatigue score among patients undergoing hemodialysis in experimental group in pretest and post-test.

Researcher applied two sample t-test for the comparison of change in fatigue score among patients undergoing haemodialysis. In experimental group, average change in fatigue score was 2.9 with standard deviation of 2.5 which was -2 in control group with standard deviation 1.9. T-value for this test was 8.47 with 58 degrees of freedom. Corresponding p-value was small (less than 0.05), null hypothesis is rejected. It is evident that the intradialytic exercises were significantly effective in improving the fatigue among patients undergoing hemodialysis.

Section V: Analysis of data related to the association between fatigue and demographical variables.

Fisher's exact test used for the association between fatigue among patients undergoing hemodialysis with the demographical variables.

Since p-values corresponding to age, occupation, physical activities were small (less than 0.05), thus were found to have significant association with the fatigue among patients undergoing hemodialysis.

Discussion

The aim of the study was to assess the effectiveness of intradialytic exercises on selected physiological parameters and fatigue among patients undergoing hemodialysis. The study made use of Quasi experimental, pretest posttest control group research design. The study population consisted of patients undergoing hemodialysis at selected hospitals. Total 60 samples were taken with non-probability convenience sampling technique.

At the starting of the data collection, the study was discussed with samples. Samples were selected according to the inclusion criteria and exclusion criteria. Explained the purpose of the study and assured about confidentiality of the information between the investigator and the respondent. Before Data Collection the consent was taken from the patients. The intervention was provided to experimental group only in the form of range of exercises. Data was collected from 60 samples from selected hospitals of city. Findings were recorded according to the tool. The data was gathered using descriptive and inferential statistics. The Fisher's exact test was used to find association between common associated risk factors with selected demographic variables. Intradialytic exercises in the form of range of motion exercises improve physiological parameters such as SpO2, heart rate and lessen fatigue among patient undergoing hemodialysis.

Conclusion

The researcher felt a deep sense of satisfaction and fulfilment at having undertaken the study. The study provided deeper insight and empathy towards the need for expert guidance from the guide and cooperation of teachers has made this study a fruitful and pleasant experience.

The aim of the study was to assess the effectiveness of intradialytic exercises on selected physiological parameters and fatigue among patients undergoing hemodialysis.

Intradialytic exercises in the form of range of motion exercises improve physiological parameters such as SpO2, heart rate and lessen fatigue among patient undergoing hemodialysis.

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Conflict of interest: There are no conflicts of interest.

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