



## EFFECTIVENESS OF INTRADIALYTIC STRETCHING EXERCISE ON MUSCLE CRAMPS AMONG PATIENTS UNDERGOING HAEMODIALYSIS.

### Nursing

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### ABSTRACT

The present study was aimed to assess the “Effectiveness of Intradialytic Stretching Exercise on muscle cramps among patients undergoing haemodialysis in a selected hospital at Kollam”. Objectives of the study were to assess the level of muscle cramps among patients undergoing haemodialysis, to evaluate the effectiveness of intradialytic stretching exercises on muscle cramps among patients undergoing haemodialysis and to find out the association between muscle cramps of patients undergoing haemodialysis with selected demographic variables. The theoretical framework of the study was based on King’s theory of goal attainment. One group pre-test post-test design was used for the study. There were 30 samples were selected by purposive sampling technique and data were analyzed and interpreted based on descriptive and inferential statistics. The findings of the study revealed that 30% of sample had moderate pain and 70% had severe pain during pre-test; 30% of the sample had mild pain and 70% had moderate pain during post-test. Paired ‘t’ test was done to find out the effectiveness of intradialytic stretching exercise. It was found that there is a statistically significant difference between pre-test and post test scores (20.95,  $P < 0.005$ ). Hence it is revealed that intradialytic stretching exercise was found to be very effective in reducing muscle cramps of patients undergoing haemodialysis. Chi-square was done to find out the association of muscle cramp scores with selected demographic variables. There was no association between muscle cramps scores with selected demographic variables. The findings of the present study revealed that there was a reduction in muscle cramps among patients undergoing haemodialysis after the administration of intradialytic stretching exercise.

### KEYWORDS

Muscle cramps, Intradialytic Stretching Exercise, Haemodialysis Patients.

### INTRODUCTION

Chronic kidney disease (CKD) is a condition in which kidneys are damaged and cannot filter the blood. Because of this, waste products from the blood remain in the body and may cause other health problems. When kidneys stop working the waste products can no longer be removed from the blood leads to kidney failure. Kidney failure is also called End-Stage Renal Disease (ESRD) or Stage 5 CKD.

Chronic Kidney Disease is a progressive loss in renal function over a period of months or years. Kidney is a vital organ and the main function of the kidneys is to remove waste products and excess water from the blood. The kidneys process about 200 litres of blood every day and produce about two litres of urine. The waste products are generated from normal metabolic processes including the breakdown of active tissues, ingested foods, and other substances. Kidney diseases are silent killers which will largely affects the quality of life.

Dialysis is a treatment for kidney failure that removes waste products and extra fluid from the blood using a filter. Two types of dialysis are haemodialysis and peritoneal dialysis. Haemodialysis removes wastes and water by circulating blood outside the body through an external filter, called a dialyzer that contains a semi permeable membrane.

Haemodialysis is the most common method used to treat advanced and permanent kidney failure. In recent years more compact and simpler dialysis machines have made dialysis increasingly attractive. But even with better procedures and equipment, haemodialysis is still a complicated and inconvenient therapy.<sup>8</sup> Haemodialysis patient's experience wide range of symptoms, with considerable variation in the frequency of symptoms. They include sleep problems, muscle cramps and poor physical functioning. There is considerable potential for enhancement of quality of life by minimizing the symptoms experienced by patients with CKD.

Muscle cramp is one of the complications of haemodialysis treatment, occurring due to fluid and electrolyte imbalances in 35-86% of patients and they often result in the early termination of a haemodialysis session and are therefore a significant reason for under dialysis. The exact etiology of cramps in dialysis patient is unknown and cramps tend to occur most frequently near the end of haemodialysis treatment.

### OBJECTIVES

1. To assess the level of muscle cramps among patients undergoing haemodialysis.
2. To evaluate the effectiveness of intradialytic stretching exercises on muscle cramps among patients undergoing haemodialysis.

3. To find out the association between muscle cramps of patients undergoing haemodialysis with selected demographic variables.

### MATERIALS AND METHODS

An evaluative approach was used for the study. The study design selected was pre-experimental design one group pre-test post-test design. Nonprobability purposive sampling technique was employed to select 30 patients undergoing haemodialysis.

Those who excluded from the study were, patients not on regular dialysis and having emergency dialysis.

The tools used was 0-10 Numerical Rating Scale. Obtain consent from participants, administered tools and demonstrated intradialytic stretching exercise and made the patient to redemonstrate it. Post-test will be done after intervention.

### RESULTS

Section 1: Description of data related to the level of muscle cramps among patients undergoing haemodialysis before and after stretching exercises.

Level of muscle cramps of patients during haemodialysis before and after the intervention was assessed by 0-10 numerical rating scale. And it is categorized in to mild (1-3), moderate (4-6) and severe (7-10)

**Table-1 Frequency and Percentage distribution of the sample according to level of muscle cramps among patients undergoing haemodialysis before and after stretching exercises.**

(n=30)

|           |          | Frequency | Percentage |
|-----------|----------|-----------|------------|
|           |          | (f)       | (%)        |
| Pre-test  | Mild     | 0         | 0.0        |
|           | Moderate | 9         | 30.0       |
|           | Severe   | 21        | 70.0       |
| Post-test | Mild     | 9         | 30.0       |
|           | Moderate | 21        | 70.0       |
|           | Severe   | 0         | 0.0        |

Table-1 reveals that 30% of sample had moderate pain and 70% had severe pain during pre-test; 30% of the sample had mild pain and 70% had moderate pain during post-test.

### Section 2: Comparison of the severity of the muscle cramps during haemodialysis before and after intradialytic stretching exercise.

**Table-2 Effectiveness of intradialytic stretching exercises on muscle cramps among patients undergoing haemodialysis by using paired 't' test.****(n=30)**

| Muscle cramp | Mean | Median | SD  | Paired t | P     |
|--------------|------|--------|-----|----------|-------|
| Pre-test     | 7.8  | 8      | 1.6 | 20.95**  | 0.000 |
| Post-test    | 4.3  | 5      | 1.5 |          |       |

\*\*df(29)=2.05 at 0.05 level of significance

Obtained value is greater than table value, so it is significant.

Table-2 depicts that the reduction in post-test muscle cramps score after educating the intradialytic stretching exercise.

**DISCUSSION**

The present study was focused on the effectiveness of intradialytic stretching exercise among patients undergoing haemodialysis. The findings of the study have been discussed with reference to the objectives.

The present study found that Pain level due to muscle cramps were assessed by using 0-10 numerical rating scale, 30% of the sample had moderate pain and 70% had severe pain during pre-test; 30% of the sample had mild pain and 70% had moderate pain during post-test. A similar study was conducted in Bangalore to evaluate the effectiveness of intradialytic stretching exercise on muscle cramps among patients undergoing haemodialysis. The results revealed that 36% had moderate pain and 64% of samples had severe pain during pre-test; 58% of the samples had mild pain and 42% of the samples had moderate pain during post-test.

Paired 't' test was done to find out the effectiveness of intradialytic stretching exercise on muscle cramps among patients undergoing haemodialysis. It was found that there was a statistically significant difference between the pre-test and post-test scores (20.95,  $P < 0.05$  level). So, the research hypothesis is accepted. Hence it is revealed that intradialytic stretching exercise was found to be very effective in reducing muscle cramps among patients undergoing haemodialysis. The study was supported by a related study conducted to determine the effectiveness of selected intradialytic exercises on muscle cramps among 50 chronic kidney disease patients undergoing haemodialysis by comparing pre-test and post test scores in experimental group, paired 't' test was used. Results showed that the differential means between the pre-test and post test scores of experimental group was 10.35 with differential standard deviation of 7.27 and the 73 calculated paired 't' value was 7.114 which is highly significant at  $p < 0.01$  level.

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