



Research Article

STUDY ON THE EFFICACY OF PELVIC FLOOR STRENGTHENING EXERCISE ON GENERAL HEALTH AND RENAL FUNCTION IN PATIENTS WITH CHRONIC RENAL FAILURE

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ABSTRACT

Chronic kidney disease is a condition that damages the kidney and decreases the ability to keep healthy and reduce the functional ability of the person. Many studies have revealed that exercises improve the health and functional ability of the persons with chronic kidney disease. Hence we planned to administer selected strengthening pelvic floor exercise to improve the functional ability of the patients with chronic kidney disease. Our study reveals that on the day of seventh the blood pressure was a mean value of 141 with S.D 9.6 and pulse, mean value of 78.4 with S.D 4.44. Respiration, mean value of 22.8 with S.D 1.86 and GFR mean value of 47.2 with S.D 26.03. On the day of first the blood pressure mean value was 151.33 with S.D 15.25 and Pulse, mean value of 80.27 with S.D 4.39. Respiration, mean value of 23.67 with S.D 2.17 and GFR mean value of 43.2 with S.D 24.69. The demographic variables like, gender, religion and type of family, educational status, occupation, income, diet was not associated with functional status only age has significant association. The p-value is 0.034.

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INTRODUCTION

Chronic kidney disease is the conditions that damages the kidneys and decrease the ability to keep healthy. If kidney disease gets worse, wastes can build to high levels in blood and feel sick. Also develop complications like high blood pressure, anemia, weak bones, poor nutritional health and nerve damage. These problems may happen slowly over a longer period of time, chronic kidney disease caused by diabetes, high blood pressure and other disorders. Early detection and treatment can often keep chronic kidney disease from getting worse. When kidney disease progresses, it may eventually lead to kidney failure, which requires dialysis or a kidney transplant to sustain life.

Functional status is an individual's ability to perform normal daily activities necessary to meet their basic needs, fulfil usual roles, and maintain health and well being (Kane, 2000). Reducing dialysis is associated with step wise increase in rates of functional limitation which independent of the causes, are associated with increase mortality, hospitalization, and long-term care. The study of exercise in the ESRD (the end stage of renal disease) population dates back almost 30 years, and numerous intervention, including aerobic training, resistance exercise training, and combined training programs, have reported beneficial effects (Johansen, 2004). It also helps to reduce the distress, exertion and improve physical activity, oxygen saturation level.

Objectives

- To assess the general health status and functional level of kidney among patient with chronic kidney disease.
- To assess the effectiveness of selected pelvic floor strengthening exercises on general health and functioning level of kidney among patients with chronic kidney disease.
- To associate general health and functioning level of kidney with selected demographic variables among patients with chronic kidney disease.

METHODOLOGY

Methodology of research, organizes all the components of the study in a way that is most likely to lead to valid answer to the sub problems that has been posted.

This chapter deals with the methodology adopted for the study. It includes research approach and research design, setting of the study, sampling techniques, criteria for sampling selection and procedure for data analysis.

RESULTS

Frequency and percentage analysis (Demographic variable) study to assess the existing level of functional status among patients with chronic kidney disease at the selected setting of the AVMC hospital in kirumampakkam according to their demographic data shows that the majority of the patients

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belongs to the age group between 51-60 yrs Fr. 12 (40%) and most of them were male 19 (63.33%) and 26 (86.67%) were Hindu, all of them were married 30 (100%) and patients most belongs to the nuclear family 35 (83.33%) and the educational status most of them were primary 10 (33.33%) and the occupation most 11(36.67%) were employee,the patients most income were 5001-7000 12 (40%) and the diet most belongs to mixed 28 (93.34%) and the source of getting health information from the health care profession 30 (100%).

Table 1 Frequency and percentage analysis (health profile)

Health profile	Frequency	Percentage
Are you suffering from any co-morbidity disease ?	Yes	30
Onset of disease	Above 30 years	30
Duration of illness	Less than 1 year	10
	1-5 years	17
	1-6 years	3
		33.33
		56.67
		10

Establish that all of them were suffering from co-morbidity disease 30 (100%) and onset of illness all of them were belongs to above 30 years and most of them had duration of illness more than 17 (56.67%) were 1-5 years, 10 (33.33%) were less than 1 year and 3 (10%) were 1-6 years.

Table 2 The Physiological parameters of Blood pressure

Size	Mean	Std. Deviation	Range	Minimum	Maximum
Day1	30	151.33	15.25	50	130
Day2	30	152.33	16.12	50	130
Day3	30	151.33	16.13	50	130
Day4	30	145	10.09	40	130
Day5	30	146.33	11.89	50	130
Day6	30	142	9.61	40	130
Day7	30	141	9.6	50	130

The Regarding physiological parameter of blood pressure showed that the day 1 it was 151.33 and the day 7 it was 141. So the pelvic floor exercise has a significant effect on maintaining blood pressure.

Table 3 The Physiological parameter of temperature

Size	Mean	Std. Deviation	Range	Minimum	Maximum
Day1	30	37	0	0	37
Day2	30	37	0	0	37
Day3	30	37	0	0	37
Day4	30	37	0	0	37
Day5	30	37	0	0	37
Day6	30	37	0	0	37
Day7	30	37	0	0	37

Regarding physiological parameter of temperature the pelvic floor exercise has not significant effect on maintaining temperature.

Table 4 The Physiological parameter of pulse

Size	Mean	Std. Deviation	Range	Minimum	Maximum
Day1	30	80.27	4.39	10	76
Day2	30	80.13	4.33	14	74
Day3	30	79.6	4.38	12	74
Day4	30	78.93	4.63	14	72
Day5	30	79.13	4.86	14	72
Day6	30	78.33	4.55	14	72
Day7	30	78.4	4.44	14	72

Regarding physiological parameter of pulse showed that day 1 it was 80.27 and the day it was 78.4. So the pelvic floor exercise has significant effect on maintaining pulse.

Table 5 The Physiological parameter of Respiration

Size	Mean	Std. Deviation	Range	Minimum	Maximum
Day1	30	23.67	2.17	6	20
Day2	30	23.4	2.11	6	20
Day3	30	23.97	2.11	7	20
Day4	30	23.2	1.79	6	20
Day5	30	23.53	1.8	6	20
Day6	30	23.13	2.15	8	20
Day7	30	22.8	1.86	6	20

Regarding parameter of repiration showed that the day 1 it was 23.67 and the day 7 it was 22.8. So the pelvic floor exercise has significant effect on maintaining respiration.

Table 6 The Physiological parameter of Abdominal Girth

Size	Mean	Std. Deviation	Range	Minimum	Maximum
Day1	30	73.43	10.59	47	48
Day2	30	73.43	10.59	47	48
Day3	30	73.47	10.57	47	48
Day4	30	73.47	10.54	47	48
Day5	30	73.33	10.46	47	48
Day6	30	73.2	10.34	46.5	48
Day7	30	73	10.21	46	48

Regarding physiological parameter of abdominal girth showed that the day 1 it was 73.43 and the day 7 it was 73. So the pelvic floor exercise has significant effect on maintaining abdominal girth.

Table 7 The Physiological parameter of GFR

Size	Mean	Std. Deviation	Range	Minimum	Maximum
Day1	30	43.2	24.69	77	14
Day2	30	44.27	24.76	77	14
Day3	30	45.23	25.05	79	13
Day4	30	45.9	25.23	77	14
Day5	30	46.4	26.08	80	13
Day6	30	46.63	25.6	78	14
Day7	30	47.2	26.03	78	14

Table 7 Electrolyte value of NA+

Size	Mean	Std. Deviation	Range	Minimum	Maximum
Day1	30	150.23	8.96	28	132
Day2	30	150.57	8.65	25	135
Day3	30	150.4	8.45	26	134
Day4	30	150.5	8.55	28	133
Day5	30	149.9	8.68	28	133
Day6	30	152.77	21.2	123	133
Day7	30	161.23	66.97	381	132

Table 8 Electrolyte value of K+

Size	Mean	Std. Deviation	Range	Minimum	Maximum
Day1	30	5.52	0.49	2.2	4.8
Day2	30	5.51	0.49	2.2	4.8
Day3	30	5.48	0.51	2.2	4.8
Day4	30	5.44	0.49	2.2	4.7
Day5	30	5.39	0.53	2.6	4.4
Day6	30	5.38	0.55	2.9	4.2
Day7	30	5.32	0.59	2.9	4.1

4.3.i Renal function test(Creatine)

Size	Mean	Std. Deviation	Range	Minimum	Maximum
Day1	30	4.2	1.81	8.8	1.8
Day2	30	4.18	1.81	8.8	1.8
Day3	30	4.14	1.8	8.7	1.8
Day4	30	4.12	1.78	8.7	1.6
Day5	30	4.1	1.79	8.6	1.8
Day6	30	4.08	1.78	8.6	1.6
Day7	30	4.04	1.79	8.6	1.5

Regarding physiological parameter of GFR showed that the day 1 it was 43.2 and the day 7 it was 47.2. So the pelvic floor exercise has significant effect on maintaining GFR.

4.3.j Renal function test(Urea)

	Size	Mean	Std. Deviation	Range	Minimum	Maximum
Day1	30	51.57	7.46	31	40	71
Day2	30	51.6	7.41	29	42	71
Day3	30	51.2	7.26	29	41	70
Day4	30	51.07	7.18	28	42	70
Day5	30	50.83	7.45	29	41	70
Day6	30	50.67	7.1	27	42	69
Day7	30	50.17	7.46	28	41	69

The above tables shown that no significant effect on level of exertion, level of oedema, the presence of a muscle cramp, able to meet daily task, cognitive function, bladder splinter control, the electrolyte value of NA+, K+, renal function test (creatine and urea).

Summary

The present study was done to assess the effectiveness of selected pelvic floor strengthening exercises on functional status among patient with chronic kidney disease.

The study was conducted between 30.7.16 to 7.7.16. This study purposed samples 30 that fulfilled the inclusion criteria. Were between the age group of 51 to 60 years 12 (40%) Nineteen (63.33%) samples were male and eleven (36.67%) were females, eleven (36.67%) were employed, Thirty (100%) were married, Twenty six (86.67%) were Hindu, Twenty five (83.33%) and five (16.67%) were that of joint family.

The demographic variables like, gender, religion and type of family, educational status, occupation, income, diet was not associated with functional status only age has significant association. The p-value is 0.034

CONCLUSION

In this study, we have to conclude that the pelvic floor strengthening exercises it is a significant effect on blood pressure, respiration, pulse, and it is no significant effect of temperature, abdominal girth, level exertion, level of oedema, presence of muscle cramps, able to meet daily task, cognitive function, bladder splinter control, electrolyte value of NA+, K+, renal function test (creatine and urea).

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