Health Promotional Life Style Intervention on Knowledge and Practice Regarding Prevention of Co-Morbid Conditions and Complications of Chronic Renal Failure among Hemodialysis

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Abstract

Hemodialysis is the most frequent treatment method for CRF. However, it has been argued that a number of restrictions and modifications accompany this treatment, which have a detrimental impact on the quality of patient's life and affect individuals' physical and psychological well-being. Objective of the study was to assess health promotional life style modification regarding prevention of comorbid condition and complications of chronic renal failure among hemodialysis patient. A Quantitative Research approach and Quasi experimental research design (Nonequivalent control group pretest post Design) was used for the present study. The sample consisted of 200 chronic renal failure patients undergoing hemodialysis were selected by convenient non probability sampling technique. Results The finding of the study revealed that in experimental group, pretest Knowledge mean score of the samples had 20.26 and in posttest knowledge mean score had 33.93 so the difference is 13.67, this difference was large and it is statistically significant. Whereas in control group, pretest, this difference was small and it was statistically not significant. In experimental group, mean pretest Practice score of the samples showed statistically significant. In experimental group 16.28% improvement in QOL score after intervention and in control group improvement score is 0.35%. This difference showed the effectiveness of the study. Considering correlation between experimental group posttest knowledge score and posttest practice score was (r=0.44 P≤01), correlation between experimental group posttest knowledge score and posttest QOL score was (r=0.45 P≤01) and correlation between posttest practice score and QOL score was (r=0.52 P≤01). It showed moderate positive correlation among them. The result of the present study suggest that health promotional life style modification is necessary to reduce complications and co morbidities which is occur due to CRF and enhance quality of life of chronic patients.

Keywords: *Health promotional life style, co-morbid conditions; chronic renal failure patients and hemodialysis.*

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Introduction

Lifestyle is a part of life that most people have control over it and such behaviors often are changeable. In fact, healthy lifestyle would help health promotion and bad life-style has negative effects on health.

Health status and quality of life are very important concepts for patients with chronic kidney disease (CKD) and those undergoing hemodialysis[1] At the end of the next decade, the number of patients with end-stage renal disease, who need dialysis therapy, may be doubled. Now a days End-stage renal disease is an important public health issue.[2]

The CKD burden is increasing rapidly worldwide. At the end of 2010, 1,78,3000 patients worldwide were receiving treatment for ESKD, of which 77% were on dialysis and 23% had a functioning renal transplant and this number is increasing at a rate of 7% every year. If the current situation prevails, the global ESRD population will exceed 2 million by 2020. The average incidence of ESKD in developing countries is 175 per million populations.2,3,4

Yaghmayi Thomas et al. quoted that" chronic renal failure has mutual effects on physical, psychological and functional status of individuals which causes types of deprivation and lifestyle changes including financial problems, unemployment, restriction in fluid intake and diet, change in familial roles and tasks and reduction in achieving long term goals" It is estimated that 7 out of 10 death can be prevented through changes in lifestyle Even in developed countries, there are some problems to cope with this increase. Therefore, there is an urgent need to highlight the importance of modifiable risk factors as a basis for treatment strategies to prevent complications and comorbidities through recent knowledge from a healthy lifestyle.

Hsiu LanTeng et al (2013) conducted randomized controlled trial study on Effects of Targeted Interventions on Lifestyle Modifications of Chronic Kidney Disease Patients. This study examined the effects of a targeted Lifestyle Modification Program based on the readiness to change health-promotion lifestyle behaviors, renal protection knowledge, and physical indicators of patients with early CKD. A repeated-measures design randomized 160 CKD patients from four southern Taiwan outpatient nephrology clinics into control and intervention groups. Data were collected five times over a year with a participant retention rate of 64.4%. The intervention group demonstrated significant improvement with regard to diet behavior modifications. Compared with the control group, the intervention group showed a significant improving trend of renal function protection knowledge, stress management, and interpersonal relations. Targeted interventions for patients in the early phases of CKD promotes adherence to proper diet, exercise behavior, and positive lifestyle modifications.8

Objectives:

- Assess the knowledge and practice regarding prevention of co-morbid conditions and complications among chronic renal disease patients undergoing hemodialysis in experimental and control group in pretest and posttest.

- Develop and implement the health promotional life style intervention on prevention of co-morbid conditions and complications of chronic renal disease among hemodialysis patients.

- Assess quality of life of hemodialysis patients in experimental and control group before and after administrating intervention.

- Compare the mean pretest and posttest knowledge, practice and QOL score regarding prevention of co-morbid conditions and complications of chronic renal disease among hemodialysis patients in experimental and control group.

- Evaluate the effectiveness of health promotional life style intervention on prevention of co-morbid conditions and complications of chronic renal disease among hemodialysis patients in experimental group after administrating intervention.

· Find out the correlation between posttest knowledge, practice and QOL score regarding prevention of co-morbid conditions and complications of chronic renal disease among hemodialysis patients in experimental and control group.

· Determine association between posttest knowledge, practice and QOL score regarding prevention of co-morbid conditions and complications of chronic kidney disease with selected socio-demographic variables in experimental and control group.

Delimitation:

The study was delimited only Chronic Kidney Disease patients undergoing for haemodialysis.

Delimited in South Gujarat region haemodialysis centre.

The study was delimited to patients who are undergoing Haemodialysis twice in a week.

Research Methodology:

Research Approach:

Quantitative evaluative Research Approach was used to assess effectiveness of health promotional life style intervention.

Research Design:

Quasi experimental research design with Non-equivalent control group pretest post Design

Research Setting:

New Civil Hospital Surat, Gujarat and Manav Seva Sangh (chhayado) Surat, Gujarat

Sampling Techniques:

Convenient non probability sampling technique.

Sample Size and Sample size determination:

Total Sample Size is 200, 100 for experimental group and 100 for control group. Power analysis method used to determine sample size.

Variables:

Independent Variable:

Health promotional life style intervention

Dependent variables:

1. Knowledge of chronic renal failure patients undergoing hemodialysis regarding life style modification behavior.

2. Practice of chronic renal failure patients undergoing hemodialysis towards life style modification behavior.

3. Quality of Life of chronic renal failure patients

Description of the tool:

Section: 1: Socio demographic data:

It consists of demographical variables including age, sex, education, occupation, monthly income, marital status, sources of information, present associated illness, duration of receiving hemodialysis, frequency of receiving hemodialysis, and length of each hemodialysis session.

Section:2:

Self-administered questionnaire's regarding knowledge on health promotional life style modification on following points –definition, causes, risk factor, diagnosis, complications nutrition plan, stress management, medication, exercise, vascular care, prevention of complications and comorbid condition. Knowledge questionnaire has 50 questions. Each correct answer carries one score and total possible maximum score is 50.

Section: 3:

Assessment of quality of life by WHO QOL-BREF checklist. Obtained permission from WHO to use this tool. It is a standardized tool, given by WHO and has 26 items. It is five Point scale to measures four domains that is physical health, psychological, social relationships and environmental.

Section: 4:

Checklists to assess practice towards health promotional life style intervention among hemodialysis patients. It is a three-point scale and has 25 items.

Intervention:

Development of health promotional life style intervention for chronic renal failure patients undergoing hemodialysis.

Data Analysis

Table 1.1: Distribution of subjects in experimental and Control group as per their Socio-demographic Variables N=100+100

Sl. No.	Variables	Experimental group		Control group		Chi square test
		F	%	f	%	
1.	Age in years					
	<20	3	3	7	7	c2=3.35 P=0.34 (NS)
	21-30	13	13	10	10	
	31-40	44	44	36	36	
	>40	40	40	47	47	
2.	Gender					
	Male	62	62	60	60	c2=0 P=1 (NS)
	Female	38	38	40	40	
	Other	00	00	0	0	
3.	Religion					
	Hindu	71	71	70	70	c2=1.79 P=0.61 (NS)
	Muslim	22	22	22	22	
	Christian	5	5	3	3	
	Other	2	2	5	5	
4.	Education					
	Illiterate	20	20	10	10	c2=7.07 P=0.07 (NS)
	Primary education	41	41	34	34	
	Higher secondary education	28	28	39	39	
	Graduate	11	11	17	17	

Cont... **Table 1.1: Distribution of subjects in experimental and Control group as per their Socio-demographic Variables N=100+100**

5.	Income					
	<15000	42	42	38	38	c2=1.04 P=0.79 (NS)
	15000-25000	38	38	36	36	
	25001-35000	16	16	21	21	
	>35000	4	4	5	5	
6.	Marital status					
	Unmarried	15	15	8	8	c2=6.83 P=0.08 (NS)
	Married	76	76	86	86	
	Widow	5	5	6	6	
	Divorced	4	4	0	0	
		F	%	F	%	
7.	Employment					
	Employed	18	18	22	22	c2=2.83 P=0.24 (NS)
	Unemployed	69	69	58	58	
	Retired	13	13	20	20	
8.	Other Co-morbid disease					
	Diabetes	21	21	28	28	c2=2.22 P=0.52 (NS)
	Hypertension	39	39	30	30	
	A & B both	22	22	23	23	
	None of above	18	18	19	19	
9.	Previous knowledge					
	Newspaper/journals/mag.	30	30	23	23	c2=5.77 P=0.12 (NS)
	T.V.	15	15	23	23	
	Radio	0	0	3	3	
	Health personnel	55	55	51	51	
10.	Duration of treatment					
	<6 month	18	18	30	30	c2=0.99 P=0.80 (NS)
	6 month- 3 years	43	43	42	42	
	3-6 years	29	29	34	34	
	>6 years	10	10	11	11	
11.	Treatment per week					

Cont... **Table 1.1: Distribution of subjects in experimental and Control group as per their Socio-demographic Variables N=100+100**

	1	9	9	11	11	c2=2.31 P=0.31 (NS)
	2	54	54	62	62	
	3	37	37	27	27	
	>3	00	00	0	0	
12.	Length of session					
	3 hours	8	8	18	18	c2=4.46 P=0.11 (NS)
	3 hours 15 minutes	52	52	45	45	
	3 hours 45 minutes	40	40	37	37	
	>4 hours	00	00	0	0	

Table: 1.2: Comparison of pretest and posttest knowledge and practice score in experimental and control group

Group	Variables	Pretest (n=100)		Posttest (n=100)		Mean Difference	Student paired t-test
		Mean score	Standard Deviation	Mean score	Standard Deviation		
Experiment	Knowledge	20.26	2.37	33.93	4.70	13.67	t=26.46 P=01*(S)
Control		20.38	2.27	20.65	2.35	0.27	t=1.89 P=0.06(NS)
Experiment	Practice	35.46	2.99	57.21	2.51	21.75	t=56.36 P=01*(S)
Control		35.89	2.22	36.82	2.74	0.93	t=1.91 P=0.06(NS)

P≤01 very high significant S=significant

P>0.5 is not significant

Table 1.2 depicts comparison between pre and posttest knowledge and practice score. In experimental group pretest and posttest knowledge score difference was 13.67, this difference was large. Hence it was statistically significant. Whereas in control group pretest and posttest, knowledge score was 20.65, so the difference was 0.27, this difference was small and it was statistically not significant.

Experimental group pretest practice score and posttest practice score difference was 21.75, this difference was large. Hence it was statistically significant. Whereas In control group, pretest practice score and posttest practice score difference was 0.93, this difference was small and it was statistically not significant.

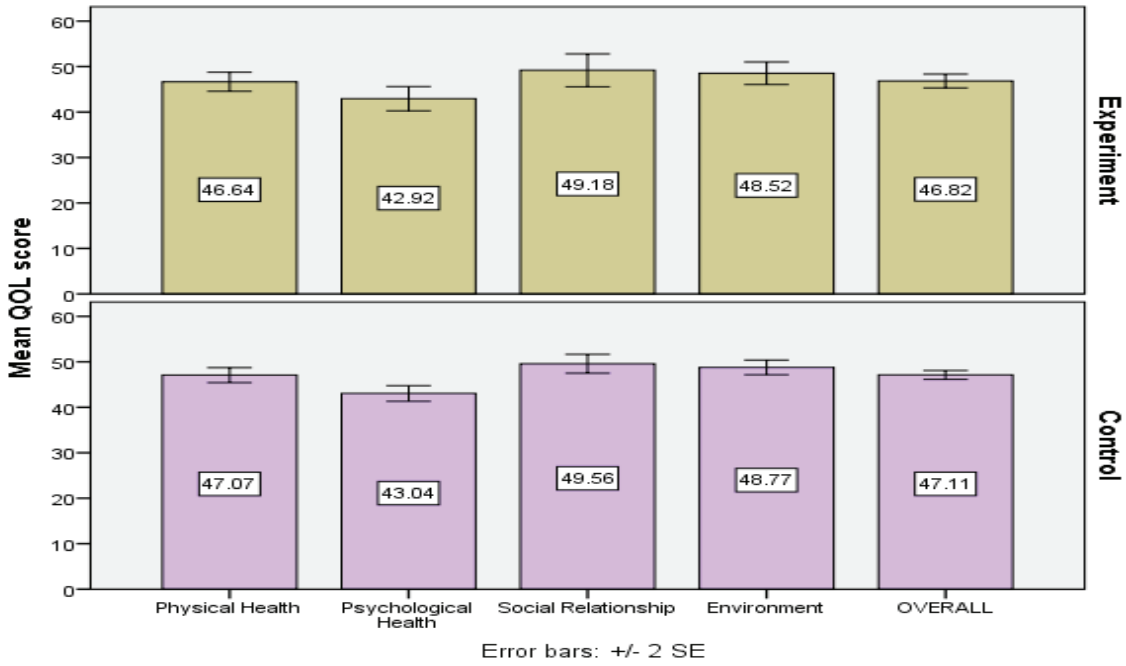

Figure: 1:1: Comparison of pre-test quality of life scores in experimental and control group

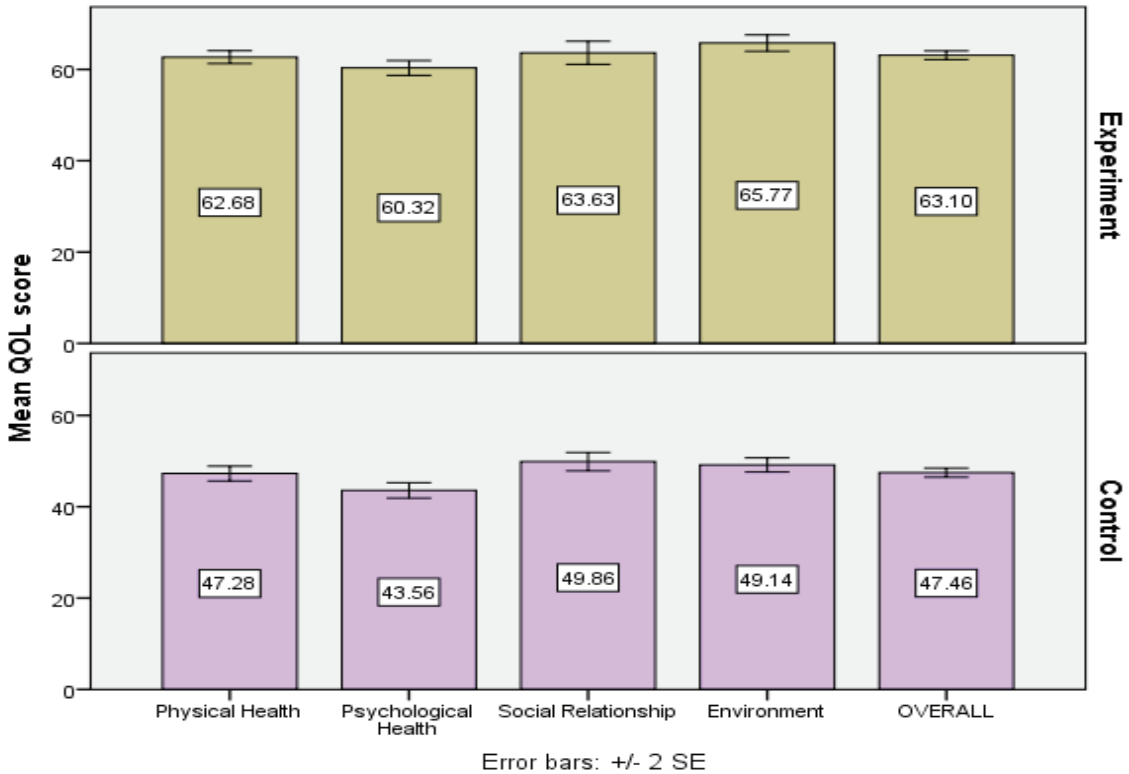

Figure: 1:2: Comparison of post-test quality of life score in experimental and control group

Table 1.3: Effectiveness of health promotional life style intervention and generalization of QOL gain score

Group	Observation	Maximum score	Mean	% of mean score	mean difference with 95%CI	% of difference with 95%CI
Experiment	Pretest	100	46.82	46.82%	16.28 (14.58 -17.98)	16.28% (14.58% -17.98%)
	Posttest	100	63.10	63.10%		
Control	Pretest	100	47.11	47.11%	0.35 (0.04 -0.74)	0.35% (0.04% -0.74%)
	Posttest	100	47.46	47.46%		

Table: 1.3 illustrates, in experiment group 16.28% improvement in QOL score after intervention and in control group improvement score was 0.35%. This difference shows the effectiveness of the study. Effectiveness of the study was given in mean with 95% confidence interval and percentage with 95% confidence interval.

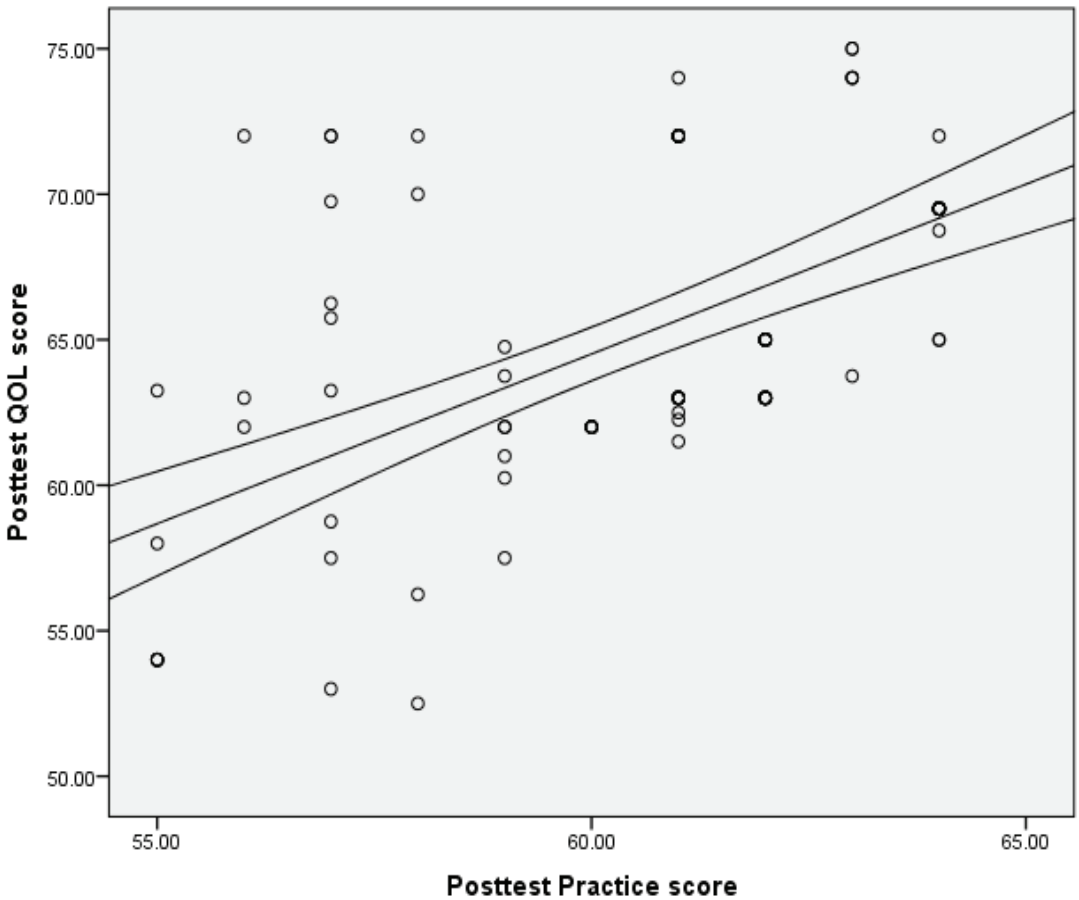

Fig !:3: Scatter plot with regression estimate shows the moderate, positive correlation(r=0. 52 P≤01) between patients posttest practice score and posttest QOL score in experiment group.

Considering correlation between patients posttest knowledge score and posttest practice score in experimental group there was a statistically significant, moderate positive correlation between them(r=0.44 P≤01.Considering correlation between patients posttest knowledge score and posttest QOL score, there was a statistically significant, moderate positive correlation between them(r=0.45 P≤01) and correlation between patients posttest practice score and posttest QOL score, there is a statistically significant, moderate positive correlation between them(r=0.52 P≤01).

The association between post-test knowledge score and demographic variables among experimental group are age, Gender, education and occupational status had association with their demographic data, and control group none of the variable is significantly associated with demographic variables.

The association between post-test practice score and demographic variables among experiment group and control group are age, education and other co-morbid conditions had associated with their demographic data and in control group none of the variable is significantly associated with demographic variables.

The association between post-test QOL score and demographic variables among experimental and control group. Age education and income of the patients had associated with their demographic data and control group none of the variables is significantly associated with demographic variables.

Discussion

Hemodialysis is an expensive treatment modality for chronic renal failure patients, it is very essential to assess the outcome of therapy in terms of quality of life through life style modification. Nursing knowledge has been guided toward helping the individuals, family and society for the purpose of achieving maximum level of health. Hence the aim of the study to enhance quality of life is by reducing complications and co morbidities.

This finding coincides with the findings of **Dulal S L, Thakurathi MT, et.al** conducted study on dietary practice among the patients with end stage renal disease undergoing maintenance hemodialysis. The level of knowledge score found to be medium and practice score was even low. Considerable limited knowledge (medium) and practices (low) scores were found. Similarly showed in present study and after intervention and followed up increase knowledge and correct practice towards quality of life.

This finding also coincides with the findings of **Mukadder Mollaoğlu** on Quality of Life in Patients Undergoing Hemodialysis. The results of studies suggest that the QOL of hemodialysis patients is considerably impaired compared to that of the healthy subjects, especially with respect to the physical, psychological and social relationship domains. Studies have shown that patients on hemodialysis have a poor health-related quality of life (HRQoL) and present with complications such as depression, malnutrition, and inflammation. Many of them suffer from impaired cognitive 1a functioning such as memory loss and abnormally low concentration, as well as other unhealthy physical, mental, and social aspects of life that can, and do, affect even the simplest activities of daily life. Thus its essential to enhance quality of life of CKD patients with life style modification.

Conclusion

The health promotional life style intervention on prevention of co-morbid condition and complications among chronic renal failure patients undergoing hemodialysis was effective in improving their knowledge, practice and quality of life. It helps the subjects to adhere to diet plan and exercise regularly. The health promotional life style intervention was

effective to helping them to control comorbid conditions and live quality of life.

Ethical Clearance: Ethical clearance taken from institutional ethical committee.

Conflict of Interest: Nil

Source of Funding: Self

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