International Journal of Home Science

ISSN: 2395-7476
IJHS 2018; 4(2): 295-298

www.homesciencejournal.com
Received: 19-03-2018
Accepted: 22-04-2018

Dr. Meera Pal
Assistant Professor,
Food, Nutrition and Dietetics
Uttar Pradesh Rajarshi Tandon Open University, Prayaggraj
Utter Pradesh, India

Correspondence
Dr. Meera Pal
Assistant Professor,
Food, Nutrition and Dietetics
Uttar Pradesh Rajarshi Tandon Open University, Prayaggraj
Utter Pradesh, India

Impact of diet counseling on chronic renal failure patients a hospital based study

Dr. Meera Pal

Abstract
Having knowledge of any disease and their causes, dietary precautions, as well as treatment is a very important aspect to fight against diseases. 209 chronic renal failure patients were selected for the study, out of which 105 patients were nutritionally counselled and 104 were not nutritionally counselled. To collect the data questionnaire cum schedule method were used. It was found that the impact of diet counseling was seen significantly beneficial during the second follow-up in relation to nutrient intake by the respondents.

Keywords: chronic renal failure, disease, nutrients

Introduction
Accepting the importance of nutrients of food substances, in the present study an attempt has been made to analyze the intake of various nutrients on the basis of 24 hours recall method and its linkages with different socioeconomic, demographic and anthropometric measurements as well as recommended or advised diet ICMR pattern of the respondents. Vegter *et al*., (2012) [7] found that among patients with chronic kidney disease but without diabetes, a high dietary salt (>14 g daily) intake interfered with the antiproteinuric effect of ACE inhibitor therapy and increased the risk for ESRD. Nutrition is very essential part in our daily life and it is directly correlated with diet, health and diseases. Chronic renal failure (CRF)) is a worldwide health problem affecting all age groups and there is no boundary of ethnicity, nationality or socioeconomic strata. Dietary management plays a very effective role in disease management of CRF patients. Suckling *et al*., (2010) [6] did a meta-analysis found that dietary salt reduction significantly reduced blood pressure in individuals with type I or type II diabetes. Similar results were observed in hypertensive patients with chronic kidney disease with bedtime dosing of at least one antihypertensive medication. The dietary principle for the CRF patients is low protein, low fat, low sodium, low phosphorus and low potassium diet always plays an important role in recovery from CRF. In chronic renal failure cases there are some dietary restrictions and modification necessary for their treatment.

Objectives of the study
To evaluate the impact of diet counseling on the chronic renal failure patients, after counseling them.

Material and Methods
The study was conducted at nephrology unit, Institute of Medical sciences, Banaras Hindu University Varanasi. 209 chronic renal failure patients were selected for the study, out of which 105 patients were nutritionally counselled and 104 were not nutritionally counselled. To collect the data questionnaire cum schedule method were used.
The main aim of this study is to describe and discuss the various material and methods which were used to obtain valuable data. It also describes the research procedure, techniques and tools for collection of accurate data which were directly related to aims and objectives of the study and is given under the following headings: Selection of the study

- Period of the study
- Procedure of samplin

- Variables of the study
- Tools and techniques of data collection
- Validity and reliability,
- Statistical

This study was based on nutritional evaluation of dietary pattern and knowledge assessment in patients suffering from chronic renal failure. The evaluation approach to research is influenced by much greater control over the research the research environment and in this case some variables are adjusted to observe their effect on other variables.

Tools and procedure of data collection

- Interview cum schedule methods was used
- Observation method was used

Methods used for statistical analysis

Statistical tools used:

1. Frequency and Percentage
2. Mean and Standard Deviation (S.D)
3. Chi-Square Test
4. 't' Test (Test of Significance)
5. F-test (ANOVA)

Result and Discussion

Table 3.1: Distribution of average calorie intake of chronic renal failure patients at initial level, follow-up level and RDA.

Variable	Counseled Patients N=105			
Calorie(kcal)	Initial (105)	Follow-up Ist	Follow-up II (n=85)	RDA
	Mean ±SD 1799.30±351.19	Mean ± SD 1774.50±204.91	Mean± SD 1831.90±112.55	Mean± SD 1825.30±85.78
	Initial and advised	Follow-up Ist and RDA	Follow-up II (n=85)and RDA	
	Mean ±SD 25.96±362.72 t=0.66,*P*<0.05	Mean ± SD 50.77±194.96 t=2.40,*P*<0.01	Mean± SD 6.58±74.01 t=0.82,*p*<0.05	
	Initial and Follow-up Ist	Initial and Follow-up II(n=85)	Follow-up Ist and Follow-up II	
	Mean ±SD 24.81±370.70 t=0.61*p*<0.05	Mean ± SD 31.54±361.58 t=0.84,*p*<0.05	Mean± SD 57.35±177.01 t=2.98,*p*<0.001,	

It was found from the above Table No. 4.3.1 that out of total counselled (105) patients, average calories consumption was 1799.30±351.19 kcal at initial level while advised calorie consumption was 1825.30±85.78 Kcal daily during the period of illness. After diet counselling, the calorie consumption of patients was it was reduced to 1774.50±204.94 at the time of first follow up and again increased to 1831.90±112.55 in second counselling respectively. The results indicate that the difference of average calories consumption between initial, and advised was observed to be 25.96+362.72 and it was increased to 50.77+194.96 in first follow-up and reduced to 6.58+74.01 between first follow up and advised and second follow up and advised respectively. The impact of diet counselling was seen statistically significantly beneficial during the second follow up connection to calories intake by the respondents. It is also seen that the average calories intake was in increasing order from initial to first and second follow up after nutritional counselling and providing the health education materials. Thus, difference between first and second follow was statistically significant at $p<0.001$ level.

Table 4.3.2: Distribution of average carbohydrate intake of respondents at initial level, follow-up level and advised RDA.

Variable	Counseled Patients N=105			
Calorie(kcal)	Initial (105)	Follow-up Ist	Follow-up II (n=85)	RDA
	Mean ±SD	Mean ± SD	Mean± SD	Mean± SD
	Initial and advised	Follow-up Ist and RDA	Follow-up II (n=85)and RDA	
	Initial and Follow-up Ist	Initial and Follow-up II(n=85)	Follow-up Ist and Follow-up II	

The above Table No.4.3.2 shows carbohydrate intake by respondents at initial stage, advised and at the time of first and second follow up respectively. It was found that at initial stage, the consumption of carbohydrate was significantly higher 329.06±86.82 gm than the advised 3.2.35±38.50 gm by respondents during illness. After intervention of diet counselling, the average consumption of carbohydrate was slightly reduced to 300.04±9.89 gm and 306.88±37.44 gm during first and second follow up respectively and statistically, it was insignificantly less or more than the advised carbohydrate in take i.e. similar to advised by consultants of researcher the result clearly shows that after intervention of diet management and health education. The average intake of carbohydrate was significantly reduced from initial period to first as well as was significantly reduced from initial period to first as well second follow up in CRF patients in the present study.

Table 4: Distribution of average FAT intake of chronic renal failure patients at initial level, follow-up level and RDA diet.

Variable	Counseled Patients N=105			
FAT (gm)	Initial (105)	Follow-up Ist	Follow-up II (n=85)	RDA
	Mean ±SD 40.34±8.53	Mean ± SD 38.15±6.59	Mean± SD 38.41±4.21	Mean± SD 38.36±2.76
	Initial and advised	Follow-up Ist and RDA	Follow-up II (n=85)and RDA	
	Mean ±SD 1.98±8.99 t=2.03,*p*<0.05	Mean ± SD 0.21±6.94 t=0.28,*p*>0.05	Mean± SD 0.05±3.71 t=0.11,*p*>0.05	

	Initial and Follow-up Ist	Initial and Follow-up II(n=85)	Follow-up Ist and Follow-up II	
	Mean ±SD 2.19±10.3,*P*<0.05	Mean ± SD 1.93±9.51,*P*<0.05	Mean± SD 0.25±6.82,*P*<0.05	

It is perceptible from the above Table No. that the average consumption of fat by CRF patients was found to be significantly higher 40.34±8.53 gm as compared to advised fat intake 38.36±2.76 gm at the time of first visit and it was reduced to 38.15±6.59 gm and 38.41±4.21 gm at first and second follow up after diet counselling. The difference in average fat intake during first and second follow up and advised fat consumption was obtained to be statistically insignificant at $p<0.05$ level just very close to advised fat intake. The impact of diet counselling was seen very beneficial in CRF patients because average fat intake was observed to be in decreasing order from initial to both different follow up in counselled respondents.

Table 3.4: Distribution of average protein intake of chronic renal failure patients at initial level, follow-up level and RDA diet.

Variable	**Counseled Patients N=105**			
PROTEIN (gm)	Initial (105)	Follow-up Ist	Follow-up II (n=85)	RDA
	32.71±6.30	27.21±3.63	24.51±3.07	Mean± SD 24.01±3.26
	Initial and advised	Follow-up Ist and RDA	Follow-up II (n=85)and RDA	
	Mean ±SD 8.70±6.91 t=11.60,*P*<0.001	Mean ±SD 3.20±4.02 t=7.32,*P*<0.001	Mean ±SD 0.50±3.19 t=1.46,*P*>0.05	
	Initial and Follow-up Ist	Initial and Follow-up II(n=85)	Follow-up Ist and Follow-up II	
	Mean ±SD 5.50 ±7.56 t=6.71,*P*<0.001	Mean ±SD 8.20±7.24 t=10.43,*P*<0.001	Mean ±SD 2.69±3.42 t=7.27,*P*<0.001	

Like as other nutrients, the pattern of protein intake of the CRF patients at initial stage and different follow up as well as recommended by researcher was also analyzed and documented Table No 4.3.4 It is clear that the mean intake of protein by the study subjects was 32.71±6.30 gm which was significantly higher in comparison to the recommended average protein consumption 24.01±3.26 gm at initial stage and after diet counselling, the protein intake was found to be 27.21±3.63 gm during first follow up and during second follow up, it was observed to be 24.51±3.07 gm statistical test signified the fact that there was highly significant differences in average protein intake between initial stage and advised diet as well as between first follow up and advised diet respectively while second follow up, was just close to advised protein intake. It was also noted that the average protein intake g difference between initial and first follow up was 5.50 gm and reduced to 2.69 gm during second follow up respectively which was similar to the advised diet pattern and significantly changed after diet counselling. Thus it may be concluded from the results that nutritional counselling affects the health status of patients by reducing of increasing different types as nutrients during the illness and may be better recovery from the morbidity along with drug. Impact of diet counselling may be also beneficial for the awareness regarding the diseases as well as in connection to utilization of balanced diet during the period of illness. The difference among average protein intake of respondents at different follow up was statistically significant at $p<0.001$ level. Similarly MDRD supported that a 'low protein' diet 0.58 g/kg/day produced an initial rapid decline in GFR in CRF patients with stage 3.

Summary and Conclusion

It was found that nutritional counselling affected the health status of patients significantly by modifying the diet, during illness which may be better recovery from the disease. These patients were also under drug medication. Impact of counselling became very beneficial as well as in connection to utilization of balanced diet during the period of illness.

Recommendations

1. Looking at the increasing trend of chronic renal failure disease all over the world, People need to be educated about the importance to reduce/prevent CRF.
2. This message should be disseminated in the general population. The government should take initiative to launch a wide population based educational campaign for the management of disease.
3. Patient should be encouraged to make them aware about dietary patterns so that they can be able to adopt various protocol treatments.
4. Trend renal nutrition specialists are needed and should be involved in the education and the monitoring of nutritional status for these patients.
5. This study may be used for hospital based educational campaign on large scale involving booklets, poster and multimedia.

References

1. Gillespie, Chronic kidney disease: a missing component of integrated control of non-communicable disease. Indian Journal of Medical Research. 2007; 122:451-453.
2. Goraya N, Simoni J, Jo C, Wesson DE. Dietary acid reduction with fruits and vegetables of bicarbonate attenuates kidney injury in patients with a moderately reduced glomerular filtration rate due to hypertensive nephropathy. Kidney International. 2012; 81(1):86-93.
3. Haroun MK, Jaar BG, Hoffman SC, Comstock GW, Klag MJ, Coresh J. Risk Factors for chronic kidney disease: a prospective study of 23,534 men and women in Washington County, Maryland. Journal of American social Nephrology. 2003; J14:2934-2941.
4. Heidland J. Dietary considerations in patients with advanced chronic renal failure, acute, renal failure and transplantation. The American Journal of Clinical Nutrition. 1978; 14:349-348.
5. Ielliffe DB. The assessment of the nutritional status of the community. Geneva WHO 1966. Monograph series 53, Geneva, Montevio, C.A; C.A, Conde, W.L.K Pop kin, B.M., 2002.
6. Suckling RJ, He FJ, Macgregor GA. Altered dietary salt

intake for preventing and treating diabetic kidney disease. Cochrane database Syst Rev. CD006763, 2010.
7. Vetger S, Prena A, Postma MJ *et al*., Sodium Intake, ACE Inhibition, and Progression to ESRD. Journal of American Society of Nephrology. 2012; 23(1):165-73.