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Assessment of protein intake of chronic renal failure patients: A hospital based study

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Abstract
For centuries man has known that there are direct casual relationships between nutrition and disease. Nutrition is very essential part in our daily life and it is directly correlated with diet, health and diseases. Nutritional status is a condition of an individual as influenced by nutrient in taste and its utilization in the body. Assessment of nutritional status in population is useful to analyse growth pattern and entity sign and symptoms associated with malnutrition or excessive nutritional intake. The main objective of the nutritional survey is to obtain precise information on the prevalence and geographic distribution of nutritional problem of given community and identification of individuals or population group at risk or in greatest need of assistance.

Keywords: Nutritional status, nutritionally counselled, malnutrition, creatinine level, questionnaire cum schedule

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. 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. 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 assessment of protein intake of counseled CRF patients.

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 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 sampling
- 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 1: 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
	Mean ±SD	Mean ± SD	Mean± SD	Mean± SD
	32.71±6.30	27.21±3.63	24.51±3.07	24.01±3.26
	Initial and RDA	Follow-up Ist and RDA	Follow-up II and RDA	
	Mean ±SD	Mean ± SD	Mean± SD	
	8.70±6.91	3.20±4.02	0.50±3.19	
	t=11.60, *P*<0.001	t=7.32, *P*< 0.001	t=1.46, *P*>0.05	
	Initial and Follow-up Ist	Initial and Follow-up II	Follow-up Ist and Follow-up II	
	Mean ±SD	Mean ± SD	Mean± SD	
	5.50 ±7.56	8.20±7.24	2.69±3.42	
	t=6.71, *P*<0.001	t=10.43, *P*< 0.001	t=7.27, *P*< 0.001	

Like 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 analysed and documented Table No.1. It is clear that mean intake of protein of the study subjects was 32. 2.71 ± 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 27.2 ± 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 were highly significant differences in average protein intake between initial stage and advised diet as well as between first follow-up and advise that respectively why second follow up, was just close to advised protein intake. It was also noted that the average protein intake gm differences 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 advice 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 for increasing different types of 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 in connection to utilisation 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 gm / kg / day produced an initial rapid decline in GFR in CRF patients with stage 3.

Summary and conclusion

It was found that nutritional counseling affected the health status of patients by significantly reducing or increasing different type of nutrients by restricting or gaining various food items during illness which may be beneficial for recovery from the disease along with drug.

Thus, CRF patients need to be monitored at every stage and nutritional counseling can be very beneficial to them.

Suggestions

Based on the result of present study and review of available literature the recommendations of the study are

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 treatment.
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.

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