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NUTRIENT INTAKE AND BMI RELATION OF DIABETIC PATIENTS

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ABSTRACT :

Non-Communicable diseases contribute to ill- health. Due to shift in the structure of diet , the most common measured health outcome is obesity.BMI is a common measure for nutritional status of people(underweight , normal , overweight ,obese 1 and obese 2). The data for their study is taken from the outpatient Department of Endocrinology & Cardiology of Sir Sunderlal Hospital, Institute of Medical Sciences, Banaras Hindu University,Varanasi. Total 250 samples were included.Purposive method was used to collect the patients and questionnaire was used to collect the information from the patients. Results shows that dietary pattern affects body mass index of patients.

KEYWORDS : *BMI, Outpatient Department , Structure of Diet , Patients and Questionnaire.*

INTRODUCTION:

Many countries are facing the burden of non – communicable disease(N C D). In 2005,NCDs accounted for 60% of all projected deaths worldwide ie as estimated 35 million people died of NCDs.NCDs will be accountable for seven out of every ten deaths in thedeveloping region(Boutayeb et al,2005). This takes place because of progressive urbanization, socioeconomic transformation and changes in nutritional pattern.Diet related non –communicable diseases are diabetes,Coronary heart disease, Hypertension.

Obesity is most commonly measured health outcome due to shift in structure of diet. Most countries in Asia,the middle east and urban areas of sub saharaafrica have all experienced a shift in the overall structure of its dietary pattern. The main objective is to study the relation between nutrient intake and BMI of diabetic patients.

MATERIAL AND METHODS

The data for this study is taken from the outpatient department of Endocrinology and Cardiology of Sir Sunderlal Hospital, Institute of Medical Sciences,Banaras Hindu University,Varanasi during the period from August 2005 to October 2009. Sample size is calculated by using the formula $n=4pq/e^2$. The required sample size was 250. Of these,102 were diabetics, 49 were coronary heart disease patients,49 were diabetic hypertensives,37 were hypertensives and 13 were only coronary heart disease and hypertensive patients. The information was collected through pre-designed & pretested questionnaire method including 24 hours diet recall method.

Anthropometric measurements of height and weight were taken by standard technique. BMI was calculated for patients . The nutrient intake of respondents were calculated on basis of 24 hour diet recall,using food tables given by ICMR (C.Gopalan). SPSS was used for data analysis.

OBSERVATION

MEAN NUTRIENT INTAKE AND BMI RELATION OF DIABETIC PATIENTS

Nutrients	23-24.99 (mean±s.d)	25-29.99 (mean±s.d)	≥30 (mean±s.d)
Calorie(Kcal/day)	2500.00±424.26	2101.15±214.11	2057.78±214.11
Carbohydrate(g/day)	325.00±7.07	305±64.04	334.78±38.72
Protein(g/day)	83.50±0.71	86.08±2.75	89.89±7.53
Fat(g/day)	41.50±0.71	41.77±3.75	38.44±3.09

RESULT AND DISCUSSION

This study is based on 250 respondents of which 102(40.8%) were diabetic.The mean±s.d Calorie intake per day of diet based diabetics were 2500.00±424.26,2101.15±214.11,2057.78±214.11 in the at risk,Obese I and Obese II respectively.Themean±s.d Carbohydrate intake per day of diabetics were325.00±7.07,305±64.04,334.78±38.72 in the At risk , Obese I and Obese II respectively. The (mean±s.d) protein intake per day of diabetics were83.50±0.71, 86.08±2.75,89.89±7.53 in theat risk, Obese I and Obese II respectively.The mean ±s.d fat intake perday of diabetics were 41.50±0.71,41.77±3.75,38.44±3.09in the at risk , Obese I and Obese II respectively.

Calorie consumption is maximum in patients who are at risk. It varies from 2057 kcal/day to 2500kcal/day.Consumption of carbohydrate varies between 305g/day to 325g/day. Its consumption is maximum in Obese II patients.Consumption of protein varies from 83g/day to89g/day and is maximum in ObeseII patients. Fat consumption is maximum in ObeseI patients.It varies between 38g/day to 41g/day.

The diets of developing world are shifting.It is because of the combination of new technologies, expansion of irrigation, improved supplies and widespread mechanization of production which made more food available to consumers. Results shows that the changes in dietary pattern affects BMI(Bray and Popkin,Paeratakul et al.). Alsothey have shown that these changes are dynamics and these appears to be emerging a shift towards a greater overweight. All the diabetics shows high consumption of Calorie,Carbohydrate,Protein and Fat.The prevalenceof undernourishment has declined from 37% in 1970 to 17% in 2000,while more than 840 million of people(FAO 2003) are still food insecure.

CONCLUSION AND RECOMMENDATIONS

Non-Communicable diseases like diabetes may be reduced by changing in life style, increase in physical activity and diet pattern.

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