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Entitled

THE ASSOCIATION BETWEEM TOTAL AND TYPES OF DIETARY PROTEIN INTAKE AND PREVELENCE OF IMPAIRED FASTING GLUCOSE AND TYPE 2 DIABETES

by

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Abstract

Introduction: People with impaired fasting glues (IFG) and type type 2 diabetes (T2DM) need to modify their dietary composition. This could assist in the management and prevention of the disease. However, the role played by the composition of specific dietary macronutrients on the risk of IFG &T2D remains uncertain. This study sought to examine the association between total and type of dietary protein consumption with prevalence of type 2 diabetes mellitus (T2D) and impaired fasting glucose (IFG). Examining the dietary assessment in nutritional epidemiology provided the data needed to assess the relationship between the variables. Aims: To investigate the association between total intake and types (animal vs protein) of dietary protein intake and prevalence of IFG & T2D in adults. Method: Data from the Hellenic National Nutrition (HNNHS), a representative nutrition and health survey in Greece was used for this study. Data on all adults enrolled in this study (n=3773) was used to assess the association of T2D prevalence, while a subsample of this population (n=990), to which measurements were performed, was used to assess measured fasting blood glucose levels, in relation to dietary intake. Sociodemographic and lifestyle data were collected using Computer Assisted Personal Interview (CAPI). Information from a validated food propensity Questionnaire (FPQ) and two interviewer-administered 24hr recalls (24hr) was used to assess total, plant and protein intake in relation to IFG & T2D prevalence. Multiple logistic regression models were used to examine probability of disease by type of protein and sensitivity measures were applied.

Results: The male odds ratio of having high blood glucose levels was 0.43 times higher compared to females (P<0.001). The results showed that the adjusted odds ratio of having high blood glucose level was 1.8 times higher in individuals who had BMI equal to or more than 25 kg/m^2 compared with those below 25 kg/m^2 (p<0.001). Moreover, the adjusted odds ratio of elevated blood glucose levels increased by 5.8% (p<0.001) among individuals as their age increased by 1 year. Vegetable protein intake increased per kcal, increased the likelihood of having high blood glucose levels increased by 10% (p=0.02). Following a Mediterranean diet was linked to a lower risk of having impaired fasting glucose levels by 22%(p=0.03). Conclusions: There was no significant difference in total protein intake between the three groups. In light of this, the study shows that total protein consumption may not be a distinguishing factor in terms of glucose status. Therefore, other factors should be examined in the future.

Keywords: impaired fasting glucose, type 2 diabetes, Mediterranean dietary pattern, total protein, animal protein, plant protein.