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Food Intake Patterns and risk of Diabetes among Adult Indian Population

Sutapa Agrawal*

Senior Research Scientist and Associate Professor of Epidemiology, Public Health Foundation of India, New Delhi NCR, India

Background/Objective: Although obesity is the most important risk factor for diabetes, evidence is emerging that certain foods and dietary factors may be associated with diabetes. Empirical evidence from western countries have shown that the choice of foods plays a role in diabetes prevention. We examined the association between consumption of different food items and the risk of diabetes in adult men and women in India.

Methods: Analysis is based on a large-scale population based cross-sectional study of 99,574 women and 56,742 men aged 20-49 years included in India's third National Family Health Survey, 2005-06. Effects of various food intake determined by frequency of consumption (daily, weekly, occasionally and never), on the reported prevalence of diabetes were estimated using multivariable logistic regression after adjusting for body mass index, tobacco smoking, alcohol drinking, television watching and socio-economic and demographic characteristics such as age, education, religion, caste/tribe, living standard of the household and residence. The analysis was done separately for men and women.

Results: Daily intakes of fruits were found to be associated with a reduced risk of diabetes both among men (OR:0.33;95%CI:0.22-0.50;p<0.0001) and women (OR:0.44;95%CI:0.32-0.61;p<0.0001) whereas weekly or occasional intake of milk or curd and pulses and beans was associated with a reduced risk of diabetes among men but not women. The risk of diabetes was 2.5 times higher among men (OR:2.46;95%CI:1.66-3.65;p<0.0001) and 1.7 times higher among women (OR:1.72;95%CI:1.26-2.33;p=0.001) who consumed fish daily as compared to those who never consumed fish. Weekly fish intake also contribute to a higher risk of diabetes both among men (OR:1.77;95%CI:1.24-2.53;p=0.002) and women (OR:1.41;95%CI:1.07-1.87;p=0.016). No significant association was observed with the consumption of green leafy vegetables, eggs, chicken or meat with risk of diabetes in adult Indians.

Conclusion: Our findings provide support for potential behavioral prevention strategies, as we identified a food intake pattern that was strongly associated with the risk of diabetes. Our results also suggest that prevention of diabetes might be aided by consumption of certain foods that are rich in nutrients with hypothesized health benefits in this population. However, more epidemiological research with better measures of food intake and clinical measures of diabetes is needed to validate the findings in a developing country setting.