Effects of Glycemic Load on Metabolic Health and Type 2 Diabetes Mellitus

Christian K. Roberts, Ph.D.,1,2,3 and Simin Liu, M.D., Sc.D.1,3,4

Abstract

A large body of epidemiologic evidence has demonstrated that the combination of a Western diet and lifestyle is primarily responsible for the increased metabolic disease risk, such as obesity, type 2 diabetes mellitus (T2DM), and metabolic syndrome, noted in society today. Thus finding optimal intervention strategies to combat these growing epidemics is imperative. Despite some controversy, a growing body of literature indicates that one aspect of diet that likely affects phenotypic outcomes and metabolic disease risk is the glycemic load (GL). This brief review will provide an overview of the GL concept, discuss epidemiologic work investigating relationships between both GL and metabolic risk factors, as well as intervention studies that have assessed the impact of GL on phenotypic outcomes related to T2DM and cardiovascular disease. Overall, a low dietary GL may be protective against metabolic disease and should be considered as a healthful dietary component.