
Preface

Although dietary fiber (fiber)-rich diets have been crucial throughout human evolution for overall health, a comprehensive focus on fiber research did not begin until the 1970s with several articles in leading nutrition and medical journals regarding the *dietary fiber hypothesis*, which postulated that the global transition from fiber-rich traditional diets to low-fiber Western diets was a major cause of the rapid rise in rates of chronic diseases. Since the fiber hypothesis, there has been a continuously increasing level of research every year, making fiber and its effects on health among the most studied of any food component. Adequate fiber intake is being increasingly recognized for its “essential” role in human health in promoting a healthy colonic microbiota, energy metabolism, lowering blood lipids, maintaining immune and inflammatory homeostasis, digestive health, body weight regulation, cardiometabolic disease prevention, healthy aging, and reducing premature mortality. However, fiber is a major shortfall “nutrient” in global populations with high adherence to the Western dietary pattern, as only approximately 5–10% of these populations consume daily adequate fiber, which is a serious public health concern.

This book provides a comprehensive review of the latest research on the benefits of consuming adequate fiber for optimal human health and disease prevention. The book will go beyond fiber’s traditional role in promoting intestinal motility and stool bulk to explain the relatively new research showing the important role of fiber in establishing and maintaining a healthy colonic microbiota, which is essentially a symbiotic human organ, associated with the regulation of immune and inflammatory homeostasis through its fermentation of fiber to bioactive short-chain fatty acids and health-promoting bacteria. There are extensive summaries and assessments of the major prospective cohort studies and randomized controlled trials (RCTs) and their meta-analyses on the role of dietary fiber in general health and cardiometabolic-related diseases. For general health, this book focuses on fiber’s effects on the colonic microbiota, body weight regulation, digestive health, and aging. For chronic disease risk, the book focuses on digestive tract diseases or syndromes—irritable bowel syndrome, inflammatory bowel disease, and diverticular disease—and cardiometabolic-related diseases such as coronary heart disease, hypertension, chronic kidney disease, stroke, and type 2 diabetes. Figures are extensively used to highlight important findings.

Tables summarize fiber-rich food composition and findings from cohort studies and RCTs and their meta-analyses to help highlight the importance of fiber in health and disease prevention.

This book will serve as a very useful, comprehensive resource for dietitians, physicians, nurses, nutritionist, pharmacists, food industry scientists, academic researchers and educators, naturopathic doctors, health professionals, graduate and medical students, policy makers, and others interested in the role of fiber in health and disease.

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