

Preface

Humankind has had a complex relationship with alcohol from the beginning of recorded history. In most societies, some level of alcohol consumption is acceptable. In the United States, about 60% of high-school students illegally use alcohol. Alcohol-altered diet and nutrition directly affects ten million alcohol-abusing adults. It costs people in the United States more than \$250 billion in health care, lost work, etc. Alcohol research is in a golden era. With more powerful tools for data collection and analysis and increased funding, the epidemiology of alcohol consumption, dietary consequences, role of nutrition in treatment of alcohol's pathology, and alcohol-related health issues are being better elucidated. Therefore, there is an overview section on nutrition and the effects of alcohol use on it to aid the reader. This includes genetics of alcohol metabolism and lessons learned from animal models.

Chronic alcohol use is associated with heart, liver, brain, and other organ pathology. Alcohol is a drug of abuse and a caloric food. It causes poorer intake and absorption of nutrients, thus playing a major role in many aspects of clinical consequences. Alcohol use lowers consumption of fruit and vegetables, lowers tissue nutrients, and, in some cases, requires nutritional therapy by clinicians. Thus the next section deals with diverse chapters relating to oxidation, body weight, health inequalities, specific problems to Native Americans, and biology. Clearly, metabolites of ethanol such as acetaldehyde are important modifiers of nutrients and metabolism of protein which are reviewed. In addition, the effects of alcohol abuse on nutrients' actions including vitamin E, vitamin B12, and zinc in the body's biology are assessed. Alcohol modifies use and metabolism of diverse foods with oats, fish oil, and soy being examples that are reviewed.

Infectious diseases, particularly viral ones including HIV/AIDS and viral infections promoting cancer can be changed by alcohol abuse which is defined in this book. More importantly chronic diseases are susceptible to chronic alcohol abuse. These include a wide range of nutritional diseases such as cataracts, high blood pressure, dyslipidemia, diabetes, obesity, and bulimia. This book helps to define the causes and types of nutritional changes due to alcohol use and how nutrition can be used to ameliorate its consequences. The role of antioxidant nutrients and foods as partial therapies is carefully defined.

Chapters deal with application of current nutritional knowledge by physicians and dietitians in understanding alcohol and cancer promotion. Reviews describe alcohol use in liver, colorectal, urinary, and digestive systems. Of course, toxic metabolites, acetaldehyde plays an important role in digestive tract cancer described in a chapter. An intimate, detailed knowledge of the effects of alcohol on the biochemical reactions and nutritional changes is critical in preventing or treating biomedical consequences.

Specific areas involving alcohol-related damage due to alcohol-combined effects with foods are reviewed, specifically the interaction with caffeine in foods, tobacco smoke and nicotine, and energy drinks. Because of alcohol's effects on the liver with a diverse range of diseases, they become a major section. Therefore the roles of nutrients as therapies for alcoholic liver diseases are defined including the actions of dietary fats, vitamin A, and native plant foods in reducing and exacerbating them.

The book will become a desk reference for alcohol therapists and researchers as well as primary care physicians and dietitians. These professionals frequently need information on the nutritional effects of alcohol as well as the role of nutritional supplementation and diet in the therapy of alcohol pathology. Research progress encourages us to summarize and evaluate in detail advances in understanding changes in nutritional biochemistry and physiology caused by ethanol (alcoholic beverages). It will assist the clinician, student, and dietitian to comprehend the complex changes caused by direct and indirect effects of ethanol at the cellular level via its nutritional modification. This book will stimulate research while educating health-oriented laypersons as well as scientists and health-care professionals.

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