The Nutritional Trace Metals

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Preface

This book is intended to cover a somewhat neglected area of human metabolism and nutrition. Historically, the interest of writers of nutrition textbooks has mainly been in the role of organic substances in human metabolism. The inorganic nutrients, lumped together as ‘minerals’, have usually been given scant attention. Though the situation has changed in recent years, the nutritionally significant inorganic components of food, especially those that occur in very small amounts in the diet, still receive only a limited share of the space in textbooks. They are no better treated in many university nutrition courses. Yet, there are few, if any, functions of tissues and cells of the human body that are not dependent on the presence of these elements. Without an adequate supply of nutritional trace metals, human life would cease.

This book is intended to draw attention to the roles played by trace metals in human metabolism. Its structure and content are largely based on the approach I have adopted, during more than three decades of teaching nutrition to a wide range of undergraduate and postgraduate students, in dietetics, food science, medicine, pharmacology and related fields of study. In addition to providing basic information on the nature and functions of the trace metals, it draws on reports from specialist literature to highlight current thinking about their significance to human health. It is not, strictly speaking, a textbook, though it could well serve in that capacity for a dedicated course on trace elements. It is hoped that Nutritional Trace Metals will be of value as a reference work, as well as recommended background reading for undergraduate and postgraduate students of human nutrition. I have adopted a style of writing that I hope will make it easy to read, and not demand more than a reasonable undergraduate level of scientific knowledge to follow its reasoning. Where necessary, explanations of chemical and physiological matters that might not be familiar to some readers, but can be omitted by others who have a stronger scientific foundation, are provided to compensate for inadequacies in background knowledge. My hope is that those who use this book will gain a level of knowledge of the nutritional trace metals that will enrich their understanding of a fascinating area of human nutrition, at a level that will meet their professional needs, satisfy their curiosity and at the same time encourage them to expand their knowledge by following up at least some of the many references provided.

Nutritional Trace Metals is aimed at a wide audience. It should be particularly useful for undergraduates in dietetics and nutrition courses but also, it is hoped, be of value to medical, pharmaceutical and other health professionals, including alternative health practitioners. It could also serve as a reference book for food scientists and technologists, as well as for administrators and others in the food industry, who need to know more about