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NUTRITION OF THE ELDERLY

EDITED BY

HAMISH MUNRO
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NUTRITION OF THE ELDERLY

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NUTRITION OF THE ELDERLY



The 29th Nestlé Nutrition Workshop, Nutrition of the Elderly, was held in Washington, D.C., U.S.A., May 22–24th, 1991.

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Preface

In many advanced countries, the proportion of people 65 years and older has grown to 12% to 16% of the population. For example, at the beginning of this century, old people accounted for 4% of Americans, whereas at the end of this century it is anticipated that they will represent 14% of the population. This imposes a heavy burden on the health care system. In recent years, increasing interest has been paid to the role nutrition has played in promoting and sustaining the health and function of our senior citizens.

This Workshop brought together an impressive group of investigators who have contributed to our understanding of the relationship between nutrition and the aging process, as well as the nutrient needs of people who have attained senior citizenship. This volume begins with sociology, namely the health statistics and eating habits of old people, and is followed by an assessment of physiological changes that occur during aging. It is succeeded by an account of the specific nutrient needs of the elderly. Several chapters follow on the role nutritional factors play in selected diseases expressed in older people, namely osteoporosis and Alzheimer's disease. Finally, practical aspects of the nutrition of the elderly at home or in institutions are described.

This volume presents a refreshing collection of essays on various aspects of nutrition in relation to aging, each followed by a lively discussion. It is hoped that these new insights will stimulate more work on the relationship of nutritional status and nutrient intakes to optimal aging.

HAMISH MUNRO, M.D., F.R.C.P., D.Sc.
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“There is nothing better for a man than that he should eat and drink and that his soul should enjoy good in his labor” (Ecclesiastes 2, 24). Most would agree with the Bible that good food and fair work rank high in the pleasures of men and women.

There are good reasons why eating and drinking should be of particular importance to the elderly. Indeed, the quality and quantity of life are markedly affected by adequate nutrition. Many disorders which are prevalent in the elderly have their roots in poor nutritional habits. For example, there are diseases from overconsumption such as diabetes and atherosclerosis, and also from insufficient nutrient supply such as osteoporosis and goiter. A healthy diet before we become old, and sufficient nourishment when we are old and sick, are matters of high priority.

In this Workshop, these topics have been identified and discussed, and I hope that the results of the Workshop will have an impact on the theory and practice of nutrition in the elderly.

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Foreword

The rapid increase in life expectancy in industrialized countries, over the last century has been due almost entirely to the cure, or prevention, of disease through the development of new drugs, techniques, or immunization. Modern society has been left with a socioeconomic problem that has become acute over the last 20 years—the millions of institutionalized elderly.

Although lengthening the human life span is laudable, if the result is that numerous old people have to live in institutions for decades, in bad health, with physical and intellectual limitations preventing them from enjoying the extra years modern medicine has granted them, then I believe that we have only fulfilled part of our duty.

We need to act quickly to catch up on the problem of these unfulfilling extra years of life. The first priority for the future is not so much to increase life expectancy, but rather to improve the general well-being and health status of elderly people in such a way that they can fully enjoy a longer life with not only physical, but also intellectual, independence.

In order to achieve this goal, the *leitmotif* must be prevention. For example, we know that it is much easier to prevent osteoporosis than to cure it. The same can certainly be said for muscular atrophy, probably for the immunodepression of aging, and maybe even for Alzheimer's disease.

Prevention, to be fully effective, should start as soon as possible after 50 years of age. The prevention program should include eating a wide variety of foods, physical activity, intellectual training, moderation in the use of tobacco, alcohol, and saturated fats, and a regular intake of vitamins, trace minerals, long chain polyunsaturated fatty acids, natural antioxidants, and so on, in a way which is enjoyable enough to ensure long-term compliance. People who adopt with pleasure such a program would not only enjoy a longer active life, but, as a fringe benefit, should also get closer to their genetically-programmed biological age limit of 100 years and more.

We wanted to explore the various hypotheses behind this challenging program, and the 29th Nestlé Nutrition Workshop on "Nutrition of the Elderly" (which as it turned out could perhaps have been better called "Preventive Nutrition") gave us exciting opportunities to confirm our enthusiasm about achieving a brighter future.

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Nutrition of the Elderly: Introduction

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At the beginning of this century, only 4% of the population of the United States was over 65 years of age. By 1976 this proportion had risen to 11% and is projected to attain 14% by the year 2000 (1). This is important because senior citizens make disproportionate demands on health care. An interesting study in Massachusetts emphasizes the extent of the needs of senior citizens for health care as they age (2). The authors compute the number of years an elderly person is likely to live independently and the number of subsequent years he or she will need assistance in rising from bed, washing, dressing, and/or eating. Thus, for persons aged 65 to 69 years, it is computed that independent living will continue for an average of 9.3 years for men and 10.6 years for women. This is followed by 3.8 years of dependent living for men and 8.9 years for women. One can speculate that independent living is determined by the continued adequacy of the neuromuscular system, and that loss of this occurs at the same rate in both men and women, whereas longer survival of women in a dependent state may reflect their slower development of lethal cardiovascular diseases.

Nutrition has been recognized only recently as an important factor influencing the functional outcome of aging. In the course of the symposium, it will become evident that nutrients consumed during earlier adult life as well as in the later years can affect the terminal years of the life span. To provide some order while analyzing the evidence of dietary involvement in the aging process, we can assemble the data in several categories. First, changes in body composition and in organ function occur throughout adult life, making old age the recipient of adverse processes begun at earlier ages (e.g., loss of bone density leading to osteoporosis and fracture). Second, many degenerative diseases first assert themselves in middle life and persist into old age (e.g., cardiovascular diseases). Nutritional habits are prime factors in the etiology of some of these diseases. Third, the amounts of many individual dietary nutrients needed to maintain optimal health in old age still require quantification. This is important because the elderly tend to consume less food (3).

This conference emphasizes factors underlying nutrient needs for the elderly. The present workshop provides a wide range of topics relevant to nutrition and aging and to old age. It includes the sociology of aging, an extensive account of