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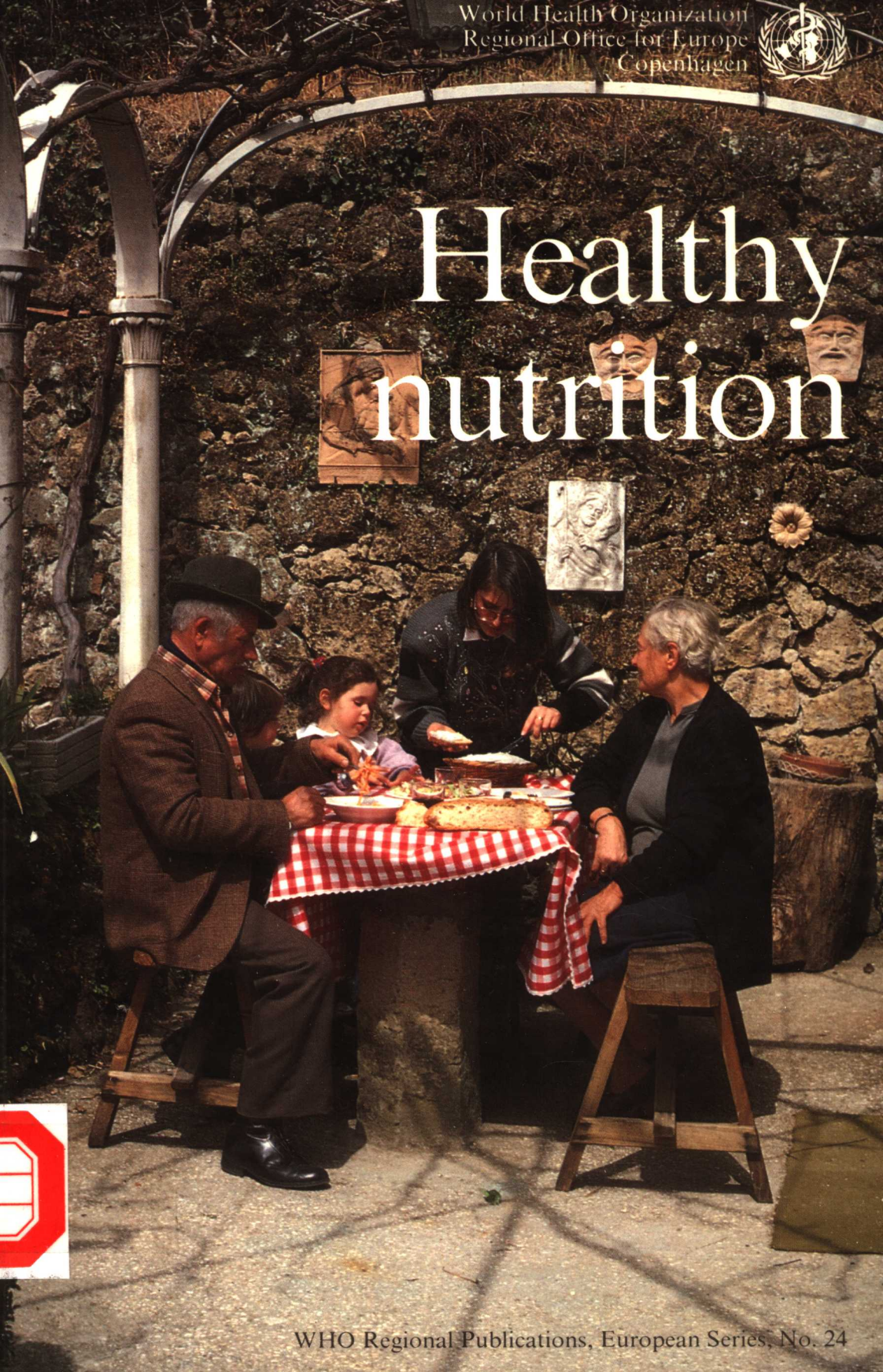

Healthy nutrition

WHO Regional Publications, European Series, No. 24

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Healthy nutrition

Preventing nutrition-related diseases in Europe

W.P.T. James

in collaboration with
A. Ferro-Luzzi, B. Isaksson and W.B. Szostak

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ICP/NUT 114/s02

ISBN 92 890 1115 7
ISSN 0378-2255

PRINTED IN DENMARK

James, W.P.T.
Healthy nutrition : preventing nutrition-related diseases in Europe / W.P.T. James ; in collaboration with A. Ferro-Luzzi, B. Isaksson and W.B. Szostak
Copenhagen : WHO. Regional Office for Europe, 1988
WHO regional publications. European series ; No.24
ISBN 92-890-1115-7
Nutrition — Diet — Nutrition Disorders/Prevention and Control

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C/1/88

Healthy nutrition

Acknowledgements

We are indebted to a great number of experts who have given their time to help prepare this book. Their documents have been used freely. Particular mention should be made of the help obtained from Dr Z.J. Brzeziński, and from the staff of the Epidemiology and Statistics unit of the WHO Regional Office for Europe. We are also grateful to Dr C. Muir of the International Agency for Research on Cancer (IARC), to participants in the countrywide integrated noncommunicable diseases intervention (CINDI) programme, and to those involved in the project on European risk factors and incidence — a collaborative analysis (ERICA) for making data available. Professor L. Hallberg kindly provided help with the section on iron-deficiency anaemia. A great deal of work in the preparation of this report has come from Mrs Jean James and from the Nutrition unit in the WHO Regional Office for Europe.

Foreword

Patterns of disease in Europe are changing; statistics prove it. Patterns of diet are changing as well, as are other aspects of lifestyle. People are often unaware of how much their eating patterns have actually changed, and surprised when confronted with the evidence. Put in simple terms, people can now eat every day the foods that our ancestors had only on festive occasions. And, as our forebears have told us, too much feasting is not good for health.

This book describes in detail how dietary patterns have evolved in Europe, how patterns of disease have changed, and what the nature of the relationship between these developments might be.

The new food situation in Europe, with enough to eat for everybody, with famine and starvation seemingly only a remote possibility, and with overproduction the predominant problem in agriculture, presents us with an entirely new set of problems.

The question of food production in Europe today really concerns not quantity but quality. The planning of a population's food supply must eventually include not only aspects of economy and policies on farming and food manufacture, but also health aspects. In short, there is now a case for making nutrition policies rather than food policies only.

This is a challenge to nutritionists: to expand their skills so that they can convey their knowledge about the effects of nutrients on human physiology to those who produce and process these nutrients. This transfer of knowledge, however, is only the first of their new tasks. Nutritionists have to get out of their laboratories and be ready to discuss foods on a national as well as a personal level. Alternative strategies for producing and processing food have to be formulated and discussed. The nutritionist looking at the overall picture has an important role in translating the findings of food and nutritional science and nutritional epidemiology into approaches relevant to the consumer. Action to help change people's eating habits in desired directions will also be needed.

It is imperative, then, to know what these desired directions actually are. In other words, the aims and objectives of a nutrition policy should be very clearly spelled out at the outset of policy formulation.

The process of making nutrition policies can be lengthy and complicated, but it will eventually be possible to evaluate the effects of such a policy on food

consumption patterns at regular intervals — for example, annually. Setting objectives is essential for the evaluation process.

A nutrition policy leads to the establishment of objectives, and it is necessary to spell out exactly what the consequences of its adoption will be. Makers of policy on the food and agriculture industries will use these objectives in their planning. To help them in their task the Regional Officer for Nutrition in the WHO Regional Office for Europe asked Professors James, Ferro-Luzzi, Isaksson and Szostak to write this book. Their first draft was circulated in the summer of 1986. Special mention should be made of Elisabet Helsing, Regional Officer for Nutrition, who through her drive and initiative has created the WHO nutrition programme for Europe. It is thanks to her organizing ability and vision that this framework for a nutrition policy for Europe has been developed.

The enthusiastic reception of the first draft by nutritionists all over Europe demonstrated the need for international documentation of the relationship between diet and health. As an increasing number of countries move towards formulating food health policies, it is hoped that this book will be instrumental in the setting of objectives.

As national committees revise their recommendations on nutrient intakes, this book will also require revision, to reflect advances in nutritional knowledge. Nutrition is a science in a dynamic phase of development. This dynamism must be reflected in nutrition policy-making, as well.

A nutrition policy must also be seen in a wider context, as forming a part of the overall health policy of a country (in the same way that the European health for all policy and its 38 targets fit into health policy). To promote healthy eating habits, a nutrition policy outlines the need for national policies and programmes to ensure: that policies on agriculture and food production aim at the wide availability of healthy food; that policies on the pricing, advertising, and preparation and sale of food make healthy food attractive to the consumer; and that educational policy motivates people to buy healthy food and to adopt healthy eating habits. Such a development will have a very positive effect on the health of Europeans.

This book is a clear challenge to all governments; to European farmers; to the European food processing industry; to restaurants, cafeterias, and fast-food chains; to health personnel, teachers, dietitians and cooks; and, ultimately, for anyone among Europe's 850 million people cooking a meal!

J.E. Asvall
WHO Regional Director for Europe

Executive summary

In 1982 a WHO expert committee developed a set of nutrient goals that was considered optimal for the prevention of coronary heart disease in a population. These goals, which specify the amounts of nutrients that people need, were established as average intakes for the whole population, additional recommendations being made for people at high risk of heart disease.

The present publication sets out information on the prevalence of a number of nutrition-related diseases in Europe and considers the available data on dietary patterns and nutrient intakes. A brief analysis is also made of the basis for thinking that diet plays a role in the development of these diseases. In Europe as a whole, about half the premature deaths in men and women below the age of 65 years result from diseases to which diet makes an important contribution. Coronary heart disease, stroke, many kinds of cancer, oral disease, anaemia, goitre, cirrhosis of the liver, diabetes, gallstones, obesity, high blood pressure and bone disease in the elderly have a huge effect on medical services. These conditions should be considered preventable, even if the precise way in which dietary deficiencies or excesses lead to them remains obscure. An analysis of the dietary factors involved suggests that a common set of nutrient goals can be developed as desirable national health goals for the people of Europe.

The following table summarizes most of these nutrient goals. Others follow the table. They have been collated from the recommendations of various national committees and are based mainly on what is widely considered to be an ideal nutritional pattern for the prevention of noncommunicable diseases. The greater precision in the definition of nutrient goals presented here in comparison to those advocated in 1982 by the WHO Expert Committee on the Prevention of Coronary Heart Disease simply ensures conformity with the intermediate goals advocated by national and other WHO committees. It is clear that the recommendations of national committees are similar, although the nutrient patterns of the countries concerned differ markedly from the goals. These national recommendations can therefore be seen as pragmatic objectives that aim to move the nutritional pattern of a country towards the ideal nutrient goals. The intermediate goals may be particularly appropriate for northern European countries. Existing national European nutrition policies also relate to the whole

Table 1. Intermediate and ultimate nutrient goals for Europe

	Intermediate goals		Ultimate goals
	General population	Cardiovascular high-risk group	
Percentage of total energy[a] derived from:			
complex carbohydrates[b]	>40	>45	45-55
protein	12-13	12-13	12-13
sugar	10	10	10
total fat	35	30	20-30
saturated fat	15	10	10
P:S ratio[c]	≦0.5	≦1.0	≦1.0
Dietary fibre (g/day)[d]	30	>30	>30
Salt (g/day)	7-8	5	5
Cholesterol (mg/4.18 MJ)	—	<100	<100
Water fluoride (mg/litre)	0.7-1.2	0.7-1.2	0.7-1.2

[a] All the values given refer to alcohol-free total energy intakes.

[b] The complex carbohydrate figures are implications of the other recommendations.

[c] This is the ratio of polyunsaturated to saturated fatty acids.

[d] Dietary fibre values are based on analytical methods that measure non-starch polysaccharide and the enzyme-resistant starch produced by food processing or cooking methods.

The following are both ultimate nutrient goals and intermediate goals for the general population and the high-risk group. *Alcohol intake* should be limited. *Iodine prophylaxis* should be applied when necessary and *nutrient density* should be increased. Finally, a *body mass index (BMI)* of 20-25 is both an intermediate and an ultimate goal, although this value is not necessarily appropriate for the developing world, in which the average BMI may be 18.

diet and consider several aspects of health as well as the prevention of coronary heart disease. Worrying evidence shows that countries in eastern Europe are moving towards an unsatisfactory diet, similar to that of northern Europeans. The Mediterranean countries remain relatively fortunate, with a traditional pattern of foods that provides nutrient intakes very similar to the WHO goals, but, again, there is evidence of adverse change.

Governments should translate these nutrient goals into food goals and eventually into dietary guidelines relevant to their own dietary and cultural traditions, while taking into account the economic and other constraints on

changes in the provision of food. A coherent food policy, taking prevention into account, involves joint action by ministries of health, agriculture, food, education, industry and economics if benefits to health are to be achieved without detriment to local food production. A combination of government action and education for individuals and for the community as a whole must be geared to the ability of the food and agricultural industries to make substantial adjustments in the provision of food. Provided each country develops a coherent and sustained nutrition policy, agricultural and food manufacturing practices can alter satisfactorily and remain profitable.

Health education in many forms will be required and will be more effective if it is based on an understanding of the links between diet and health. This book is therefore a prelude to other methods of informing policy-makers, health educators and the public about the lifestyles that are most conducive to a healthy adult life.

CONTENTS

Introduction

In 1980 the WHO Regional Committee for Europe decided that specific regional targets should be formulated to support the European regional strategy for attaining health for all. In 1984 the same Committee adopted 38 regional targets to be reached by the year 2000.

Target 16 *(1)* is of specific relevance to people who are interested in nutrition, stating that:

> By 1995, in all Member States, there should be significant increases in positive health behaviour, such as balanced nutrition, nonsmoking, appropriate physical activity and good stress management.

A further specific objective is to assess the food and nutrition situation, to identify and promote policies and programmes that enhance health through appropriate nutrition.

In response to the need for action in this sphere, a Nutrition unit was created in the WHO Regional Office for Europe in September 1984. It has established a programme emphasizing the promotion of national policies on food and nutrition in Member States.

The remarkable increase in some chronic diseases over the last 35–40 years has increased the demand for government and international policies to encourage a preventive as well as therapeutic approach to these diseases and to limit their development in areas where their incidence is low.

This book highlights the rapidly growing evidence that poor diet and physical inactivity (as well as smoking, which is considered in other WHO publications) are important factors in the development of a variety of disorders that lead to substantial morbidity and mortality.

No group of medical experts or other official body would claim to know the precise mechanism whereby dietary factors lead to chronic diseases, but such a wealth of evidence now links diet to the pathophysiology of these conditions, that all European expert committees have called for public health policies to ensure that the people of Europe have access to and are able to choose a healthy diet.

There are two prerequisites for working out successful national food and nutrition strategies or policies. First, it is necessary to have a clear picture of a dietary pattern in a country and its associated public health

problems. Second, there must be sufficient agreement within the country on the nature of healthy nutrition, which is not necessarily a complicated problem since a consensus already seems to exist. This is made evident in the present publication, which sets out the current nutritional knowledge available in expert reports throughout the Region. The degree of unanimity in these reports should assure policy-makers that they can build their strategies on a sound basis.

The formulation of a nutrition strategy (a plan for handling the food supply that takes account of health) is a complex task that demands an understanding of all the principal factors invovled in the food chain. All Member States in the Region already have food policies in one form or another, which have an unintended effect on the health of the population. An explicit government nutrition policy requires a decision to develop a food policy with clear health objectives. The nutrition programme of the WHO Regional Office for Europe plans to analyse existing nutrition policies in a few selected European countries in the hope that this will stimulate other countries in the Region to develop their own nutrition strategies, which may in turn develop into government nutrition policies. A review of national strategies was begun in 1986.

Despite the diversity of dietary patterns in Europe, all population groups share common nutrient needs that must be met. It is important, therefore, to work out local dietary guidelines based on these common needs. Dietary guidelines must be based on a sound knowledge of local food patterns and take social and traditional values into account. A clear idea of what different groups of people actually consume is therefore essential.

Present knowledge of the diet and nutrient intake of different communities in Europe is based on a large number of individual studies made for a wide variety of reasons. There are no standardized studies on people's food consumption throughout Europe that can be used to produce compatible data on food or nutrient intake. For international comparisons of dietary patterns, data have therefore often been taken from the food balance sheets of the Food and Agriculture Organization of the United Nations (FAO). Although this macro-level analysis can serve a useful purpose in planning food and nutrition policies, it can give only a crude indication of actual dietary patterns, and the approach has several methodological weaknesses. Such analysis nevertheless reveals the patterns of food availability and their trends over time. To supplement this information, more precise dietary data have been used in this publication whenever possible.

This book was commissioned by WHO from a small group of medical nutritionists, and written in the course of 1985 and 1986. It was discussed with members of its potential audience on several occasions, to adjust its scope and presentation. The group drew on a wide range of sources to illustrate the nature of the problem to be tackled. The report produces a set of nutritional goals that European governments might use when considering how to develop their nutrition strategies. Dietary guidelines will, of course, vary from country to country.

Written by Professor W.P.T. James (in collaboration with Professor A. Ferro-Luzzi, Rome, Italy; Professor B. Isaksson, Gothenburg, Sweden; and

Professor W.B. Szostak, Warsaw, Poland), this book has benefited from the comments and advice of a wide range of professionals in public health, health education and nutrition.

The recommendations presented and views expressed reflect, whenever possible, those of government or other official reports; an attempt has been made to integrate the views of different national expert committees so that the final outcome represents as large a consensus as possible. Although the examples chosen to illustrate this consensus are inevitably based on the authors' experience, the views expressed are those of international and national bodies.

Aims and Scope

This book aims to provide a readable reference source for people formulating the objectives for nutrition policies in Europe. It also contains a brief résumé of the reasons that caused expert committees of WHO and of Member States to suggest that nutritional factors are important in the development of a number of the major diseases of significance to public health in Europe. Evidence on diet and disease is presented for mainly European countries; non-European literature is used when it helps to explain the link between nutrient intake and illness.

This book should not be seen as providing proof that diet is the principal factor in the etiology of these diseases. Nutrient goals are established by experts who collate evidence from clinical experience, pathological analyses, animal research, epidemiological surveys, metabolic studies and many controlled trials with hospital patients and population groups. If the evidence constituted proof of the precise role and importance of nutrition, there would have been little need for so many assessments. Some of the recommendations arising from these assessments are construed as controversial by individual investigators, but these experts are a small minority in Europe and North America. This report does not attempt to deal with all the concerns of these critics, nor does it set out the metabolic and biochemical evidence that underlies most of the recommendations.

This book does not deal with other aspects of preventive medicine, such as the need to persuade people not to smoke. Similarly, the maintenance of physical activity throughout adult life is recognized as an important factor in maintaining people's health and wellbeing, but this will not be discussed in any detail. The benefits of exercise to health have been set out elsewhere *(2)*. The book concentrates on the epidemiological evidence of dietary patterns and disease and on the controlled dietary trials aimed at preventing disease in subsections of a population; eventually all proposals for dietary change must be tested in population groups or whole communities. It emphasizes the prevalence of nutrition-related disease in European countries and describes how European studies have helped to shed light on the role of diet. Comparisons of current dietary patterns are then related to the ultimate nutrient goals and a set of intermediate goals are developed based on national recommendations. These intermediate goals appear to be more appropriate for the northern European countries than for the rest of Europe,