

## **A case study: Bulgaria**

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A nutrition policy, as defined by the World Health Organization (WHO), has not yet been approved by the Bulgarian Parliament. Two national programmes: (a) system for healthy nutrition of the Bulgarian population (1984) and (b) control of diseases of social significance (1987) have, however, been partially implemented. In the present paper different obstacles to their effective implementation at national level are identified. Some information on nutritional status, new negative habits in dietary behaviour and recent data on metabolic and cardiovascular diseases morbidity are given. An attempt is made to formulate the first and basic activities towards a long-term nutrition and food policy, taking into account the new political and economic situation in the Republic of Bulgaria.

### REVIEW OF NUTRITION AND FOOD POLICY IN BULGARIA UP TO 1990

The history of nutrition in Bulgaria can be traced back as far as 1882 when the first health legislation was introduced. It considered healthy nutrition as an important issue for the growing population.

Real opportunities and the scientific foundation for a Bulgarian national nutritional policy arose with the establishment of the Institute of Nutrition in 1960. Over the following 30 years the general objective of its research was defined as 'investigating the nutrition of the Bulgarian population and developing methods and guidelines to promote healthy nutrition'.

Within the scope of this goal several wide-ranging field surveys were undertaken, covering 25% of the adult population, to assess the diets and selected health variables of individuals differentiated by sex, occupation, social status, place of residence, income, etc.

As a result of these surveys:

- (1) a picture of the nutrition of different population groups in Bulgaria was given;
- (2) special nutrition programmes for children were recommended and the production of infant and baby foods was initiated;
- (3) the first national food composition tables were prepared;
- (4) Bulgarian recommended dietary allowances were established;
- (5) the epidemiology of obesity was studied and activities on prevention, diagnosis and treatment of metabolic diseases were carried out;
- (6) documents detailing regional and national programmes of healthy nutrition were produced i.e. (a) a comprehensive 'system for healthy nutrition of the Bulgarian population' (1984); (b) a programme to control 'diseases of social significance' (1987).

Both national programmes included goals intended to induce favourable changes in nutrition; for example: (1) the consumption of animal fats and sugars is to decrease by 30% by the year 2000 and that of salt twofold; (2) the consumption of fruits, vegetables

and fish is to increase twofold; (3) controlling authorities are to ban the marketing of food commodities whose labels give insufficient nutritional information; (4) food products containing limited amounts of salt, animal fat and sugar as well as special dietetic foods are to be made available.

#### OBSTACLES TO NUTRITION POLICY IMPLEMENTATION

Those programmes were, however, only partially implemented and with variable effectiveness in the different sectors involved. Over the 5 year period of their operation, the measures that were undertaken have mostly concerned the health care system. During this period, the food processing industry was oriented towards the production of dietetic foods and infant and baby foods.

The partial and inefficient implementation of these programmes can be considered to be the result of:

- (1) lack of high-level management, despite endorsement of both programmes by the Social Board of the Council of Ministers;
- (2) this body was not explicitly charged with managerial responsibility, so that it did not assume coordinating, controlling or organizational functions;
- (3) improper economic policy in general, which has led to large-scale migration of the population from villages and towns, depopulation of the rural areas resulting in a shortage of young people who can supply the much-needed work force;
- (4) improper agricultural policy which has resulted in a decrease in the quantity and variety of Bulgarian traditionally grown and produced food commodities, especially fresh products (fruits and vegetables);
- (5) the general lack of motivation towards change in dietary patterns, especially among politicians and decision-makers who were more interested in the growing crisis in the economy and agriculture in general than in the crisis in food patterns;
- (6) the lack of interest in preventive and health promotive actions on the part of the individual because of the low value accorded to health as such. One of the reasons for this may have been that health and social insurance were traditionally provided for by the state and there was little the individual could do to add to that;
- (7) unwillingness among food producers, sensing the general lack of interest in the subject of nutrition, to experiment and take the economic risks associated with the production of healthier foods;
- (8) the lack of persons with formal education and training in nutrition;
- (9) the lack of awareness of and information about nutrition both among health workers and among the general population. Modern principles of nutrition and health are not well known among the population which assumes wrongly that good nutrition has to do with animal protein, vitamins, white bread, etc.

#### SOME INFORMATION ON NUTRITION IN BULGARIA

According to the official statistics, the 'pre-November 1989 period' was characterized by (in 1988): a fat availability of 145 g/person per d, exceeding physiological requirements by over 60%; a protein availability of 142 g/person per d, exceeding physiological needs by over 50%; a carbohydrate content in the food available for consumption of 643 g/person per d; and an energy content of the food available for consumption of more

than 14.6 MJ (3500 kcal)/person per d. Although the values quoted took into account the nutrient content of food that was available for consumption, if losses are excluded, the daily dietary intakes of fats, proteins, sugars and salt were still considerably above the physiological needs.

Over the last 30 year period, studies have revealed the appearance of new negative habits in dietary behaviour: supper is taking the role of the main daily meal; bread is still being used in large quantities, but dark breads are being replaced by those made of white fine flour; there is a marked decrease in the consumption of fresh fruits and vegetables and of legumes, notwithstanding that they have been home grown and that beans and lentils have been a traditional Bulgarian meal for centuries; the popularity of snacks containing large amounts of fat is rapidly growing.

The previously mentioned characteristics of nutrition contribute to a large extent to the health status of the Bulgarian population. The excess of fat correlates directly with the prevalence of obesity which was found to be approximately 35% among the adult population, 4–6% among preschool children and 8–12% among school children. Overnourishment of the population and the associated negative change in dietary habits, along with the unfavourable ecological situation, reduced physical activity, and frequent anxiety and mental stress have led to increased mortality from the most widespread non-communicable diseases. Ischaemic heart disease, acute myocardial infarction, cerebral stroke, cancers and diabetes mellitus together account for two-thirds of the total mortality rate.

#### RECENT DATA ON NUTRITION AND CARDIOVASCULAR DISEASES

In 1988 and 1989 a more detailed comparative epidemiological study on nutrition and the prevalence of metabolic and cardiovascular diseases was carried out by the Institute of Nutrition. It comprised two districts (Bourgas and Dobritch) with nineteen representative communities. The total number of persons studied was 5328 (2231 men and 3097 women). The same communities had been the subject of a similar investigation 20 years ago, in 1961 (Bourgas) and in 1967 (Dobritch).

The results show that the most frequent contemporary disease in Bulgaria is obesity (Fig. 1(a)). In both districts studied there was a tendency for obesity to increase (from 18.4% in 1961 to 45.7% in 1988 for the Bourgas district and from 31.3% in 1967 to 38.5% in 1989 for the Dobritch district). A similar increase in the prevalence of diabetes mellitus was found (Fig. 1(b)) (from 1.8% (1974) to 3.19% (1988) for the Bourgas district and from 1.13% (1967) to 2.5% (1989) for the Dobritch district). In addition, hyperuricaemia is a health problem among many in these districts (Fig. 1(c); 8.98% in Bourgas district and 14.4% in Dobritch district). The prevalence of arterial hypertension is also quite high (Fig. 1(d)). In the last two to three decades this disease has increased in both districts (from 14% (1961) to 22% (1988) in Bourgas and from 15% (1967) to 43% (1989) in the Dobritch district). When considering different types of hyperlipoproteinaemias including raised serum concentrations of cholesterol, triacylglycerols or both (Fig. 1(e)), only 18% of those examined in the Dobritch district and 55.3% in Bourgas district were found to be not at risk. Atherosclerosis (Fig. 1(f)) affects 26.3% of all persons studied in the Bourgas district and this frequency is significantly higher than the estimate for 1961 of 16%. A similar increase was found for the Dobritch district, from 14% in 1967 to 23% in 1989. The general evaluation of food consumption and

Fig. 1(a) Obesity

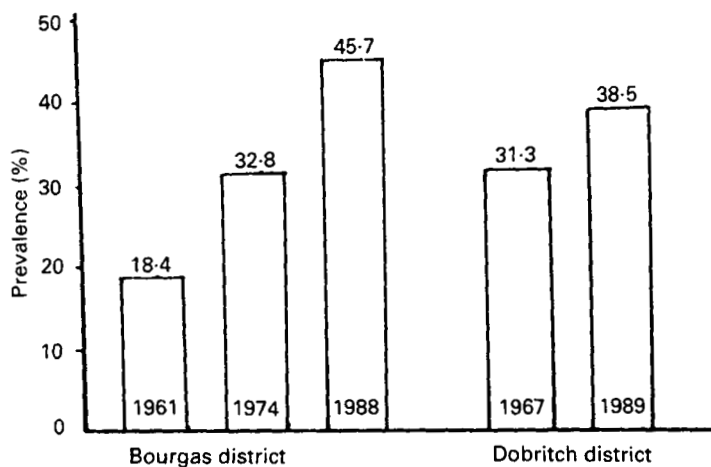


Fig. 1(b) Diabetes mellitus

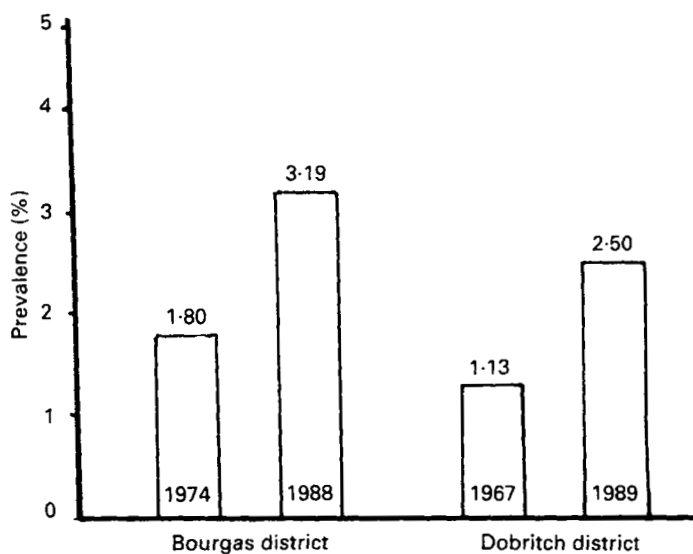


Fig. 1. The results of a comparative epidemiological study on nutrition and the prevalence of disease (metabolic and cardiovascular) carried out by the Bulgarian Institute of Nutrition in Bourgas and Dobritch districts ( $n$  5328). (a) Obesity, (b) diabetes mellitus, (c) hyperuricaemia, (d) arterial hypertension, (e) hyperlipoproteinaemia; □, Bourgas district; ▨, Dobritch district; TC, serum cholesterol; Tg, triacylglycerol. (f) atherosclerosis.

Fig. 1(c) Hyperuricaemia

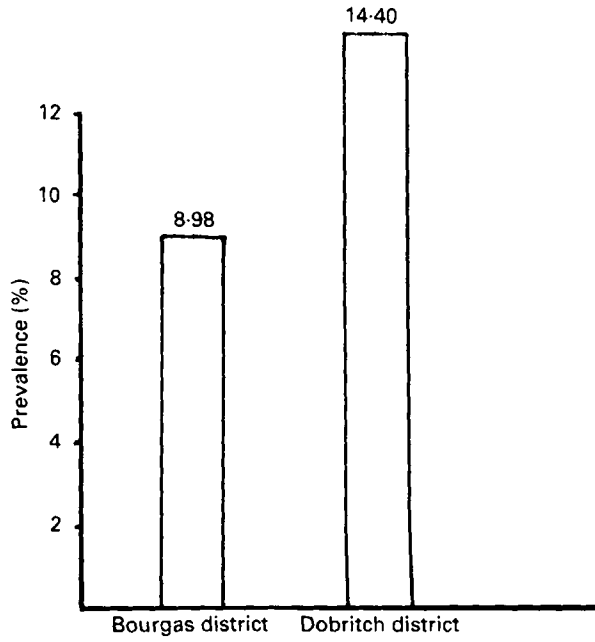


Fig. 1(d) Arterial hypertension

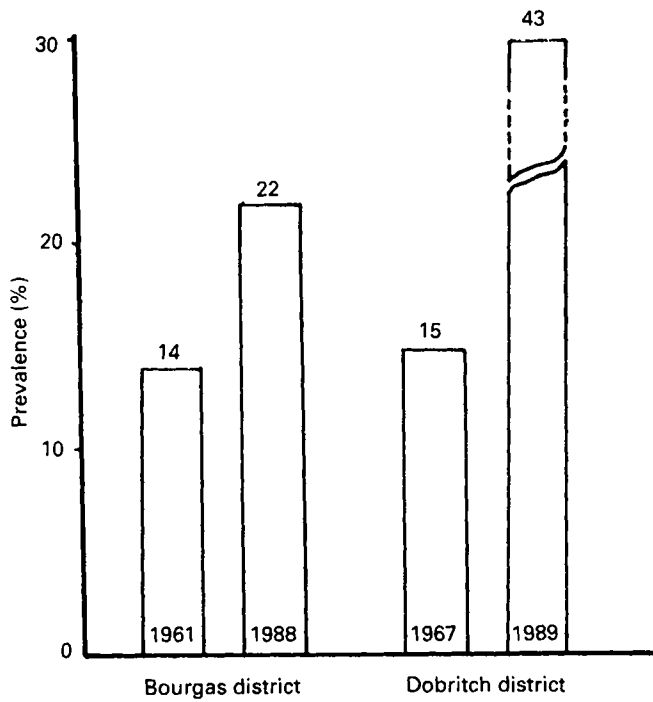


Fig. 1(e) Hyperlipoproteinaemias

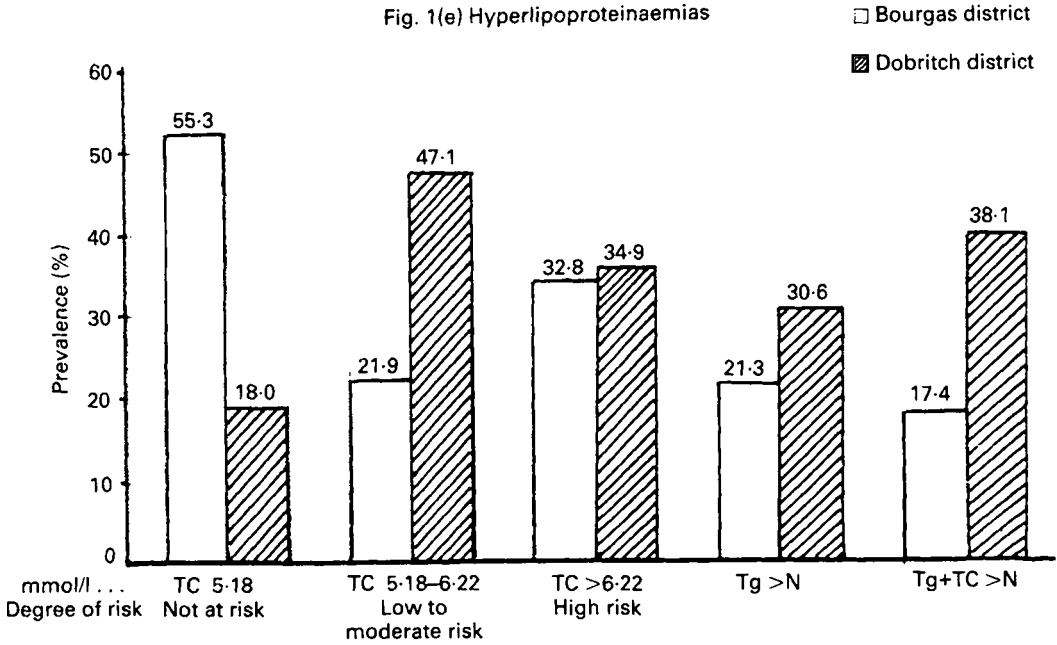
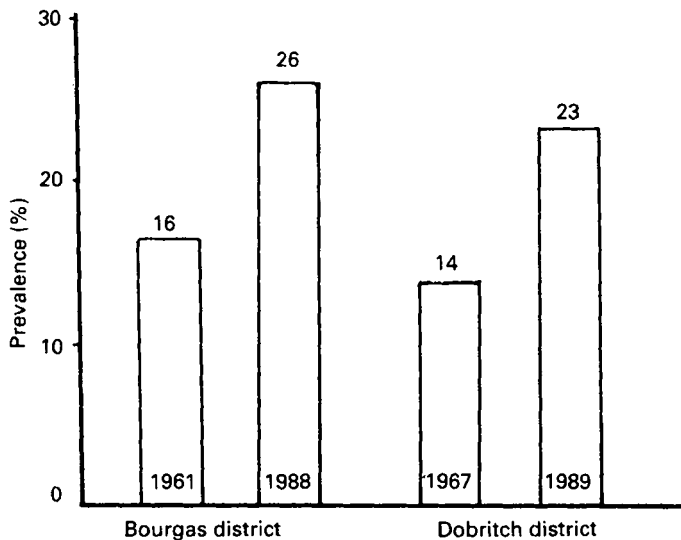


Fig. 1(f) Atherosclerosis



nutritional habits in both regions reconfirm the conclusions drawn from the official statistics. For example: (1) more than half those with hyperlipoproteinaemias consume a high-fat diet and low quantities of fruits and vegetables; (2) salt consumption in both districts parallels the frequency of arterial hypertension; (3) irregular meals and especially the late evening meal are found to be important for the development of

obesity; (4) high consumption of meat, fats and alcoholic drinks are found in those with hyperuricaemia; (5) a negative correlation between atherosclerosis prevalence and fish consumption was found.

#### FUTURE ACTIVITIES

The effects of nutrition on morbidity and mortality may require a long period, perhaps over 30 years, to manifest themselves. It is well known that since 1989 in Bulgaria (as in the rest of the Central and East European countries) recent political and economic changes have created new problems in the field of nutrition. High food prices, relatively low salaries, the rapid change from a centrally-planned economy to a market-oriented one with increasing unemployment, the delay of re-privatization of agriculture, etc. have resulted in a significant proportion of the general population now being unable to afford a diet conforming to the recommended dietary allowances. In this respect, problems connected with undernourishment of some at-risk groups of the population may appear which require special and effective economic and social measures to be undertaken by the Government.

In spite of the past and present obstacles, nutritionists in Bulgaria feel and believe there is scope for the formulation of a new long-term nutrition and food policy, as has been defined by WHO. The first and basic activities could be:

- (1) developing the advocacy phase of nutrition policy by health authorities, since Food and Nutrition Policy seems to be an issue of relatively small importance to the Government in comparison with the fundamental political and economic problems;
- (2) formulating a plan of action which could be adopted by Government; in the current situation when new policies are needed in different areas, doing the preparatory work for nutrition policy formulation will be useful;
- (3) activating the implementation of the newly endorsed 'Land Law' which will lead to re-introduction of land ownership to small farmers and which will probably benefit consumers through a larger variety of foods being made available in the market;
- (4) activating the endorsement of new laws by Parliament connected with the economic development of the country, the stimulation of food production, privatization of the food industry, etc.;
- (5) further activities in the health sector to provide the scientific basis for a Nutrition and Food Policy, e.g.: (a) updating recommended dietary allowances; (b) updating food composition tables; (c) formulating a new health legislation, including Food Law as an instrument for Food and Nutrition Policy; (d) improving the existing control system and techniques to ensure the safety of foods; (e) developing a unified system of health education; (f) updating the programmes for education and training of health workers in the field of nutrition.