



VIEWPOINT

Are Europeans moving towards dietary habits more suitable for reducing cardiovascular disease risk?



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Abstract *Aims:* Cardiovascular diseases are the main cause of death in Europe. Food choices represent the most important factors undermining health and well-being; they account for as much as half of all CVD deaths in Europe. The aim of this viewpoint is to evaluate food choices of the European population and their temporal trends in relation to possible effects on the cardiovascular disease risk.

Data synthesis: The CVD death rate attributable to diet-related factors has fallen in Europe over the last 25 years; however, the pace of the reduction has slowed down in the last ten years. In parallel, in the last decade unfavorable changes in the dietary habits associated with CVD risk have occurred.

Conclusions: A mismatch exists between the available evidence on the health-promoting potential of the diet and the relatively modest and inconsistent improvements of dietary habits in the European population observed in recent years. Nutritional education alone will not be enough to improve the lifestyle of people in Europe. Policy options to be considered to reach this aim should necessarily include also initiatives for facilitating production, marketing, availability and affordability of healthy foods in each and every European country.

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Each year cardiovascular diseases (CVD) are responsible for almost four million deaths in Europe (45% of all deaths). Following the considerable increases that took place until the beginning of the 21st century, CVD death rates are now declining all over Europe, including Central and Eastern regions, where the rise was sharpest [1]. A similar trend has occurred for age-standardized prevalence of CVD, which has dropped considerably over the past 25 years [1].

This is consistent with downward trends of several key CVD risk factors such as smoking, alcohol consumption

and levels of blood pressure and plasma cholesterol, and with the improved screening and treatment of this disease. However, other CVD risk factors, particularly overweight/obesity and diabetes, have increased considerably in Europe in recent years (by over 50% and 25%, respectively, in the last decade), weakening the perspective of maintaining the observed reduction in CVD events and deaths in years to come [1–3].

Food choices are the most important factors undermining health and well-being, accounting for as much as almost 50% of all CVD deaths. According to the Global Burden of Disease Study (GBD), more than 9.1 million premature deaths from CVD worldwide are attributable to diet-related risks – equal to 52% of all CVD deaths in the year 2016 (the most recent year for which information is available). In Europe in the same year, diet-related CVD

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deaths were as many as 2.1 million, accounting for 22.4% of all-cause and 49.2% of CVD deaths and 22.4% of all-cause deaths [4,5].

This picture highlights the optimization of dietary patterns as a powerful tool to subdue the load of CVD worldwide and, in particular, in European countries.

Among the food groups with a stronger impact on CVD burden in Europe, wholegrain plays the most important role, since its inadequate consumption accounts for as much as 20.4% of CVD deaths, followed by a diet low in nuts and seeds, a diet low in fruit and a diet high in salt (16.2, 12.5 and 12.0% of the diet related CVD mortality, respectively) [5].

Thanks to the wealth of scientific reports published on the diet/heart relationship in the last decades, awareness has grown among scientists and health professionals of its importance for the prevention of cardiovascular diseases. Despite some discrepancies between data and controversies in their interpretation, an accurate representation of the available evidence indicates that excessive intake of energy, saturated fat, trans fat, sugar and salt, as well as a low consumption of vegetables, fruits, nuts and wholegrain are leading lifestyle-related cardiovascular risk factors and major reasons for concerns [6–12].

Against this background, already at the beginning of the century, WHO and FAO organized a Joint Expert Consultation on Diet, Nutrition and the Prevention of Chronic Diseases, whereby governments, international agencies and concerned partners in the public and private sectors, were exhorted to undertake more effective and sustainable policies and strategies to deal with the increasing public health challenges related to diet and health [13].

However, looking at the trends of dietary habits in Europe, particularly in the last decade, the picture is not as reassuring as one would have expected given the robustness of the available evidence on dietary prevention of CVD and the prestige of national and international bodies supporting these recommendations on this topic [14–17].

In fact, in the last decade, only minor changes in dietary habits have taken place, in some cases even going in the opposite direction than what should be considered a healthy choice, thus interrupting the favorable trends observed up to the beginning of the new century. This emerges clearly from the analysis of food balance sheet data from FAO, which represent a reliable source of information on the amounts of foods available for consumption; this analysis provides a reasonable assessment of the trends of food intake over time [18]. In the interpretation of these data, it is important to consider that they exceed by roughly 30% the real food intake as they include also wasted foods; this, however, does not invalidate the evaluation of trends, since the percentage of food wasting in Europe has been reasonably constant over time.

In the figure we have reported the foods available for consumption in Europe (28 countries) from the beginning of this century up to the most recent information available. In the supplemental table, we also report, as reference, the mean values for the years 1961–1963, when the data started to be recorded. In order to simplify the access to

the records and avoid inevitable year-to-year fluctuations, we have calculated the average consumption for a three-year period for each food group.

As shown in the figure, fruit consumption has increased substantially across Europe over the past 60 years, in parallel with that of vegetables. Consistent with global trends, the availability of fruit in this period has increased in Europe by nearly 30% with a maximal increase at the beginning of the 21st century, followed by a slow decline thereafter. At the regional level, the sharpest increase was observed in Northern Europe where, however, it has started to slowly decline in more recent years [1,5].

The amount of vegetables available for consumption in Europe increased by 20% on average in the second half of the last century, until a decade ago when it began to drop (see Fig. 1). Historically, southern Europe had the greatest supply of vegetables (twice than in other European regions) and this remained relatively stable until the early years of this century; thereafter, even there it has started to fall decrease [1,5].

While the decline in fruit and vegetables consumption has occurred only in recent years, for energy and fat intake the increase has begun already in the second half of the last century. Nowadays, the increased energy intake is driven mainly by the upward trends in Eastern Europe – where food globalization and nutrition transition occurred later on – and, to a less extent, in Northern and Western European countries.

Fat availability for human consumption has also grown in Europe during this period, but a small decline has occurred in the last decade, particularly for animal fat and tropical oils (data not shown). Once again, the increase in fat consumption has been driven mainly by Eastern Europe, where it has risen by 22% since the beginning of this century, whereas it has remained relatively stable or has even slightly declined in other European countries in the last decade [1,2]. An increased consumption of meat and dairy products has also occurred in the same period, with no indication of a reverse trend in more recent years (Fig. 1).

Other dietary features contributing to the risk of CVD are salt and sugar consumption. Populations across Europe consume at least 50% more sodium than recommended by WHO, i.e., 2 g sodium/day (equivalent to 5 g salt/day). A small reduction has been observed in recent years, but the habitual salt intake is still much higher than recommended [19].

The amount of free sugars consumed in Europe exceeds the levels recommended by WHO (5–10% energy). A significant proportion of free sugars in the diet derives from manufactured foods, such as baked goods, breakfast cereals and sugary drinks. Sugar use in Europe has increased over time and there is no indication of a reverse trend in more recent years (Fig. 1) [20].

Wholegrain consumption in Europe is also rather low, except for Northern countries. Despite a trend towards a greater intake in many European countries, it remains well below the recommended target of 50% of total cereal food consumption [16,21].

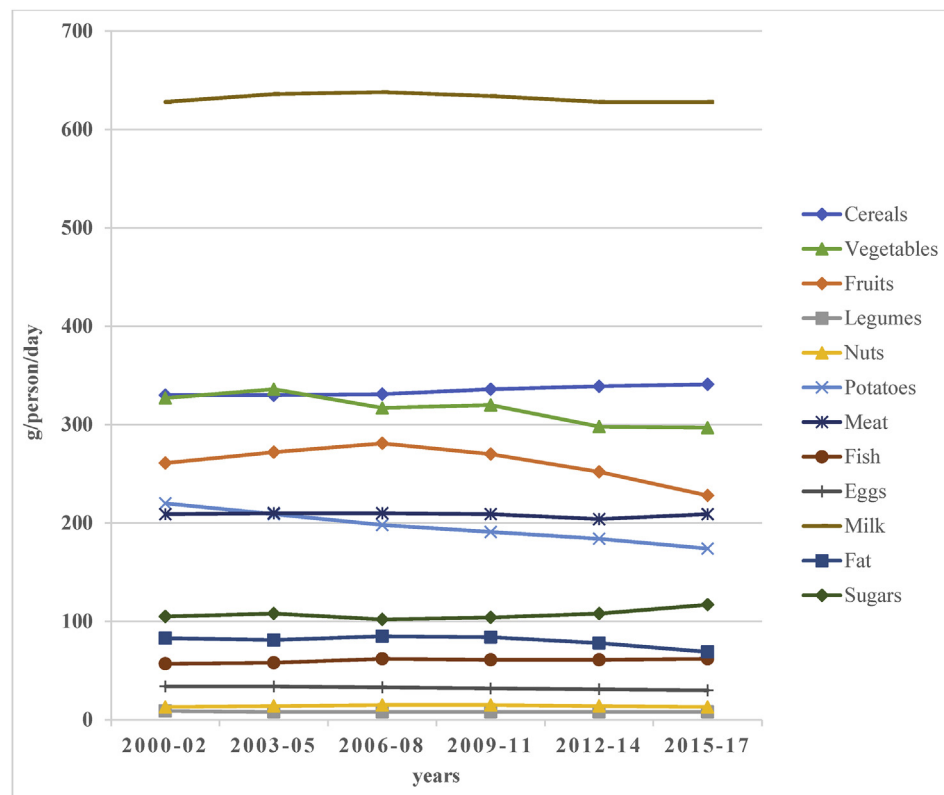


Figure 1 Trends of foods available for consumption in Europe since the year 2000.

Summarizing the available data, it seems clear that dietary habits have drifted away from a healthy dietary pattern all over Europe; this is more evident in the countries surrounding the Mediterranean sea that have experienced a “westernization” of their habitual diet following the process of globalization of food production and distribution [22–24]. The increasing cost of many foods' items typical of the Mediterranean diet that contribute to its healthfulness, represents a key factor in the drift from the habitual food choices of European populations towards less expensive, energy-dense foods with typically lower nutritional quality [25]. In addition, it is also possible that the proportion of older individuals who continue with the traditional dietary habits acquired in infancy is decreasing since the largest part of the population is now represented by younger people who have always been exposed to diet-westernization, and are thus more open to accept eating habits from other cultures [26]. Unfortunately, detailed information about recent dietary trends in Europe in relation to different age groups is not available.

The overall picture here depicted clearly indicates that present dietary habits in Europe do not fit, to a large extent, with evidence-based recommendations and do not seem to have improved substantially in the most recent years. Therefore, it is no surprise that rates of overweight and diabetes remain quite high in almost all countries.

In parallel, while the CVD death rate attributable to dietary risks has dropped in Europe over the last 25 years (except for an increase in Eastern countries), the pace of

the reduction has slowed down in the last few years, with Western Europe showing almost the same CVD age standardized death rate (64/100,000) in the year 2016 as in 2010 (71/100,000) [5].

In conclusion, after the important beneficial dietary changes accounting for the significant fall in age-standardized CVD mortality observed in Europe around the turn of the century, the trends are now slowing down or even reverting. In fact, in recent years a mismatch has occurred between the health-improving potential of the diet and its implementation at the population level. This is regrettable, since a balanced diet is a potential key lever to reduce cardiovascular risk: in 2016, optimized dietary patterns could have prevented roughly one every five premature cardiovascular deaths in Europe [5]. Moreover, a healthy and varied diet plays a fundamental role also in increasing disease-free longevity and improving quality of life [3,4].

Faced with this worrisome scenario, there is urgent need for an appropriate strategy involving the European Union and national governments to increase the awareness of lay people on the importance of food habits in reducing the risk of non-communicable diseases and improve the nutrition skills of health professionals, particularly in primary care. However, nutritional education alone will not be sufficient to change the lifestyle of Europeans, and policy options to be considered should necessarily include initiatives to facilitate production, marketing, availability and affordability of healthy foods in each and every European country [27–29].

Declaration of Competing interest

None.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.numecd.2020.07.018>.

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