

Nutrition and health: eating well, living better

Domenico Cucinotta¹

¹Formerly Full Professor of Internal Medicine at the University of Messina, Department of Clinical and Experimental Medicine, University of Messina, Messina, Italy.

Abstract

The high prevalence of chronic diseases, especially at cardiovascular level and that of the associated metabolic abnormalities such as obesity and diabetes, are the main causes of the poor quality of life and of the high health expenditure that are unfortunately associated with the increased life expectancy of the Western populations. Many scientific evidences have clearly demonstrated that reducing overweight and modifying some dietary habits is a simple and effective way to fight against these diseases, especially if those foods commonly known as typical of the Mediterranean diet, i.e. cereals, legumes, fruit and vegetables, olive oil, fish and a fair quantity of red wine, are preferentially consumed.

KeyWords: nutrition, well-being, obesity, diabetes mellitus, cardiovascular disease

Corresponding Author: Domenico Cucinotta cucinotd@unime.it

Introduction

At the beginning of 2020, JAMA, i.e. one of the most eminent medical journals, published “*A Prescription for Longevity in the 21st Century*”, where “*renewing purpose, building and sustaining social engagement, and embracing a positive lifestyle*” are considered the pillars on which a prolonged and at the same time enjoyable life journey should be built. Specifically, the concept of “positive lifestyle” implies the choice of some basic principles regarding first of all nutrition but also physical engagement and mindfulness (1).

It is well known that life expectancy has progressively increased in the last decades, especially in our country, but it is also known that at the same time there has been an increase in the prevalence and severity of some common chronic diseases. Consequently quality of life is not improved; on the contrary it worsened and, last but not least, health expenditure in Italy for these chronic diseases progressively increased and today accounts for more than 80% of total health costs. This means that quantity and quality of life until now do not move together. What can we do to modify this trend, i.e. to improve not only length of life but also wellness? The answer is simple: we must prevent or delay the onset of these chronic diseases or, if already present, treat it better.

According to the European Observatory on Health Systems and Policies 2019 (2), the main cause of death also in Italy in the adult age is cardiovascular disease and about 50% of people aged 65 or more is affected by at least one chronic disease. Most important, 1/3 of all deaths is linked to modifiable risk factors,

especially wrong eating. Diet deeply affects onset and progression of common chronic diseases, especially obesity, diabetes, dyslipidemia and the linked cardiovascular complications.

Health issue in industrialized world

Obesity is a major health issue in the western world: in Italy more than 10% of adults are frankly obese, i.e. their body mass index, BMI (weight in kilograms divided by height in square meters) is greater than 30 and more than 1/3 are overweight (BMI greater than 25). Another simpler instrument to calculate the degree of excess weight is the measurement of waist circumference, that should not exceed 102 cm in men and 88 in women. In Italy overweight/obesity is more prevalent in Southern regions, in low-income and poorly educated people and it is a great problem also in children and adolescents, with increasing numbers in the recent years (3). Obesity is a major risk factor for cardiovascular disease and death, not only by directly affecting them but also because it is strictly associated with the onset and the progression of type 2 diabetes, another chronic and devastating illness.

Type 2 diabetes, i.e. the form of diabetes which mainly affects adult population and does not require insulin at least at the beginning, according to ISTAT (National Institute of Statistics) in the year 2017 was present in 6% of the Italian population, i.e. it has doubled the percentage observed in the year 1980 (4). If one considers that these data are self-reported and do not account for the undiagnosed or for the preclinical stages of diabetes, it is very likely that more 10 millions of Italians suffer from this disease, which is one of the main causes of cardiovascular morbidity and mortality (5).

Another important risk factor for cardiovascular disease is dyslipidemia and especially hypercholesterolemia, a “silent” killer which in its different forms affects more than 10% of adults also in our country (6). Moreover these diseases, i.e. obesity, diabetes, dyslipidemia and the frequently associated arterial hypertension, have a common pathophysiological mechanism, that is a reduced insulin activity and this explains why they often aggregate in a cluster called “Metabolic or Insulin Resistance Syndrome”, which affects about 1/3 of the Western population and confers a high cardiovascular risk (7).

Healthy eating

As previously said diet, in its essential meaning of healthy eating, is the most effective instrument to prevent, delay the onset and treat all these conditions, first of all obesity. Actually, no drug is able to cure obesity while a correct nutrition, together with an adequate support from physical activity and counselling, can do it for the life-long period (8). Diet has demonstrated to be able to prevent the onset of type 2 diabetes and it is fundamental for the cure of the disease when it develops, alone or together with drugs if necessary (9). Finally, diet plays an important role in the treatment of dyslipidemia, so as in that of other common chronic diseases and cardiovascular risk factors such as hypertension (10).

As a general rule, there are 2 main principles that should be considered when starting or improving an healthy nutrition programme, i.e. to establish not only quantity but also quality of the foods that can be assumed. The first point can be summarized in a simple way: if one needs to lose weight, as it happens in the vast majority of patients with the above-mentioned chronic diseases, one should reduce the total amount of the ingested foods, especially of those with high caloric content, always taking in account that

in most cases a severe caloric restriction is not necessary and it is difficult to follow in the long-term

Concerning food choice, an official and very qualified source of information is the Food and Agriculture Organization of the United Nations (FAO), which periodically publishes food-based dietary guidelines for each country (11). The Italian Dietary Guidelines are released by an institutional task of CREA Food and Nutrition Research Centre (formerly National Institute of Nutrition) and are based upon the Italian recommended dietary allowances (RDAs) published in 2014 (*LARN, Livelli di Assunzione di Riferimento di Energia e Nutrienti per la popolazione italiana, IV Revisione*) and updated in 2018 (12). The main suggestions coming from this source are briefly described below.

Keeping in mind that body weight control is the main objective of a nutritional programme and that physical activity plays an important role in this, the first suggestion is to adequate calories intake to the desired weight, in most cases by reducing it. Concerning food choice, the strong indication is to modify the usual diet habits increasing the daily amount of cereals (especially those derived from whole grain), legumes, fruit and vegetables, i.e. products rich in complex carbohydrates and fiber. At the same time dietary fats should be globally reduced, avoiding saturated fats (i.e. white meat and dairy products) and preferring the unsaturated ones, especially if monounsaturated (olive oil) or polyunsaturated (omega-3 fats or fish oil). Simple carbohydrates (i.e. sugar and sugar-containing products) should be also reduced; alternative non-caloric sweeteners must be used with moderation. At least 1.5 - 2 liters of water should be drunk daily while salt intake should be reduced, e.g. not adding it to the usually cooked foods. Also alcoholic beverages must be limited, preferring red wine in the quantity of 1-2 glasses daily. Finally, proteins should represent no more than 20-25% of total daily caloric intake, with preference for fish or white meat.

Another important indication concerns the number of servings that should be consumed over time, moving from those meals that can be eaten 2-3 times a day (cereals, fruit and vegetables) to those that should be consumed 1-2 times a week (meat, fish, eggs, dairy products). This has led to the popular concept of Food Pyramid, i.e. a graphic representation of what kind and how many times each food can be consumed, starting from the most frequent meals at the base and arriving to the less frequent ones at the top.

Conclusion

Globally considered, these suggestions are the fundamental components of the so-called "Mediterranean diet", i.e. the diet that was usual in Mediterranean countries as Italy, Spain, Greece and North Africa in the middle of the last century and that has been clearly associated with the reduced cardiovascular risk of these countries (13,14). Coming back from the today nutritional habits, unfortunately oriented towards high calories and fats intake, to more healthy foods represents a simple, effective and pleasant way to improve not only the duration but also the quality of our life, and this means that it is possible to have a long and pleasant life if we eat better.

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