Adherence to the Mediterranean diet and cardiovascular risk factors in Sicily, southern Italy

Giuseppe Grosso1,2, Stefano Marventano2, Francesca Nolfo2, Gabriele Giorgianni2, Antonio Mistretta2
1Department of Drug Science, Section of Biochemistry, University of Catania, Catania, Italy; 2Department 'G.F. Ingrassia', Section of Hygiene and Public Health, University of Catania, Catania, Italy

BACKGROUND

There are numerous indications that the adoption of the Mediterranean dietary pattern is associated with decreased all-cause mortality, improvements in cardiovascular risk factors (1). The Mediterranean diet is an eating pattern that naturally confines processed foods to a small portion size and includes a substantial amount of fresh fruits, vegetables, fish, cereals, and nuts, with olive oil as the main source of fat. The high intake of unsaturated fatty acids, low intake of trans fatty acids from meat and dairy products, and a moderate intake of alcohol, suggest that this dietary pattern can protect against in-stability by improving body profiles, glycemic control and insulin sensitivity (2,3). The benefits of the Mediterranean diet have also been attributed to control of blood pressure levels, markers of systemic chronic inflammation, and platelet aggregation (4). The phenomenon of nutrition transition is mainly considered responsible for the on-going trends in Europe (6).

AIM

Studies on nutrition and lifestyles habits in the context of closed environments such as islands is interesting in order to assess if differences among more rural areas compared with industrialized and urbanized areas still exist. In spite of several epidemiological studies that have evaluated the adherence to Mediterranean diet in Europe, to our knowledge, few approaches have tested the adherence to the Mediterranean diet specifically in the islands situated in the Mediterranean Basin, mainly in Spanish, Greek and Cypriot populations. Concerning Sicily, an island in the South of Italy and the biggest of the entire Mediterranean Basin, there are no specific information of food consumption and nutrition transition, from the traditional Mediterranean type of diet to the western diet, and the only available data for Sicilian dietary habits are from melittic surveys. Thus, the aim of this study was to assess the adherence to the Mediterranean dietary pattern of the general population recruited in two urban and rural areas of Sicily, and to assess its potential association with some well-known cardiovascular risk factors, such as obesity, diabetes, and hypertension.

METHODS

SAMPLE

Measurements:
- Weight
- Height
- Waist circumference
- Blood pressure
- Previous diagnosis of hypertension
- Previous diagnosis of diabetes
- MedDiet score

1118 subjects

RESULTS

Because confounding may still exist, multiple regression analysis were performed to test the independent association of hypertension, obesity, diabetes, and the Mediterranean diet score. All models confirmed similar findings in the different strata. Our findings maintains the previously observed inverse relations across the aforementioned factors (5). MedDiet score and waist circumference were inversely associated with higher adherence to the Mediterranean diet (6). High adherence with the Mediterranean diet was finally associated with type (red wine and beer) and quantity of alcohol. Possible interaction of time and place were assessed in similar association with adherence to the Mediterranean diet and cardiovascular risk factors, highlighting the need for further studies drawing closed association with the Mediterranean diet and cardiovascular risk factors.

CONCLUSIONS

We provided new and important information about health status and food consumption in Sicily. In this work we explored the association between the adherence to Mediterranean diet and some cardiovascular risk factors, including obesity, hypertension, and diabetes. We reached the conclusion that despite greater adherence to this dietary pattern was associated with a better health status, the occurrence of cardiometabolic disorders is dramatically high in Sicily. Further studies are needed to better identify the key factors connecting the high adherence with the Mediterranean diet and cardiovascular risk factors. Nevertheless, public health efforts should be taken to decrease the burden of such diseases.