Health Economics

# Evaluation of the mediterranean diet cost in Extremadura: adherence and relationship with available income

Rubini A.[1]; Vilaplana Prieto C.[2]; Yeguas Rosa L.[3]; Flor-Alemany M.[4]; Felix Garcia J.[5]; Aparicio VA.[4]; Felix Redondo FJ.[6]; Fernandez-Berges D.[1]

[1]Research Unit of Don Benito-Villanueva de la Serena Health Area, Villanueva de la Serena, Spain
[2]University of Murcia, Department of Fundamentals of Economic Analysis, Murcia, Spain
[3]University Institute of Biosanitary Research of Extremadura, Badajoz, Spain
[4]University of Granada, Department of Physiology, Granada, Spain
[5]University of Extremadura, Badajoz, Spain
[6]Extremadura Health Service, General Directorate of Health Assistance, Merida, Spain

**Funding Acknowledgements:** Type of funding sources: Public grant(s) – National budget only. Main funding source(s): Carlos III Health Institute - Spain

**Background:** Cardiovascular diseases are the leading cause of death in developed countries. In this context, the Mediterranean diet (MD) is widely recognized as cardioprotective, although its implementation cost has been little studied and rarely employed as an argument for debate.

Although previous Spanish studies have corroborated a higher monetary cost associated with increased adherence to the MD, there exist large disparities among studies, and none of them has related the cost of MD to available income, which is highly relevant for assessing the degree of affordability by families.

Purpose

The aim of this study is twofold. First, to estimate the cost and degree of adherence of the MD in a population of Extremadura. Second, to provide evidence on the cost of the MD in relation to available incomes.

Methods

A population study including 2.833 subjects between 25 and 79 years old (54% women), randomly selected from Don Benito-Villanueva de la Serena (Badajoz, Spain). Diet questionnaire contained 175 food items and 7 items related to alcoholic beverages. Consumption frequencies were translated in terms of grams or millilitres. Price for each item was obtained using price supermarket comparators from the same geographical area. Total monthly cost was obtained using monthly quantities consumed and the price of each category. Final cost was related to Panagiotakos adherence degree and to available income. Data of available income was obtained from the Income Tax Statistics by municipality.

**Results:** Median monthly cost was EUR 203.63 (IQR 154.04-265.37): 216.91 for men and 191.22 for women. Median monthly cost per age cohort showed an inverted U-shape, with a maximum in the 45-54 years-old cohort (EUR 212.1; IQR 155.47-274.63) and a minimum for the 75-79 years-old cohort (EUR 179; IQR 130.21-224.99). Median monthly cost was very similar for primary, secondary and higher educational levels (208.18, 206.57 and 205.70, respectively), but 14% lower for those without primary studies. MD cost was lower in rural compared with urban areas (188 versus 223 euros, respectively)

The percentage of population showing a high MD adherence was 59% whereas the percentage with a low adherence was 12%. The cost associated with a high MD adherence was EUR 228.38.

The average cost represents 14% of the available income, ranging from 10.5% for the group with low MD adherence, to 15.72% for the group with a high adherence.

Conclusions

Higher adherence to the MD can reach almost 20% of the available income. This can lead to low-income families opting for cheaper, energy-dense, and consequently, less healthy dietary patterns. Emphasis should be placed on education strategies to recreate the MD at an affordable price or to introduce changes to consumer taxes (VAT) that favor DM pattern.