

## Longevity hotspot in Sicily. The exploration of a new possible Blue Zone.

Anna Aiello<sup>1</sup>, Giulia Accardi<sup>1</sup>, Giuseppina Candore<sup>1</sup>, Michel Poulain<sup>2</sup>, Calogero Caruso<sup>1</sup>

<sup>1</sup>Laboratory of Immunopathology and Immunosenescence, Department of Biomedicine, Neurosciences and Advanced Technologies - University of Palermo, Corso Tukory, 211, 90134, Palermo, Italy; <sup>2</sup>Estonian Institute for Population Studies, University of Tallinn, Tallinn, Estonia.

We are conducting a survey in some mountainous Sicilian populations, particularly in villages sited in the Palermo province, part of the Madonie Park. To ascertain the true longevity rate, we checked the born and death registers, analyzing about 37,000 newborns between 1881 and 1917 in a sample of five small municipalities located in Madonie. About 1,700 individuals died at the age of 90 years and over, and about one hundred were centenarians. Therefore, the probability to reach 90 and 100 years old was of 4.6% and 0.22% respectively. Accordingly, we observed significant lower mortality rates for all causes of death when compared to those measured in Palermo town. Therefore, the population of these municipalities is experiencing a higher longevity as compared to other places in Sicily and in Italy.

Considering the healthy conditions of the population and the low rate of mortality, a total of 42 (14 males and 28 females) long-living individuals (LLIs) ( $\geq 90$  years, mean age 97) were recruited between Madonie municipalities and Palermo city. A group of trained nutritionists administered a questionnaire to collect demographic data, cognitive and health status, clinical anamnesis, eating habits, and drug use, and the history of major age-related diseases were accurately reported.

Regarding the social and psychological aspects, 35 of 42 analysed subjects lived with their offspring or with spouse. Only 4 lived in retirement home and 3 with in-home nurse. The Geriatric Depression Scale was administered to 27/42 subjects with medium score of 5.44 (not depressed). The Mini Mental State was administered to 33/39 LLIs with medium score of 19.26 (cognitive impairment from moderate to mild). Most of LLIs attended few years of primary school and 6 had a high school (and University) education.

About the life-style, the ex-smokers were 9/42 and the alcohol consumption was limited, in few cases, to red/white wine. Concerning the eating habits, nobody consumed red meat more than once a week, whereas almost all consumed plant foods several times a week.

This study represents a picture of longevity in Sicily with the limitation of the small sample size. So, further recruitment and demographic studies are needed to validate the Blue Zone and the possible explanation of the extreme longevity.

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### *Reference*

Accardi G, Aprile S, Candore G, Caruso C, et al. Genotypic and phenotypic aspects of longevity: results from a Sicilian survey and implication for the prevention and the treatment of age-related diseases. *Curr Pharm Des.* 2019; 25: 228-235.