

THE BLUE ZONE OF SARDINIA: AN INTERGENERATIONAL EPIDEMIOLOGICAL STUDY ON NUTRITION AND ITS APPLICATION IN PUBLIC HEALTH

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ABSTRACT:

This doctoral work addresses a new paradigm, Blue Zone. The Blue Zone concept is integrated into what has been called population longevity: “areas where the population is characterized by a significantly higher level of longevity compared to neighboring regions, provided that this exceptional longevity of the population has been fully validated”. Currently, four Blue Zones have been identified and validated: Okinawa (Japan), Nicoya Peninsula (Costa Rica), Icaria (Greece) and the central region of Sardinia (Italy). The predominant characteristics of each Blue Zone are analyzed within the selected longevity determinants. The Blue Zones Project® public health project, developed in the United States and based on studies of the Blue Zones conducted by D. Buettner with National Geographic, is described.

Once the Blue Zone concept is placed in a specific framework, the thesis is focused on the Blue Zone of Sardinia as a positive nutritional model. It starts from a historical description of the diet of the centenarians of Sardinia up to the nutritional transition and the diet of the new generations to see the degree of intergenerational integration. Finally, the diet of the child population from the longevity epicenter, the town of Villagrande Strisaili (lowest rate of overweight and obesity on the island) is compared with the diet of an urban school group, the city of Sassari.

For the study of the centenarians of Sardinia, a structured search of the literature on nutrition is used (from the end of the 19th century to the middle of the 20th century) the historical results show a strong adherence to products derived from its local economy, mainly sheep and goat dairy and cereals.

The nutritional transition is described as a regulatory factor in the monotony of the traditional diet and the influence of the new generations in the adoption of a more diversified diet. For the study of the current nutritional habits of the child population of Villagrande Strisaili and Sassari, the daily eating habits are analyzed in a survey. The results of the comparative study of the two child populations show that the diet in the children of Villagrande Strisaili is more balanced, according to current standards.

The divergence of the nutritional model of Sardinia is observed with respect to the nutritional parameters on which the Blue Zones Project® is based in the United States.

CONCLUSIONS:

- Importance of placing the Blue Zone concept in a specific framework.
- The main feature of pastoral society is extremely healthy aging with maximum use of natural resources.
- The efficient integration of the transition diet into their traditional diet led to a rapid improvement in the health of the centenarians.
- The vegetarian or mostly plant-based diet, the consumption of red wine and the caloric restriction are not part of the determining factors of longevity in Sardinia.
- Villagrande students have a more balanced and higher quality nutrition than those of Sassari, showing a good intergenerational exchange.
- More studies are needed to assess current policies in public health and nutrition that highlight the importance of regulating diet in childhood and old age. The bibliography details the articles referring to: the Blue Zones, the historical literature on nutrition from Sardinia and the specific studies on components of the Blue Zones diet.

KEYWORDS:

Blue Zones, Population Longevity, Blue Zones of Sardinia, Nutrition Transition, Childhood Health, Childhood Obesity, Calorie Restriction, Mediterranean Diet.