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Abstract Title:

Malta and Gozo: One Archipelago, two populations ?

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Abstract

Background

The Maltese archipelago islands of Malta and Gozo are separated only by 5km - a 20-minute ferry ride. The populations of both are expected to have similar demographic, biochemical and anthropometric characteristics even though there is a historic report of the repopulation of Gozo in 1561. They also share the same state health policies and strategies. The aim was to compare demographic, biochemical and anthropometric characteristics of both islands and evaluate any metabolic associated risks from residing in any particular island.

Method

The University of Malta conducted an adult health examination survey between November 2014 and November 2015. A validated socio-demographic questionnaire was used and validated anthropometric (BP, weight, height, waist and hip circumference) and biochemical (fasting blood glucose, lipid profile) measurements were taken.

Non-parametric statistical tests were performed using SPSS programme. The biochemical and anthropometric median variables were compared between both populations. Multiple regression analysis was performed to evaluate whether statistically different biochemical and anthropometric variables had an associated risk in each island after adjustment for confounding variables (age, gender and social class).

Results

The total weighted population attending the survey was 3947 adults (48% response rate), among whom 91.34% (CI 95%: 90.42 – 92.19) participants resided in Malta. No significant difference was present between both populations by gender ($p=0.482$) although there were differences for age and education. Gozitan residents exhibited significantly higher levels of fasting blood glucose, LDL-C, Total Cholesterol, systolic and diastolic blood pressure measurements and higher waist-hip ratios (WHR), than the habitants of Malta and these held after multi-variant regression analysis which also established an associated increased risk for having an elevated LDL-C, Total Cholesterol levels, elevated systolic and diastolic blood pressure and elevated WHR for Gozitan residents as compared

to Maltese. This held significant after adjustment for age, gender and education levels. An associated increased risk for having impaired fasting blood glucose was also present for the Gozitan residents although no association found for diabetes mellitus after confounder adjustment.

Conclusion

Gozitan residents exhibited a higher risk of having metabolic abnormalities than those living in Malta. This is of public health concern and requires preventive action.

Message

1. The Maltese and Gozitan population are metabolically different from each other even if they are geographically within the same region.
2. Appropriate preventive action is needed in Gozo to address the greater burden of metabolic diseases.