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Abstract

Longevity in small areas and their socio-economic, demographic and environmental characteristics: a Hierarchical Bayesian Approach

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Recently, Graziella Caselli e Rosa Maria Lipsi have identified isolated pockets of longevity areas (often coincident with small mountainous and hilly areas) in some Italian regions as Sardinia, Sicily and Campania. To investigate geographical longevity they reconstructed the standardized mortality ratio (SMR). By referring to SMR, to overcome the high variability among municipalities of the same size they used a Kernel smoothing method. The maps obtained using the new indicators showed groups of municipalities that shared homogeneous mortality patterns.
The first aim of this study is to overlap the longevity areas obtained with the mentioned kernel smoothing method with those obtained by using hierarchical Bayesian spatial models, considering that, the last ones, as recently pointed out by many authors, make more consistent inference on the geographical variation of a phenomenon. *The second aim* is to apply the Bayesian approach to the spatial analysis of the socio-economic, demographic and environmental characteristics of the small areas of longevity in order to verify the hypothesis of the positive effect on longevity for Elderly living in small municipalities.