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Trend in Mortality from Circulatory System Diseases According to Population Density in Spain

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Abstract

The objective of this study is to estimate the trend in mortality from circulatory system diseases according to the population density of the province of residence in Spain between the years 2001 and 2019. We selected all deaths assigned to the International Classification of Diseases (ICD-10) for total circulatory system diseases (I00-I99). The population and number of deaths according to age, sex and population density of the province of residence have been obtained from the National Statistics Institute. The provinces have been grouped into five categories based on their population density: less than 23.7 inhabitants per km2 (density 1), between 23.7 and 49.6 inhabitants per km2 (density 2), between 49.7 and 102.2 inhabitants per km2 (density 3), between 102.3 and 220.3 inhabitants per km2 (density 4) and more than 220.3 inhabitants per km2 (density 5). We calculated the mortality rate from 2001 to 2019 for each density group and in both sexes. The mortality trend from all circulatory system diseases during this period was calculated using the mean annual percentage change (APC).
Between 2001 and 2019, the APC in all causes mortality rate in the provinces of density 1,2,3,4 and 5 was respectively -2.4%, -2.9%, -3.2%, -3.1% and -3.6% in men and -2.8, -3.3%, -3.6%, -3.4% and -3.9% in women.
The provinces with a higher population density showed a greater decrease in circulatory system diseases mortality than those provinces with a lower population density.

Keywords: Circulatory Diseases; Mortality; Population Density; Spain; Trend