Long-term Estimation of the Prevalence of Obesity in Argentina

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Background

The prevalence of obesity is increasing in Latin American more rapidly than in developed countries, and, together with malnutrition, is a contributor to mortality. Although it is necessary to know how obesity rates evolve in order to implement public health policies, so far in Argentina there are no studies to make a projection of the situation in the future.

Objective

To estimate the evolution of the prevalence of obesity in the adult population in Argentina through a simulation model based on the trend of the last years.

Material and Methods

We developed a conceptual model and a stochastic system based on the obesity data previously published to represent the number of obese adults and the prevalence of obesity at 20 years. The information was taken from three local population-based studies which included the prevalence of obesity across the different years since 1991. The prevalence of obesity was also determined with three statistical adjustments (linear, exponential and logarithmic regression models) in order to make comparisons.

Results

Based on a current prevalence of 20%, the simulation model estimated that the prevalence of obesity in adults in Argentina will be 25.9%±2.75% (median: 26%, range: 18.0% to 32.0%) in 2027, representing 5,431,000±554,000 obese subjects (median: 5,421,000 people, range: 3,605,000 to 6,631,000 people). These results were consistent with those obtained after performing statistical adjustment and projection methods.

Conclusions

The model allowed the estimation of the prevalence of obesity at 20 years in Argentina. We found a prevalence in adults that was similar to that obtained with other types of traditional statistical projection models. The validity of the estimation will only be determined according to future observations of the evolution of obesity. Finally, the model might be useful as a test bench to analyze and select the best therapeutic or prevention strategies against obesity.