

Cardiovascular disease and high blood pressure trend analyses from 2002 to 2016: after the implementation of a salt reduction strategy

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Abstract

Background

Cardiovascular disease (CVD) is the leading cause of death around the world; however, many CVD events could be prevented if we focused on modification of the main risk factors. Increased salt consumption is estimated to have caused millions of deaths, mostly related to CVD, particularly stroke, which is the leading cause of death in Portugal. In our study, we aim to assess trends in the proportion of high blood pressure (HBP) in Acute Coronary Syndrome (ACS) patients as well as the trends in stroke and ACS in Portugal, especially after a set of public health initiatives were implemented to reduce salt intake.

Methods

The monthly proportion of ACS patients presenting with previously diagnosed HBP and the monthly rate of CVD admissions into public hospitals in Portugal were calculated. CVD rates were stratified into ACS rate and stroke rates. Data were stratified by demographics variables. An interrupted time-series model was used to assess changes over time.

Results

Breakpoint analysis revealed an estimated breakpoint around the year 2013 for the proportion of HBP patients, the following year there was a decreasing trend, however it was not significant. Analyses showed the trend before 2013 was increasing and started to decrease after this year. This decreased in proportion of HBP patients can be translated into a reduction of 555 people per year presenting with HBP in the ACS population.

We analysed trends for ACS and stroke and tested the significance for a breakpoint in the year 2013. Although none of the remaining trends were significant for ACS crude rates and stroke crude rate, a decreasing trend was observed.

Conclusions

This research provides an indication about the impact a population-wide approach to CVD risk factors has on CVD trends themselves. Our results suggest that population-wide approaches can have an impact on the prevention and improvement of CVD control, reducing the number of CVD events, and eventually reducing premature death by CVD. As more restrictions on salt intake are being planned in Portugal in the next years, it is highly relevant to assess what is the current panorama and what further reductions we can expect.

Keywords

Cardiovascular disease High blood pressure Population wide-approach Public health