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Analysis of trends in prevalence, awareness, treatment and control of high blood pressure in Portugal: Examples of successful interventions against hypertension

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Essential hypertension is currently the major driver for cardiovascular (CV) morbidity and mortality worldwide. Indeed, high blood pressure (BP) levels are strongly and independently related to high risk of major CV events, including coronary artery disease, stroke, congestive heart failure and renal disease, compared to normotension[1,2], while solid evidence demonstrates that BP reductions below the recommended targets of 140/90 mmHg reduce the risk of developing hypertension-related complications and improve event-free survival in treated hypertensive patients at high or very high CV risk[3-7].

In view of the progressive ageing of the population, the large prevalence of the disease in adult and, mostly, elderly individuals, as well as in view of the mounting socio-economic impact and the potentially life-threating consequences of uncontrolled BP, closer attention has been paid to this condition, in order to plan educational and therapeutic campaigns aimed at improving awareness and ameliorating treatment and control at national and local levels. For these purposes, several reports on hypertension prevalence, awareness, treatment and control have been made available in the United States[8], China[9], Italy[10], Portugal[11]and in many other countries[12] over the last two decades. These surveys appear to be very useful, since they permit repeated and comparable cross-sectional analyses, estimation of the disease burden for healthcare systems, and evaluation of the effectiveness of educational interventions and therapeutic actions aimed at improving patients' awareness and physicians' clinical management of hypertension in different time periods.

As an example, in Italy we were able to show relatively poor BP control rates among treated hypertensive patients included in a systematic analysis of observational studies performed in real-life practice[13]. At a national level, a trend toward improvement in BP control was observed in a subsequent analysis of a large sample of hypertensive outpatients, mostly followed by general practitioners[14]. Following these observations, several calls-to-action and educational interventions were proposed to improve hypertension management and control with the aim of achieving 70% of patients within BP target values by 2015[15]. Such an objective appeared to be feasible both on the basis of BP control rates achieved in large randomized controlled trials performed in the setting of general practice[16,17], and on the basis of data generated in other national campaigns[18-21]. Indeed, two recent independent ad interim analyses have reported very promising results, reporting that

BP control rates rose to 60% of treated hypertensive patients.

As observed in the Italian experience, a recent analysis showed similar positive trends in hypertension awareness and control in a representative sample of adult individuals in Portugal (Figure 1)[22]. In this population-based cross-sectional survey, hypertension was recorded in about 44% of the overall population sample and BP control was achieved in about 57% of treated hypertensive patients. The study has several strengths and potential clinical implications. First of all, it includes a predominant proportion (52%) of women, which have been traditionally under-represented in this kind of epidemiological analysis on hypertension[22]. Secondly, it incorporates in the study protocol the systematic assessment of 24-hour urine sodium and potassium excretions and their correlations with BP levels and control, thus showing that 24-hour urinary sodium was higher in patients with hypertension than in those with normotension (185.4±64.8 vs. 177.8±64.5 mmol/day; P<0.02), without significant differences between controlled and uncontrolled hypertensive patients[22]. Finally, despite a similar prevalence of hypertension, it shows a marked and significant increase in high BP awareness, treatment and control not only compared with previous analysis performed in 2003, but also between baseline (visit 1) and final (visit 2) observations performed during a limited time frame (10-15 day)[22]. This implies that the simple inclusion in an observational study protocol might improve physicians' attention and patients' awareness with regard to the clinical management of hypertension and ameliorate the overall rates of BP control, as previously observed[23].

As expected, this study protocol has some intrinsic limitations that should be considered, mostly including the descriptive nature of the survey; the relatively limited sample size not fully representative of the whole national population; the different methodologies applied for measuring BP levels during the different time periods. Despite these aspects, however, these observations confirmed that BP control rates can be improved with respect to those reported in previous surveys[11], as well as in other analyses made available in the country[24], thus confirming a favourable positive trend in the rates of BP control achieved in Portugal and in other countries over the last few years[25].

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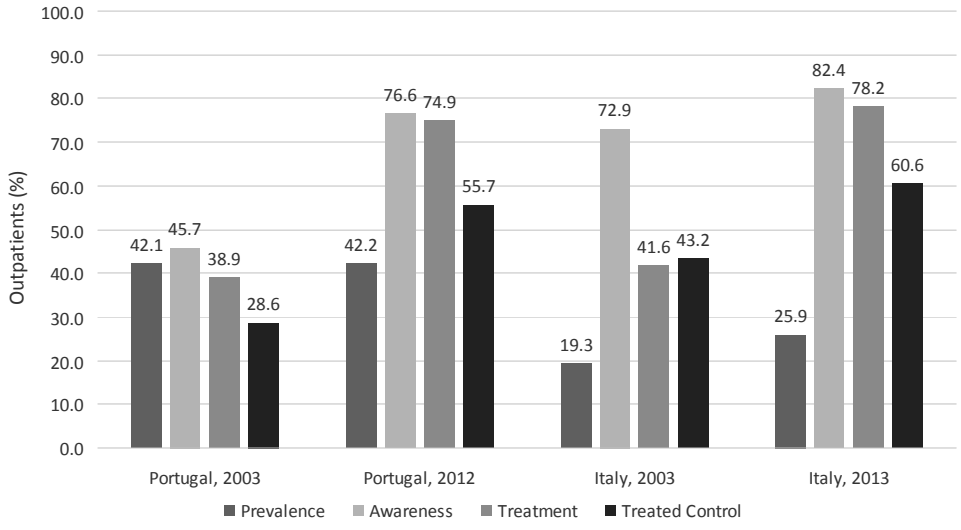
Figure 1

Prevalence, awareness, treatment and control of hypertension reported in two subsequent analyses performed in Portugal and Italy, respectively. Data are derived from the following references: Portugal, 2003[11]; Portugal, 2013[22]; Italy, 2003[26]; Italy, 2013[27].



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