



EDITORIAL COMMENT

The importance of lifestyle in the hypertensive patient on medication



O impacto do estilo de vida no doente hipertenso medicado

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The Framingham Heart Study,¹ a longitudinal study that has followed the same population for at least six decades, established that hypertension is a major cause of cardiovascular events (coronary events, stroke, renal disease, and heart failure).^{1,2} The study also identified an association between other risk factors and lifestyles and blood pressure.^{1,2}

The cross-sectional INTERHEART Study³ analyzed the effects of potentially modifiable risk factors associated with myocardial infarction in 52 countries in a sample that was representative of every inhabited continent. In these countries, even with different levels of development, cultures, customs and habits, all nine risk factors analyzed played a role in the occurrence of myocardial infarction.

In a cross-sectional study published in this issue of the *Journal*,⁴ Rui Salvador et al. analyze the effect of non-pharmacological therapy and lifestyle variables (smoking, alcohol consumption, added salt intake, fruit and vegetable consumption and physical activity) in hypertensive Portuguese individuals on medication, in a substudy of the first Portuguese National Health Examination Survey (INSEF).⁵ INSEF was a cross-sectional observational epidemiological population-based study representative of the resident population in Portugal in 2015, aged 25-74 years. After pre-

selection, 7784 individuals were selected, of whom 4911 agreed to participate.⁵ Rui Salvador et al.'s study included 1277 participants from the initial sample, characterized by being hypertensive and on medication stabilized at least two weeks before the study interview.⁴ Blood pressure was obtained on a single occasion after 5 min of rest; three consecutive BP readings were obtained and the mean of the second and third readings were used. Participants completed a standard questionnaire on their added salt intake, fruit and vegetable consumption, alcohol consumption, smoking and physical activity level, and anthropometric data were obtained. The main conclusion of the study was that of all the lifestyle patterns analyzed, alcohol consumption and smoking were significantly associated with systolic blood pressure in hypertensive medicated Portuguese men, both obese and non-obese. No such relationship was found for women. Even considering the study's limitations, the authors claim that there is a need for public health strategies aimed at this population, specifically targeting these two habits.⁴

Despite these results, the study fails to consider other lifestyle patterns that were not analyzed in it, but that have been proved to be linked to blood pressure¹⁻³ and to cardiovascular disease.¹⁻³ Do these not affect this patient population? What about women?

It is essential to study the habits, lifestyles, and health of the Portuguese population, particularly the hypertensive population, and to know the proportion of them who

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are prescribed medication and their adherence to medical and non-medical therapy.⁶ It is clear that alcohol consumption and smoking are common in Portuguese men and need special attention. The less than specific conclusions of Rui Salvador et al.'s study may be due to the difficulty in defining boundaries. For instance, when the participants were asked about their alcohol consumption in the last 12 months, if they had answered that they had had one drink in that period, would this have had the same weight for the study as if they had had 10 drinks a day? Certainly these two quantities of alcohol will not have the same impact on blood pressure. The European Society of Cardiology and European Society of Hypertension guidelines⁷ state that alcohol worsens hypertension, and sets an acceptable maximum consumption of 14 units per week for men and 8 units per week for women. A recent meta-analysis⁸ assessing the effect of alcohol consumption on blood pressure in relation to gender found a linear correlation between alcohol consumption and blood pressure elevation in men, but in women this phenomenon was only observed for more than two drinks a day, below which there was no increased risk. The same methodological question could be posed for salt consumption, smoking, and physical activity, and in fact the authors admit that these constitute limitations of their study. This raises important issues. Did the authors obtain answers for all aspects of the objectives they proposed in the study? Might other answers have been obtained? Nevertheless, the study's results provide valuable information that can be used to help promote public health actions aimed at the general population.

These days general information and knowledge is freely available, but even so, each country has its own customs, beliefs, traditions, literacy levels, funding levels, and access to health care. As a result, we are all 'the same but different'. Knowledge of these differences is essential to choose options that are more likely to deliver a personalized national health system that is appropriate to the model of each country.

Conflicts of interest

The author has no conflicts of interest to declare.

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