EDITORIAL

Is Hypertension Control Improving in Argentina?

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Marin et al., in a paper that is published in this number of the Journal (1) have found that one third of a sample of adults (mean age ~ 40 years) from various cities in Argentina have pressure values of ≥140/90. Although the work does not strictly correspond to a population sample, since measurements were carried out in patients who attended to paperwork to delegations of the Federal Police, the overall prevalence of high blood pressure (HBP) (33.5%) is within the range of those previously published in population samples from different regions of our country in the last 20 years: Province of Buenos Aires 32.7% to 39.8%, (2-4) Rosario 34.7%, (5) Cordoba 29.9%, (6) four cities in the central area 27.9% to 43.6% (7) and Ciudad Autònoma of Buenos Aires (CABA) 29%. (8) Also sex-specific prevalence (41.7% in men and 25.7% in women) and age (shown in Table 2) were reasonably similar to those published in previous studies.

The criteria used to define blood pressure (BP) varied widely among the cited studies, from the average of three measurements on two occasions (2, 4) to the average between the second and third measurement (discarding the first one) as in the study at hand. This fact could be an explanation for the discrepancy found in reported prevalences. However, as it is shown by the authors in Table 3, and despite having used the same methodology, there were almost 10 points of discrepancy between the lowest prevalence (28.1% CABA) and the highest (37.2% Mendoza) . The fact that the discriminated ages are not displayed by the various cities of the study, limits the analysis. However, differences among cities with more than 10 points, using the same methodology, it had already been observed in the De Sereday et al. study. (7) This heterogeneity in the prevalences is of undoubted epidemiological interest, both for the calculation of the burden of disease associated with BP as to the search for explanations and strategies of specific intervention to each city or region.

Even though, to exactly define prevalence of HBP in Argentina and its regional differences would require a national survey with a sampling methodology and homogeneous definitions, the Marin et al. study confirms that Argentina remains today a country of mean-high prevalence of HBP. It should be understood that HBP of epidemiological studies should not be considered equivalent to the diagnosis of HBP in clinical practice. However, it is a useful assessment of the magnitude of the problem to be faced from the perspective of public health. Studies such as Marin et al., based on direct measurements of BP, should not be replaced or compared with self-reported prevalence surveys as the National Survey of Risk Factors, since, as it is shown in the work and in previous publications, 40-50% of hypertensive patients do not know their condition. (9)

A significant proportion of morbidity and mortality attributable to BP due to BP levels that are below the formal (and arbitrary) threshold of HBP (≥140/90mm Hg). (10) Therefore it is of interest not only to analyze the prevalence of HBP, but also know the mean pressures of the sample, especially when it has been proved that it is possible to reduce the pressure of a community applying on it measures appointed to stimulate a style of healthy life. (11) The authors show them in Table 2, by sex and age. Although different survey methodologies (sample design, definition of BP and different age groups) limit the possibility of making comparisons, the mean BP values seem substantially lower than those referred 20 years ago by Echeverria et al., (2) in especially in the older age groups. The apparent paradox of mean values of lowest BP with almost identical prevalence of HBP (32.7% vs. 33.5%) could be explained by the combination of reduced pressures on the entire community and lower pressures in treated hypertensive patients.

Perhaps the most interesting data are those related to levels of awareness, treatment and control of HBP, which should be analyzed in two aspects. Firstly, the levels of awareness (62.8%), treatment (56.2%) and control (26.5%) are higher than those reported in studies of previous decades (Figure 1), the fact of having rejected the first take, usually the highest, may overestimate to some extent the differences found in the control with those studies that used the average of three determinations. Secondly, it should be mentioned the observed heterogeneity among the different cities in the Marin et al. study in the awareness, treatment and control. They should be noted the very low levels of awareness, treatment and control in Neuquén (37.2%, 31.0% and 11.5%

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respectively), despite a developed system of primary care, and in Mendoza (52.4 %, 47.7% and 18.1% respectively). Furthermore, it is noteworthy that northern cities (Tucumán, Chaco and Corrientes) showed a control of ~ 30%, while in CABA, which concentrates the greater availability resources, was only of ~ 25%. Thus, the improvement in HBP control in respect of previous decades was not observed to the same extent in all subsamples of the study, the mechanisms that explain these differences seem complex and, at least partially, independent of other indicators of development.

A slightly different view to see the data is analyzing what we might call 'effectiveness of the treatment', defined as the percentage of treated patients who are controlled, this value somehow, reflects the attitude of physicians before the control goals. In the Marin et al. study, 47.2% of patients receiving antihypertensive drugs had a BP of <140/90 mm Hg, higher percentage than that found in studies of the eighties and nineties (between 12% and 30%) and similar to that referred to CABA in the late 2000 (see Figure 1). (12) As in the case of control, Tucuman (58.3%) and Chaco and Corrientes (53.0%) showed the highest values of efficacy and Neuquén, the lowest (35.9%). Although, HBP control and effectiveness of treatment are related and are in the same sense, the most important actions to improve them are different. Thus, a hypertension screening program may improve control, but only the wide accessibility of antihypertensive patients associated with increased conviction of physicians and patients of the benefits of achieving tight control of BP may improve efficiency. The low use of combinations of drugs and diuretics observed in the study could be limiting the possibility of achieving better control of BP.

A recent publication based on data from the National Health and Nutrition Examination Survey (NHANES) 2007-2008, allows us to appreciate how far we can get when control of HBP becomes a national goal. (13) It is reported levels of awareness of 80.7%, treatment of 72.5% and control of 50.1%, and ~ 70% of treated hypertensive patients achieved a BP of <140/90 mm Hg, similar effectiveness to that reported in controlled clinical studies. (14)

In conclusion, the Marin et al. study provides updated data on the epidemiology of HBP in Argentina. Although many methodological issues limit the accuracy of comparisons with studies of past decades, it would seem that the prevalence of HBP is stable, on the contrary, the mean levels of pressure and control seem to have improved, although the achieved level of control is even far from the theoretically possible one. There are notable regional differences and their analysis and explanation are of undoubted interest.

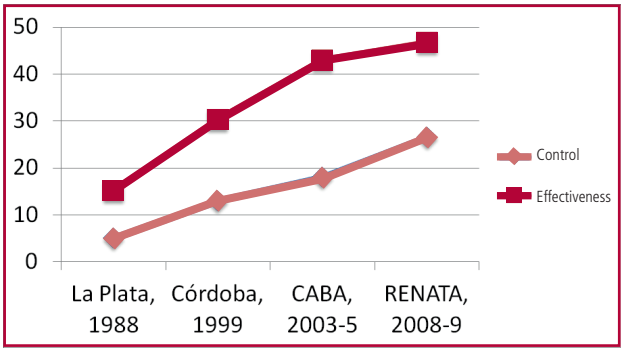

Fig. 1. Control (BP <140/90 mm Hg / hypertensive patients) and effectiveness of treatment (BP <140/90 mm Hg / treated) in studies of large cities in Argentina, published in the last 20 years. CABA: Ciudad Autònoma de Buenos Aires. RENATA: REgistro NAcional de hiperTensión Arterial (NAtional REgister of hiperTension)

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