

# The Control of Blood Pressure Worldwide: A Glimmer of Success

## Editorial

When a researcher in a specific field of medicine, as blood pressure is, writes an editorial, according to my personal opinion, should ask to himself the significance and possibly relevant implications of the topic to be treated and its spread among the world population in an attempt to provide useful information related to individuals' health. Beginning from this assumption, there is evidence that two questions mainly arise: What do hypertensive individuals to control their blood pressure, and what is the current attitude to achieve this control? My purpose is to briefly clarify the response by this editorial.

It has been undoubtedly established that hypertension is one of the major risk factors for cardiovascular disease and stroke ranging from 40 to 55% of individuals with uncontrolled blood pressure. In addition, because of population growth and ageing, the number of people with uncontrolled hypertension rose from 600 million in 1980 to nearly 1 billion in 2008 [1]. In a very recent past, I wrote an editorial [2], which analyzed the current approach to hypertension treatment, concluding that a few progresses in the therapy of hypertension could be observed, but were of weak importance and with a future far to be solved for the hypertensive patients.

Before the current editorial, however, a very interesting paper of Moser & Roccella [3], based on a carefully established programs of public health involving several health organizations and experts in the field, achieved the conclusion that hypertension was the most important reason of adult medical visit and a statistically significant decline by 70% for heart disease and 80% of the stroke was seen in controlled hypertensives despite a substantial increase in obesity and diabetes in the United States. Undoubtedly, these dramatic data support the need to control blood pressure values. Moreover, the 2014 updated guidelines of the American Society of Hypertension [4] achieved almost similar results.

Evidence clearly indicates that these two reports [3,4] enrolled and analyzed a very significant number of hypertensive individuals, were precisely tested by statistical methodologies and, in addition, all tested parameters in the study population were age-adjusted and corrected. Therefore, the results and conclusions of these findings are worthy of a large remark. It is worth noting that, although the number of study subjects is largest, nevertheless scarcely represents the real expansion of the hypertension worldwide. However, the careful statistical estimate, which corrected all confounding bias, permits to do accepted the results obtained. Beside these encouraging observations, there have been and are reports [5-7] that support opposite conclusions.

A dilemma about the behavior to be followed in case of hypertension associated with heart failure, which is the end-

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stage of a large number of heart disease, raises the study of Georgeopoulou et al. [5], which, in addition, described no certain results could be seen in pharmacologically treated patients together with poor control of blood pressure. Caskey et al. [6] reported a failure of losartan to control blood pressure in a case of scleroderma renal crisis, in whom other ACE-Inhibitors were able to do that. This fact clearly shows the different responses in the control blood pressure may exist in hypertensive individuals using the same class of drugs, a factor suggesting that each hypertensive individual has to be carefully tested before administering its appropriate drug.

Poor adherence to antihypertensive therapy [7] is a major cause of lack on blood pressure control. The authors of the paper emphasized how retrospective analyses indicated that approximately 40% of patients with newly diagnosed hypertension will discontinue their antihypertensive medications during the first year of treatment. In addition, during 5 to 10 years of follow-up, less than 40% of patients persisted with their prescribed antihypertensive treatment. However, evidence would indicate that poor adherence to the therapy was less common among patients who were followed-up by specialists. Generally, unsatisfactory results characterized hypertensive patients of this study.

The analysis of the results examined undoubtedly allows the answer to be given to the first question raised in this editorial: Generally, hypertensive patients weakly comply with the severe guidelines to control their blood pressure because these are often unknown to themselves. As reported by the excellent review of Salvetti and Versari [8], there is evidence that blood pressure is poorly controlled in overall hypertensive patients worldwide, and this is closely due to lack of awareness of hypertension,

untreatment of aware patients and poor blood pressure control in treated patients. In this context, the role of the physicians should devote greater attention mainly to systolic blood pressure as a key parameter to identify and treat, or adjustment of treatment, those patients with different values of blood pressure.

With regard to the second question, it is worth noting that the current attitude to control blood pressure relies on several factors, mainly related to the degree of knowledge that the harmful effects of hypertension may exert as well as to the sociocultural dimension of the problem [9]. An individual, often in well-being, occasionally knows to be hypertensive during a routine medical control. It is worth noting that a large number of these subjects do not take into account this fact, at least, up to a recent past. In addition, discontinued antihypertensive therapy initially characterizes the newer patients. Thus, an interesting paper [10] underlines that, although general knowledge and awareness of hypertension treatment is adequate, patients do not have a comprehensive understanding of this condition. For instance, patients do not recognize the importance of elevated systolic blood pressure levels or the current status of their blood pressure control. In addition, the continuing changes in the values beyond which a subject is hypertensive contributes to generate further confusion.

According to the guidelines of some Hypertension Societies [11,12], the goal of treating hypertension is to reduce blood pressure anyway, and several clinical trials even suggest a blood pressure of 115/75 mmHg as the optimal value requiring no type of therapy. Values of 130/85 mmHg or less (120/80 mmHg, in case of other cardiovascular risk factors associated, primarily diabetes mellitus) have been judged to be accepted. However, empiric evidence indicates that these values are believed to be too low and even harmful by a large majority of individuals, particularly if in advanced age. From these observations, there is evidence that a poor blood pressure control in the hypertensive population undoubtedly exists and it is due to lack of diagnosis, lack of treatment and low efficacy of the same with a different impact of these three factors in relation to variables depending on individuals' behavior [13-15]. In addition, the large and continuously updated number of antihypertensive drugs, might contribute to generate confusion in those subjects not completely satisfied with blood pressure outcome.

## Conclusion

In conclusion, what is my point of view of this editorial? A glimmer of success in the control of blood pressure? Undoubtedly yes: this cannot be denied, but still kept down by the scarcely consistent results obtained in several findings. My personal opinion is other studies, mainly large-scale studies enrolling the largest number of hypertensive individuals, should be developed, since the problem of the blood pressure control, still fluctuates between enthusiasm and depression strongly related to the results issued. In addition, a more active attendance at the control of blood pressure by both population and physicians should be necessary in an attempt to obtain better and more consistent results.

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