Hypertension in Latin America
Special Report

LUIS RUIZ, M.D.
Regional Advisor in Chronic Diseases, Adult Health Program,
Pan American Health Organization

JOHN B. DUNBAR, D.M.D., DR.P.H.
Executive Officer, Inter-American Society of Hypertension

MICHAEL J. HORAN, M.D.
Chief, Hypertension and Kidney Diseases Branch,
National Heart, Lung, and Blood Institute

THIS summary statement is based on material presented and discussed at the
Symposium on Hypertension in Latin America, held on May 10, 1987, in
Buenos Aires. It constitutes the first report of a standing committee of the
Inter-American Society of Hypertension on detection and control of hypertension in
Latin America. The symposium was sponsored jointly by the Pan American Health
Organization and the Inter-American Society of Hypertension. Its goals were to draw
attention to the size of the problem of hypertension in Latin America and to outline
strategies for translating current knowledge about treatment into medical and public
health practice. In support of these goals, the symposium evaluated four major issues:
the state of knowledge about the public health effects of treating elevated blood
pressure, the status of knowledge about the size of the hypertension problem in Latin
America, the status of hypertension detection and control programs in Latin America,
and organizing to help improve the control of hypertension in Latin America.

Hypertension in Latin America

The various phases of development in morbidity and mortality patterns in the
Americas are beginning to follow those currently observed in North America and
Europe. Recent analysis has shown that the proportional mortality caused jointly by
the most common noncommunicable chronic diseases (cardiovascular disease,
cerebrovascular disease, cancer, fatal injuries, and diabetes) is highest in North
America (the United States and Canada), followed by temperate South America
(Argentina, Chile, and Uruguay) and the Caribbean (English-speaking Caribbean,
Cuba, and Haiti); it is intermediate in tropical South America (the Andean countries,
Brazil, French Guyana, Guyana, Paraguay, and Suriname) and lowest in continental
Middle America (Central America, Panama, and Mexico). In particular, mortality from
hypertensive disease is higher in the Caribbean while that attributed to cerebrovascular
disease is higher in the southern cone of South America and the Caribbean.1,2 It must
be remembered, however, that these general statements about comparative mortality
and morbidity in the various subregions conceal significant intercountry differences
within the individual subdivisions.

From the surveys carried out in Latin America and the Caribbean since the middle
sixties, it has been learned that blood pressure increases between the ages of 20 and
70 years, from around 110–120 to 150–160 mm Hg for systolic pressure and from
70–80 to approximately 90 mm Hg for diastolic pressure.3–10 This trend is similar to
that observed in the more industrialized societies. There is a slight downward shift of
diastolic blood pressure curves at the oldest ages that may indicate a natural selection
phenomenon (i.e., survivors are those having lower blood pressure values), or the shift
may express a real decline in blood pressure values at those ages. Longitudinal studies,
which have not been undertaken in Latin America, would provide greater insight into the statistical components of aging.

Even though the increase in blood pressure with age is almost universal, there are subgroups and entire populations in which such an increase does not take place. This pattern has been observed in some Indian tribes in Brazil and Costa Rica, in some small population groups in Guatemala (unpublished observations), and in large highland populations in Peru. In the latter group, the mean systolic values are in the range of 110 to 120 mm Hg and the increase with age is not the same as that observed in sea level communities; the mean values of diastolic blood pressure range between 65 and 85 mm Hg in adulthood. Familial aggregation of blood pressure measures is observed in both high altitude and sea level Peruvian communities. In fact, the regression and correlation coefficients obtained between first-degree relatives are similar to those found by others in England, South Wales, Jamaica, the United States, and China.

Information on morbidity in Latin America and the Caribbean, taken from national surveys on morbidity and surveys or registries of specific diseases, as well as records from health institutions and the social security systems, also documents the public health importance of chronic diseases in the adult population. Arterial hypertension is ranked high due to its great magnitude and wide distribution: Available data show rates of 10 to 20% in most adult populations (blood pressure $\geq 160/95$ mm Hg).

### Status of Prevention and Control Programs in Latin America

Programs for the control of hypertension have begun to emerge in the region. However, monitoring of them has shown not only that their development has not been as successful as expected, but that the promising level of activity attained around 1980 declined in later years. Several problems underlie the deterioration of these detection and control efforts, including: limited resources, worsened by the regional economic crises; the existence of competing priorities, particularly those of maternal and child health; the evergrowing demands of the elderly for social and health services; and rising industrialization and urbanization, with the associated increases in the magnitude of major risk factors for these diseases. As a result, medical care, as opposed to prevention, dominates the health services system in these countries. The emergence of new evidence about the public health advantages of population interventions in developed countries, however, is expected to encourage the development of policies, strategies, plans, and programs in detection and control, particularly for hypertension.

In Latin America the care of noncommunicable diseases is provided mainly at the tertiary and secondary levels of the care system; control is limited to early detection and treatment of cases arising from institutional demand. Risk factors are studied and sometimes modified in a few persons who are already sick, but this is done mainly to halt the evolution of the disease, to decide on treatments, or to improve or maintain the response to specific treatments. The great strain on the limited medical care resources makes it critical that detection and control programs be put in place. A logical early choice would be hypertension detection and control programs because they already have demonstrated their value in saving lives and in providing cost-effective results in industrialized societies. Some countries (Brazil, Cuba, Chile, Mexico, and Venezuela) have initiated integrated approaches for the prevention of several risk factors, including hypertension.

### Organizing to Assist Latin American Countries in the Prevention and Control of Hypertension

Participants in the symposium felt that, although available information is incomplete and fragmented, there are sufficient data available to indicate the need for assistance in initiating or improving hypertension detection and treatment programs in many Latin American countries. Therefore, the Pan American Health Organization and the Inter-American Society of Hypertension will seek to create a joint resource organization to assist them in the detection, evaluation, treatment, and control of hypertension. To this end, an effort is being made to create an overall coordinating group with one representative from each participating Latin American country. The purpose of the organization will be to provide consultation and advice, educational programs...
References

5. Rodríguez H, Dockendorff I. La tension arterial en una comunidad rural en Chile. Bol Of Sanit Panam 1979;87:432–442

(Hypertension 11 [Suppl I]: I-233–I-235, 1988)

Address for reprints: John B. Dunbar, DMD, Dr P.H., Executive Officer, Inter-American Society of Hypertension, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425.
Hypertension in Latin America. Special Report.
L Ruiz, J B Dunbar and M J Horan

Hypertension. 1988;11:I233
doi: 10.1161/01.HYP.11.2_Pt_2.I233
Hypertension is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 1988 American Heart Association, Inc. All rights reserved.
Print ISSN: 0194-911X. Online ISSN: 1524-4563

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://hyper.ahajournals.org/content/11/2_Pt_2/I233.citation

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Hypertension can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Hypertension is online at:
http://hyper.ahajournals.org//subscriptions/