Worldwide epidemic of hypertension

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The World Health Report 2002 identified hypertension, or high blood pressure, as the third ranked factor for disability-adjusted life years. Hypertension is one of the primary risk factors for heart disease and stroke, the leading causes of death worldwide. Recent analyses have shown that as of the year 2000, there were 972 million people living with hypertension worldwide, and it is estimated that this number will escalate to more than 1.56 billion by the year 2025. Nearly two-thirds of hypertensives live in low- and middle-income countries, resulting in a huge economic burden. Awareness, prevention, treatment and control of hypertension is a significant public health measure. The World Hypertension League, through its national member societies, launched World Hypertension Day in 2005 and, due to its success throughout the world, it has been made an annual event. The 2006 World Hypertension Day was held on May 13; the theme of the day was 'Treat to Goal', with a clear intent to ensure patient adherence and control of hypertension worldwide. In Canada, all stakeholders – professional societies, government, nongovernment organizations and industry – are working together to promote awareness of hypertension and to control it.

Key Words: *Awareness; Blood pressure control; Hypertension; Prevalence; Public health*

L'épidémie mondiale d'hypertension

Le Rapport sur la santé dans le monde 2002 désigne l'hypertension comme troisième facteur en importance d'années de vie ajustées sur l'incapacité. L'hypertension est l'un des principaux facteurs de risque de maladie cardiaque et d'accident vasculaire cérébral, les principales causes de décès dans le monde. De récentes analyses démontrent qu'en 2000, 972 millions de personnes étaient hypertendues dans le monde, et on estime que ce nombre passera à plus de 1,56 milliard d'ici 2025. Près des deux tiers des hypertendus vivent dans des pays à faible revenu et à revenu intermédiaire et constituent un énorme fardeau économique. La sensibilisation, la prévention, le traitement et le contrôle de l'hypertension représentent des mesures importantes en santé publique. La *World Hypertension League*, par l'entremise de ses sociétés nationales membres, a lancé la journée mondiale de l'hypertension en 2005, et en raison de son succès dans le monde entier, en a fait un événement annuel. La journée mondiale de l'hypertension 2006 aura lieu le 13 mai, sous le thème « Traiter aux valeurs cibles », dans la ferme intention de s'assurer de l'observance des patients et du contrôle de l'hypertension de par le monde. Au Canada, tous les intervenants, qu'il s'agisse de sociétés professionnelles, du gouvernement, d'organismes non gouvernementaux ou de l'industrie, travaillent à la sensibilisation à l'hypertension et à son contrôle.

Hypertension, or high blood pressure, is one of the primary risk factors for cardiovascular diseases, including cerebrovascular stroke (1). Yet, many with hypertension are undetected and live with elevated blood pressure for a long time before it is diagnosed. According to the World Health Organization's World Health Report 2002 (2), the leading causes of mortality worldwide are ischemic heart disease and cerebrovascular stroke. Suboptimal blood pressure control has been identified as the third ranked factor for disability-adjusted life years (3). There are many regional reports but very little national data on the prevalence of hypertension. Recent analyses based on existing data from different countries have resulted in a few informative publications (4-7).

Based on a pooled analysis of available national and regional data, Kearney et al (4) reported the estimated number of adults with hypertension in 2000 to be 972 million worldwide. They further indicated that the estimated number of hypertensives in developing countries outweighed that of developed countries by almost twofold (639 million in developing countries versus 333 million in developed countries). The report states that the overall prevalence of hypertension in 2000 was estimated to be 26.4% of the world's population (26.6% male and 26.1% female). Kearney et al (4) also predicted that the burden of hypertension would increase by 60% to approximately 1.56 billion in the year 2025.

With nearly one-quarter of the world's adult population suffering from hypertension, one can conclude that this modifiable, preventable and controllable risk factor has reached epidemic proportions.

Theoretically, the knowledge necessary to prevent and control hypertension (8) – a major public health problem – exists, but control rates are dismal in every part of the world (9-11).

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The lack of baseline data in many countries and lack of national data in most countries make it difficult to develop any reasonable prevention projects (12). An extensive review by Kearney et al (4) was only able to obtain national data from 16 countries – all seven G7 countries from established market economies, three from Latin America and the Caribbean (Mexico, Paraguay and Venezuela), one from the Middle Eastern crescent (Egypt) and one each from China, Korea, Thailand, Taiwan and South Africa. There were regional samples available from India, Sweden, Greece, Turkey, Cameroon, Tanzania and Zimbabwe.

IMPLICATIONS FOR PUBLIC HEALTH

From a public health point of view, the prevention and control of hypertension are cost-effective interventions, particularly in older patients (13). Risk factors for hypertension include dietary habits, such as high sodium or low potassium intake, high alcohol consumption, low levels of physical activity and overweight (14). An effort to reverse these habits is the pivotal aspect of suggested lifestyle changes.

When such lifestyle modifications fail to control hypertension, drug treatment is essential. Meticulous attention to evidence-based guidelines is essential when initiating pharmacotherapy. The health care provider should be aware of any problems. There is enough evidence to suggest that patient adherence to hypertensive medication is poor (15).

SOCIETAL RESPONSIBILITY

The increasing levels of hypertension and its prevalence cannot be ignored as 'an individual's problem'. Uncontrolled hypertension is a major cause of disability and premature death throughout the world (16), with significant impact on individuals and health care systems. This translates into an increasing economic and a high societal burden. Because hypertension is a societal problem, the solutions must also be societal in nature (17).

SURVEILLANCE

Surveillance is a critical aspect of any health care system and is especially important for risk factors, such as hypertension, that play a large role in determining population health. The results of the Canadian Heart Health Surveys (18) showed that the treatment and control rate for hypertension was 16%, while the National Health and Nutrition Examination Study (NHANES) showed that the treatment and control rate for hypertension in the United States was 25% (19). These figures were the incentive to develop the Canadian Hypertension Education Program and establish other activities to improve the management of hypertension in Canada (9). Ongoing surveillance is critical to identify new gaps in care so that programs can evolve to fill these gaps. In many areas around the world, surveillance is inadequate to develop and monitor programs that prevent and improve hypertension management (2). Canada, for example, has not had a national survey that has assessed blood pressure since the Canadian Heart Health Survey. There will be another such survey starting in 2007, with the results being available in 2009. Another important issue is the difficulty of comparing surveys that use different questions or techniques for measuring blood pressure. A Canadian report (20) on the minimum standards for measuring blood pressure for surveys has been published; however, international standards are required and they need to include questions as well as measurements. The World Hypertension League (WHL) or the International Hypertension Society need to play a leadership role in standardizing worldwide hypertension surveillance.

WORLD HYPERTENSION DAY

The WHL launched the first World Hypertension Day in 2005 to address the societal responsibility associated with hypertension. More than 25 member countries of the WHL participated in this effort in their respective countries (21). The aim of the first World Hypertension Day was to improve awareness of hypertension among the general public. In several countries, this was accomplished through media campaigns, lay press, involvement of legislators, and public events such as aerobics and walking. Based on the success of the first World Hypertension Day, the WHL is making it an annual event.

May 13 was designated World Hypertension Day in the year 2006, with a theme of 'Treat to Goal'. All 85 member countries were encouraged to participate and to promote awareness of hypertension and control of high blood pressure. The 2006 theme stressed the importance of patients reaching their blood pressure goals, which is a message consistent with Canadian Hypertension Education Program patient guidelines (22).

In Canada, the stakeholders in hypertension prevention and control who are partnering with the WHL include professional societies, government, nongovernment organizations and industry (see Appendix for a list of partners and supporters). All of these organizations have joined to promote World Hypertension Day with the primary goal of raising awareness of hypertension among the public, patients and health care providers.

We hope that this coalition of public and private stakeholders will continue to contribute to the success of World Hypertension Day and, thus, to the improvement of hypertension control worldwide.

APPENDIX

World Hypertension Day partners and supporters in Canada

Partners

- Canadian Hypertension Society
- Blood Pressure Canada
- Quebec Hypertension Society
- Public Health Agency of Canada
- Canadian Institutes of Health Research – Institute of Circulatory and Respiratory Health
- Heart and Stroke Foundation of Canada and its provincial foundations
- Canadian Public Health Association
- Canadian Stroke Network

Supporters

- AstraZeneca Canada Inc
- Biovail Corporation
- Boehringer-Ingelheim Canada Ltd
- Bristol-Myers Squibb Canada
- Merck Frosst Canada Ltd
- Novartis Pharmaceuticals Canada Inc
- Pfizer Canada Inc
- Sanofi-Aventis Canada
- VSM MedTech Ltd

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