

## Editorial

### Healthy weight - healthy blood pressure

May 17, 2010 is World Hypertension Day. This year, the focus is on healthy weights. According to the World Health Organization, there are more than 1 billion overweight adults globally - at least 300 million clinically obese<sup>1</sup>. Obesity and overweight pose a major risk for chronic diseases, including hypertension, type 2 diabetes, sleep apnoea, fatty-liver disease, osteoarthritis and certain forms of cancer. Excess weight is now widely recognized as a major risk factor for cardiovascular disease and all current guidelines recommend lifestyle counselling for weight loss as the first step for hypertension management<sup>2</sup>.

This recognition of the importance of excess weight for the development of hypertension is not new. The pathophysiological mechanisms by which weight gain can affect blood pressure, include stimulation of sympathetic nerve activity, activation of the renin-angiotensin system, volume and sodium retention, as well as possibly dysfunction of the vascular endothelium<sup>3</sup>. There is a substantial body of literature showing that even modest (5%) weight loss can effectively lower blood pressure<sup>3</sup>. The Dietary Approach to Stop Hypertension (DASH) diet has been shown to effectively lower blood pressure in both normal weight and obese individuals, even without weight loss<sup>4</sup>. Despite these findings, in clinical practice, hypertension in overweight and obese individuals is often poorly controlled<sup>5</sup>. Furthermore, long-term sustained weight loss is seldom achieved in the majority of overweight and obese individuals<sup>6</sup>.

How are these relevant to the Indian subcontinent? In 2008, the Indian Ministry of Health and Family Welfare proposed new obesity guidelines, which, in light of the particularly susceptibility of Indians to

weight-related health problems, reduced the body-mass-index criteria for the diagnosis of overweight and obesity in Indians to 23 and 25 kg/m<sup>2</sup> respectively<sup>7</sup>. Likewise, the abdominal circumference cutoffs for abdominal obesity were reduced to 90 cm for men and less than 80 cm for women, *i.e.*, 12 and 8 cm, respectively, lower than the cutoff for abdominal obesity in Caucasians<sup>7</sup>.

This new definition of obesity, means that currently 15 per cent of the Indian population have obesity<sup>7</sup> - not too far behind western countries like Canada, where the population prevalence of obesity is only 3 per cent points higher. Remarkable statistics for a country, where a significant proportion of the population still performs hard manual labour and has limited access to nutritious foods.

Knowing that so far no society has succeeded in preventing or managing the obesity epidemic, it is unclear how a country like India with its limited health care resources, will even begin coping with the prevention and treatment of obesity at a population or individual level.

Despite the clear need for greater efforts at obesity prevention, a recent WHO/OECD report leaves little room for optimism<sup>8</sup>. As outlined in the report, even if all evidence-based population wide efforts to prevent obesity were implemented tomorrow, it would still take decades to begin seeing a reversal of this epidemic and the costs for these measures would unlikely be recovered in the foreseeable future. It is also highly unlikely that any efforts at prevention would benefit those already struggling with excess weight today.

So why is effective prevention and management of obesity so difficult? After all isn't weight gain simply a matter of energy in and energy out? While this is true, trying to tackle obesity simply by trying to eat less and moving more is about as effective as trying to get rich on the stock market by simply buying low and selling high. In fact, it turns out that telling people to simply eat less and move more to manage their weight is no more effective than telling people with depression to cheer up.

To understand why tackling obesity both at the societal and individual level is so difficult it is essential that we understand the complex socio-psycho-biology of this condition. The list of factors that interact to promote weight gain at a societal and individual level are seemingly endless and interwoven. Built environments, the changing foodscape, sedentariness both at the workplace and at home, reduced sleep, lack of time, increased stress levels, and perhaps even environmental toxins and certain gut bacteria can all contribute to weight gain. Rich energy-dense foods, once reserved for special occasions, have now become daily fare. People who used to walk or ride bikes to work today use scooters or cars. People who, a decade ago were paid to be physically active today have to pay (both in money and time) to squeeze even modest amounts of physical activity into their schedules.

At the same time, our biology, designed to survive famines, continues to tip the balance towards weight gain and to defend every gram of weight lost. Thus, every short-term effort at weight loss is almost invariably followed by weight regain – a situation ruthlessly exploited by the ever-expanding commercial weight-loss industry<sup>9</sup>.

Despite these difficulties in dealing with excess weight, people struggling with overweight and obesity face weight-bias and discrimination, not least from health professionals<sup>10</sup>, who seldom provide meaningful weight-management advice<sup>11</sup>. Psychological treatments for obesity such as motivational interviewing or cognitive behavioural therapy are seldom available; pharmacotherapy for obesity remains in its infancy; bariatric surgery, the only evidence-based effective option for managing severe obesity, is expensive and availability far outstrips demand. Although often widely propagated, traditional treatments like yoga, Ayurveda, acupuncture, homeopathy and other “alternative” therapies have delivered little robust evidence to support their use. In addition, individuals struggling

with excess weight often face significant psychosocial and biomedical barriers to weight management<sup>12</sup>.

So what can be done? Rather than focus on weight loss, a first step would be to focus on the prevention of weight gain, irrespective of current weight. This alone will take considerable efforts. Without substantial changes in lifestyle, most people – both obese and non-obese – will simply continue gaining weight over time. A second step would be to increase physical activity as much as possible. While exercise may not be the most effective measure for weight loss, there is ample data to suggest that physical fitness (at any weight) can counteract many of the ill effects of excess weight, including hypertension<sup>13</sup>. A third measure would be to foster a reduction in salt consumption. Although salt has not been directly implicated in causing weight gain, overweight and obese individuals are prone to salt-sensitive hypertension and therefore limiting their salt intake can have a substantial effect on their blood pressure levels<sup>14</sup>.

At a clinical level it is important to recognize the close link between excess weight and obstructive sleep apnoea – a common cause of “resistant” hypertension<sup>15</sup>. Aggressive management of hypertension, preferably with blockade of the renin-angiotensin system, often in combination with a low-dose diuretic, is essential to blood pressure control<sup>14</sup>. Beta-blockers, which can promote weight gain, should perhaps be avoided unless specifically indicated to control angina pectoris or heart failure<sup>16</sup>. Blood pressure monitoring should be performed with equipment that has an adequate cuff size in order to not overdiagnose hypertension in individuals with increased arm circumference<sup>15</sup>.

Now that we can no longer overlook the impact of the global obesity epidemic on health – both in the West and the East – let us start by stopping to blame the individual but rather acknowledge the tremendous challenge that all of us face in trying to maintain healthy weights in this obesogenic modern-day environment. Rather than raising the finger and calling for punitive measures, let us work to make the healthy choice the easy choice and begin addressing obesity as what it is, a chronic health problem of our times for which we have no simple “cure”. Till we have more effective prevention and treatments that work, it is all the more important to properly manage and control the many obesity related comorbidities like hypertension or type 2 diabetes to mitigate the risk of excess weight.

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